



GEO-ENVIRONMENTAL CONSULTING ENGINEERS

bEk Enviro Ltd

Suite One | No 3 Mitton Road Business Park
Mitton Road | Whalley | Lancashire | BB7 9YE

01254 377622

mbuckley@bekenviron.co.uk | bekenviron.co.uk

REMEDIATION METHOD STATEMENT



LAND AT ILK STREET AND ALPINE STREET, CLAYTON

Report Ref: BEK-19661-1 (Rev D)

December 2019

Report Prepared for



Project Quality Assurance Information Sheet

REMEDIATION METHOD STATEMENT

Land at Ilk Street and Alpine Street, Clayton

Report Status	Final
Report No	BEK-19661-1
Date	December 2019
Prepared For	The Casey Group Limited Rydings Road Rochdale OL12 9PS
Prepared By	BEK ENVIRO LIMITED Suite One No 3 Mitton Road Business Park Mitton Road Whalley Lancashire BB7 9YE
Author	David Emmott BSc (Hons) MSc MEnvSci
Checked By	Michael Buckley BSc (Hons) MSc MEnvSci CEnv
Contact	mbuckley@bekenviron.co.uk www.bekenviron.co.uk Office: 01254 377622 Mobile: 07906 753583

Revision Status / History

Rev	Date	Issue / Comment	Prepared	Checked
A	12-02-20	Minor Mods	DEmmott	MBuckley
B	02-04-20	Mods to address LA's comments	DEmmott	MBuckley
C	01-05-20	Minor Mods to address LA's comments	DEmmott	MBuckley
D	30-09-20	Revised Development Layout Plan	DEmmott	MBuckley

BEK Enviro Limited (BEK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and BEK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by BEK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of BEK and the party for whom it was prepared. Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

TABLE OF CONTENTS

1.	INTRODUCTION
2.	PREVIOUS INVESTIGATION
2.1	Summary of Previous Site Investigation
2.2	BEK Comments
3.	REMEDICATION STRATEGY
3.1	Contamination
3.2	Ground Gas Precautions
3.3	Off-Site Disposal
3.4	Dewatering
3.5	Construction Workers
3.6	Concrete Mix Design
3.7	Utilities
4.	SUPERVISION & VALIDATION
4.1	Supervision of Works
4.2	Validation of Works
4.3	Capping Material
4.4	Assessment Criteria
4.5	Assessment of Chemical Test Results
4.6	Thickness Control
4.7	Unexpected Areas of Ground Contamination
4.8	PE Barrier Pipe
5.	REPORTING

APPENDICES

Appendix A	Drawings
------------	----------

DRAWINGS

MHA Architects Drawing No 10M1_MHA_XX_XX_DR_A_01-002 (Rev C1) entitled 'Proposed Site Layout'
Terra Consult titled 'Exploratory Hole Location + Proposed Development Plan' Reference 3906/1/002

1. INTRODUCTION

- 1.1 BEK Enviro Limited (BEK) has been commissioned by P Casey & Co Limited to prepare a method statement for the remediation works required at a parcel of land located at Ilk Street and Alpine Street, Clayton (hereafter referred to as 'the site'). The site is shown on Figure 1 below:

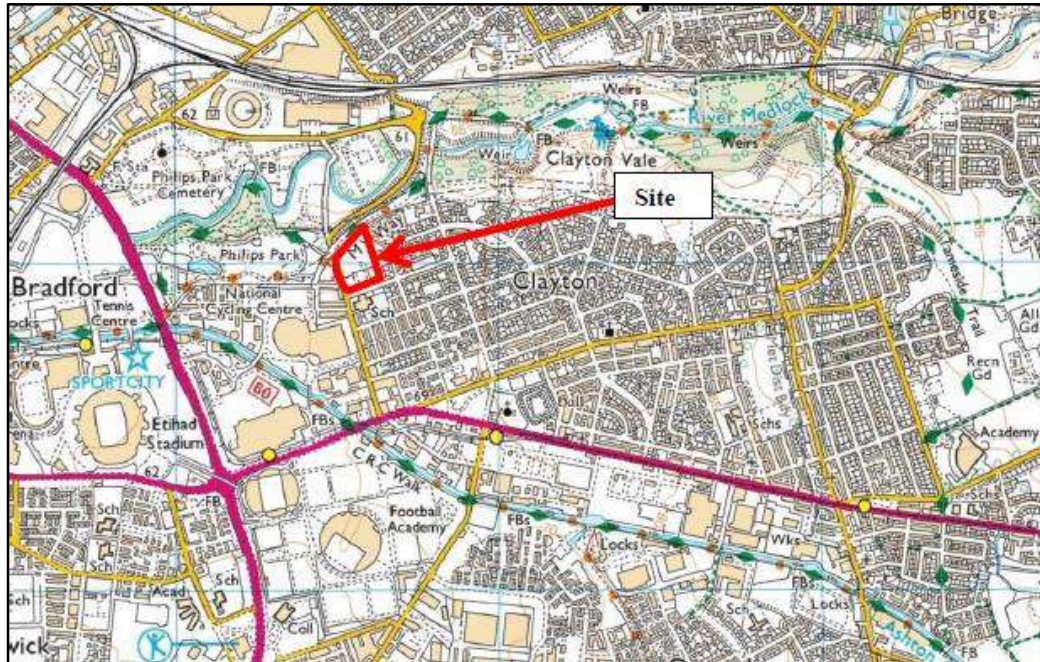


Figure 1: Site Location Plan

- 1.2 The site has been subject to a contamination assessment (Phase 1 Risk Assessment completed by Carley Daines & Partners Ltd dated April 2018 and Phase 2 Site Investigation Report completed by Terra Consult in August 2018). The recommendations set out in the Terra Consult report provide the basis for this report.
- 1.3 The site area is approximately 1.5 ha and is roughly rectangular in shape. The site is currently undeveloped public open space with overgrown vegetation. Access to the site is via Ilk Street and a concrete block and soil bund are present to prevent unauthorized access. The surface of the site is comprised of soft landscaping and discrete areas of asphalt and there are no buildings on site.
- 1.4 It is understood that the proposed development of the site is understood to comprise the construction of 66no residential properties including access roads and service provision (see MHA Architects Drawing No 10M1_MHA_XX_XX_DR_A_01-002 (Rev C1) entitled 'Proposed Site Layout', a copy of which is presented in Appendix A).



GEO-ENVIRONMENTAL CONSULTING ENGINEERS

Remediation Method Statement
Land At Ilk Street And Alpine Street, Clayton
Report Ref BEK-19661-1, December 2019

- 1.5 A drawing indicating the proposed layout overlain with site investigation locations by Terra Consult titled 'Exploratory Hole Location + Proposed Development Plan' Reference 3906/1/002, a copy of which is presented in Appendix A.
- 1.6 This report has been prepared to provide the methodology and the validation for the remediation works required to redevelop the site safely and ensure that there are no future risks to future site users or the environment.

2. PREVIOUS INVESTIGATIONS

2.1 Summary of Previous Site Investigation

2.1.1 The site has been subject to previous site investigation and contamination, the details of which are provided within the following reports:

- Carley Daines & Partners Ltd Phase 1 Risk Assessment dated April 2018
- Terra Consult - Phase 2 Site Investigation Report – Ilk Street and Alpine Street, Clayton Report No 3906/01 Issue 2 dated August 2018

2.1.2 The Phase 2 Site Investigation Report (Report No 3609/01 Issue 2) undertaken by Terra Consult has formed the basis for the remediation works required at the site along with relevant guidance prepared by Manchester City Council (MCC). The report assumes that all previous reports/assessment have been approved by MCC.

Made Ground

2.1.3 The site investigation has proved the presence of made ground in all exploratory locations from ground level to depths of between 0.2 m bgl in WS03 and 1.70 m bgl at BH03.

Made Ground - Clay

2.1.4 Clay was recorded at TP01, TP02, TP08 through TP16, all cable percussive locations and WS02, WS06, WS07, WS08, WS09 and WS10 described as 'soft to firm dark brown locally black sandy gravelly clay'. The gravel was noted to be angular to subrounded and fine to coarse, generally comprising concrete, brick fragments, clinker, glass, plastic and timber fragments.

2.1.5 The material was initially recorded from between 0.10 m bgl (WS08, TP01, TP08, TP16, BH01 and BH04) and 0.85 m at BH03 and proven to depths between 0.30 m at TP08 and 1.70 m at BH03. The maximum recorded thickness of the strata ranged from 0.05 m at TP09 to 1.45 m at WS06 and TP10.

Made Ground – Sand

2.1.6 Dark brown mottled black clayey gravelly ashy sand was recorded at WS08, TP07, TP07A, TP07B, TP07C, TP09, TP09A and TP11. The gravel generally comprised clinker, brick and concrete with glass and plastic.

- 2.1.7 The material was encountered between depths of 0.05 m at WS03 and 0.35 m at WS07. The base of the material was recorded depths from 0.40 m bgl at TP09 and TP09A to 0.75 mbgl at TP11. The maximum recorded thickness of the stratum ranged from 0.20 m at TP06 and TP07 to 0.65 m at TP11.

Made Ground – Gravel

- 2.1.8 A light greyish brown silty sandy gravel of concrete and limestone was recorded at WS01, WS03, WS04, WS05, WS07, TP04, TP07, TP07A, TP07B, TP07C, TP09, TP09A and BH03. The gravel was noted to be angular to subangular and fine to coarse.

- 2.1.9 The top of the material was encountered at depths between 0.05 m bgl (WS03) and 0.50 m bgl (BH03), with the base of the material recorded between 0.20 m bgl and 1.10 m bgl at WS03 and TP05, receptively. The thickness of the material varied between 0.15 m (at TP06, WS03 and WS04) and 1.00 m (at TP06).

Drift Deposits

- 2.1.10 Glacial till was encountered at all locations that reached their target depth. The material was generally described as firm becoming stuff dark brown slightly sandy gravelly CLAY. Cobbles of mudstone were noted in a number of the trial pits. No granular strata were noted in the stratum.

Groundwater

- 2.1.11 Perched groundwater was encountered in BH02 at a depth of 0.4 m bgl within the made ground and rose to 0.30 m bgl before being sealed by casing at 0.80 m bgl.

- 2.1.12 Groundwater was not observed during the site investigations but was measured during the monitoring phase at depths generally of 1.12 to 3.25 m bgl but was only at 0.39 m depth dropping to 0.92 m bgl in WS03. The variances in measured depth are considered to principally be due to variations in ground level across the site.

- 2.1.13 The contamination assessment carried out by Terra Consult identified elevated concentrations of 2 x heavy metals, 7 x PAHs, an elevated total petroleum hydrocarbon and localised asbestos in the northern zone of the site. Furthermore elevated ground gas levels were identified in the northern zone of the site. It is noted that no elevated concentrations of contaminants of concern were identified in the southern zone of the site.

- 2.1.14 Due to the potential from contamination, Terra Consult recommend that clean cover in garden areas is required in the northern zone of the site. No remediation is required for the southern zone of the site. The Plots that need garden capping are highlighted green in Figure 2 below and listed in the adjacent table.



Figure 2: Plots Where Garden Capping is Required (highlighted Green)

Plots Need Garden Capping	
Plot 26	Plot 45
Plot 27	Plot 46
Plot 28	Plot 47
Plot 29	Plot 48
Plot 30	Plot 49
Plot 31	Plot 50
Plot 32	Plot 51
Plot 33	Plot 52
Plot 34	Plot 53
Plot 35	Plot 54
Plot 36	Plot 55
Plot 37	Plot 56
Plot 38	Plot 57
Plot 39	Plot 58
Plot 40	Plot 59
Plot 41	Plot 60
Plot 42	Plot 61
Plot 43	Plot 62
Plot 44	

- 2.1.15 With respect to risks from ground gas at the site, Terra Consult identified Characteristic Situation 2 (CS2) ground gas conditions have been identified in the northern zone of the site and mitigation measures need to be incorporated into these buildings. The affected plots are highlighted in blue in Figure 3 below and listed in the adjacent Table.



Figure 3: Plots That Require Gas Mitigation Measures (highlighted blue)

Plots Need Gas Measures
Plot 42
Plot 43
Plot 44
Plot 45
Plot 46
Plot 47
Plot 48
Plot 49
Plot 50
Plot 51
Plot 52
Plot 53
Plot 54
Plot 55
Plot 56
Plot 57
Plot 58

2.2 BEK Comments

- 2.2.1 The site investigation carried out by Terra Consult is considered sufficient to characterise the ground conditions across the site. The contamination assessment has used current assessment criteria for residential use to identify potential contaminants of concern and the assessment is considered to be a good representative of the potential risks on site.
- 2.2.2 BEK agrees with the conclusions that the made ground in the northern zone is contaminated with arsenic, cadmium, PAH compounds and TPH. The placement of a suitable capping layer in the gardens (minimum 600 mm) will be suitable to mitigate any potential risks.
- 2.2.3 Asbestos has been identified at shallow depths in five locations at the site by Terra Consult and they recommend the production of an Asbestos Working Plan. As such BEK have been instructed to prepare an Asbestos Management Plan to be completed at a later stage.
- 2.2.4 The primary remediation solution recommended by Terra Consult is associated with the placement of a capping system in the gardens of all buildings in the northern zone of the site (minimum 600 mm of clean suitable soils) and this is considered appropriate to mitigate any potential risks to future site issuers. The plots which require garden capping are Plots 23 to 65.
- 2.2.5 Furthermore a number of plots in the north of the site (Plots 43 to 57 inclusive) will require gas protection measures in accordance with Characteristic Situation 2.

3. REMEDIATION STRATEGY

- 3.0.1 In order to remove potential risks to the development and/or human health Terra Consult recommended that specific remediation and mitigation measures need to be carried out.

3.1 Contamination

- 3.1.1 The gardens within Plots 26 to 62 (of the current development layout plan – see Figure 2) will need to be capped with a minimum of 600 mm of clean suitable soils (minimum 450 mm topsoil overlying 150 mm subsoil).
- 3.1.2 Any soft landscaped areas in the vicinity of Plots 26 to 62 will need to be capped with a minimum of 450 mm of clean suitable soils.
- 3.1.3 Soils used in the capping system will need to be tested and assessed and ensure suitability for use. The soils will be placed on a geo-membrane to act as a marker layer and prevent mixing. All soil used in the capping system will need to be imported. Final capping thickness will also need to be validated.
- 3.1.4 The topsoil must be a minimum of 150 mm and be a suitable growing medium to assist future planting (predominantly grass and shrubs).

Supervision

- 3.1.5 BEK recommends that a watching brief is undertaken on site during the proposed works. All construction workers should be made aware of the potential to encounter possible contaminants. This should include the identification of asbestos containing materials.
- 3.1.6 Any material demonstrating visual or olfactory evidence of contamination shall be separated from other materials, sampled and tested. Whilst awaiting the test results the suspect materials shall be stored in a manner that prevents contact with other materials or the ingress or egress of water. On confirmation of the contamination test results the suspect materials will be disposed of or treated appropriately.
- 3.1.7 The key remedial activities will need to be supervised and validated by an engineer from BEK.

3.2 Ground Gas Precautions

- 3.2.1 On the basis of the assessment of the potential risks from ground gas, mitigation measures which adhere to Characteristic Situation 2/Amber 1 of CIRIA C665 will be required in Plots 42 to 58.

3.2.2 The following ground gas mitigation measures should be incorporated into all new builds at the site:

- (i) Reinforce concrete cast in-situ floor slab (suspended, non-suspended or raft) with at least 1200 g damp proof membrane and underfloor venting

OR

- (ii) Beam and block or pre-cast concrete and 2000 gauge damp proof membrane/reinforced gas membrane and underfloor venting.

3.2.3 All joints and service penetrations should be sealed in both options.

3.2.4 The membranes should be fitted by a specialist contractor and certification that these passive protection measures have been installed correctly should be provided.

3.3 Off-Site Disposal

3.3.1 The chemical testing regime for off-site disposal may be different to the chemical testing required to assess the suitability of the soils for retention on site and the risks to human health. Therefore, additional assessment may be required to classify the soils for off-site disposal with testing criteria to assess whether the soil is hazardous, non-hazardous or inert waste. However, existing laboratory test certificates will help inform the process. Any additional testing (principally for asbestos) should also be used in the classification of the waste soils for off-site disposal.

3.3.2 The receiving landfill may require additional specialist laboratory testing to further characterise the material proposed for disposal against Waste Acceptance Criteria (WAC). We would recommend early consultation between the Contractor and the receiving landfill to determine any specific laboratory testing requirements.

3.3.3 Individuals/companies removing soils from the site are bound by a duty of care and as such this should only be undertaken by an authorised person. All waste movements should be accompanied by a waste transfer note.

3.3.4 We understand that waste soils have already been removed from the site and waste transfer notes will be collected and reviewed and where necessary, appended to the Completion Report.

3.4 Dewatering

- 3.4.1 Perched water was only encountered at one exploratory location during the site investigation and it is unlikely significant quantities will be encountered during the development works. However, if water entering any of the excavations is visually or olfactory affected by contamination then consideration should be made for dewatering. Any impacted water should be carefully pumped from the excavation direct into a tanker for off-site disposal.
- 3.4.2 Water will be pumped from the near surface of the water and (as much as is practicable) away from the sides of the excavation to avoid pumping up soils.
- 3.4.3 All pumping activities will be carefully monitored by BEK to watch for drawing in contaminated water from elsewhere on the site. Pumping will continue until visual/olfactory evidence of contamination has reduced/gone or as is considered reasonably practicable.

3.5 Construction Workers

- 3.5.1 It is recommended that construction personnel involved with direct contact with the soils at the site use appropriate PPE equipment (i.e. boots, gloves and overalls) together with hygiene facilities in accordance with general health and safety guidelines. The successful remediation/site works contractor should undertake a suitable Risk Assessment to confirm the appropriate level of PPE.
- 3.5.2 A copy of all reports relating to the site should be included in the site Health & Safety File and site workers should be made fully aware of the sites setting.

3.6 Concrete Mix Design

- 3.6.1 On the basis of the results, Terra Consult state that the typical design sulphate (DS) class and 'Aggressive Chemical Environment for Concrete' (ACEC) class for the site are AC-2.

3.7 Utilities

- 3.7.1 The Terra Consult report states that two samples were analysed for a suite of contaminants in line with United Utilities requirements for pipeline risk assessment.
- 3.7.2 The UK WIR risk assessment has been completed and PE Barrier Pipe will be used across the whole development site.

4. SUPERVISION & VALIDATION

4.1 Supervision of Works

4.1.1 The works will be supervised by BEK who will ensure the following verification procedures are adopted:

- (i) Liaison with the appointed groundwork/remediation contractor
- (ii) Inspection and supervision of the works
- (iii) Collection of samples and co-ordination of laboratory testing

4.1.2 The local authority will be formally notified prior to commencement of the works and may attend site during the site remediation, as necessary.

4.1.3 The remediation areas will be checked and verified by the Engineer at key stages during the works, including:

- (i) Inspection of void space beneath slab (including any vent pipes)
- (ii) Following placement and sealing the gas membrane
- (iii) Prior to placement of the capping soils to ensure suitability

4.1.4 For a sustainable approach it is recommended that the excavated soils are retained on site and placed at depth outside the footprint of the garden areas (ie beneath roads).

4.2 Validation of Works

4.2.1 Validation testing is required to ensure the remediation works have been undertaken in accordance with the methodology presented herein. The validation works are summarised below and will be in accordance with MCC's Guidance for Developers.

4.3 Capping Material

4.3.1 It will be necessary to import sub/topsoil for use in the gardens and landscaped areas and all imported soils should be sourced locally if possible. The soils will be placed on a geo-membrane to act as a marker layer and prevent mixing.

4.3.2 To confirm the suitability of the sub/topsoil it will be necessary to recover representative samples for chemical testing and assessment.

4.3.3 We recommend that as a minimum this will consist of a minimum of 3 samples from each source of topsoil and subsoil.

4.3.4 The following testing frequency recommendations are presented in the MCC guidance and should be adhered to with respect to soils imported into the site:

Intended End-Use	SOURCE/ORIGIN OF FILL MATERIAL			
	GREENFIELD	REMEDiated	BROWNFIELD	UNKNOWN
GARDENS	1:200m ³	1:100m ³	1:50m ³	1:50m ³
SOFT-LANDSCAPING	1:200m ³	1:150m ³	1:150m ³	1:150m ³
OTHER	1:200m ³	1:200m ³	1:200m ³	1:200m ³

4.3.5 It will also be necessary to carry out routine inspection and sampling during the importation process in order to confirm the material is consistent with the source testing and assessment. The visual inspection shall ensure that the soil is visually suitable for use and does not contain any deleterious material (ie glass, plastic, brick, concrete etc).

4.3.6 Material to be used in the capping system (including the formation level subsoil) should be (as a minimum) tested for the following to MCERTS standard:

Arsenic	Zinc
Cadmium	Cyanide
Chromium	Phenols
Copper	Sulphate
Lead	Speciated PAHs
Nickel	Total Organic Carbon
Mercury	Asbestos Screen

Table 1: Test Schedule for Soils to be Used in Capping System

4.3.7 Following assessment of the source of the material, it may be necessary to test for additional determinands.

4.3.8 The assessment criteria for the determinands to be tested for are presented in Table 2.

4.4 Assessment Criteria

4.4.1 Taking account the proposals to redevelop the site for a residential end-use it is necessary to adopt appropriate assessment criteria which protect both end-users of the site and quality of shallow ground water.

- 4.4.2 The assessment criteria for the site have been selected based on the values used within in the WML Report. A select number of assessment criteria for speciated PAH compounds have been sourced from the LQM/CIEH Suitable 4 Use Level (S4UL) as these were not provided within the EEG report. For a conservative assumption a Soil Organic Matter (SOM) of 1 % has been used.

Imported/Site Won Soils

- 4.4.3 The following table provide a list of assessment criteria for assessing suitability of material to be used within the capping system.

Contaminant of Concern	Assessment Criteria (mg/kg)
Arsenic	37
Cadmium	11
Chromium (total)	910
Copper	2400
Lead	210
Mercury	40
Nickel	180
Selenium	250
Zinc	3700
Free Cyanide	41
Phenols	280
Acenaphthene	210
Acenaphthylene	170
Anthracene	2400
Benzo(a)anthracene	7.2
Benzo(a)pyrene	5
Benzo(b)fluoranthene	2.6
Benzo(ghi)perylene	320
Benzo(k)fluoranthene	77
Chrysene	15
Dibenzo(ah)anthracene	0.24
Fluoranthene	280
Fluorene	170
Indeno(1,2,3-cd)pyrene	27
Naphthalene	2.3
Phenanthrene	95
Pyrene	620
Asbestos	<0.001%

Table 2: Assessment Criteria for Imported Soils

4.5 Assessment of Chemical Test Results

- 4.5.1 BEK will be responsible for the assessment of all chemical test results to determine suitability of material to be used on site.

4.5.2 The assessment will be undertaken in accordance with current UK policy and guidelines and any specific requirements of the local authority.

4.5.3 All chemical test results will be presented in the Validation Report.

4.6 Thickness Control

4.6.1 The verification of the capping thickness will be done by the excavation of trial hole/s in each plot and at representative locations within landscaped areas. The geomembrane will be exposed at the base of each trial hole.

4.6.2 The Engineer may take other measurements as required to verify the works have been carried out in accordance with the Method Statement.

4.7 Unexpected Areas of Ground Contamination

4.7.1 As stated previously within this report the site has been subject to previous site investigation and as such, indicative ground conditions are known.

4.7.2 However if “any areas of suspect material are encountered during the development of the site (ie that do not conform to the anticipated ground conditions)” appropriate action will be taken. This will initially include the cessation of work in the area of concern and informing BEK, who will attend site and carry out further assessment.

4.7.3 As a minimum BEK will notify the Local Authority and prevent any additional work in the area pending further assessment which may include sampling, testing and risk assessment.

4.8 PE Barrier Pipe

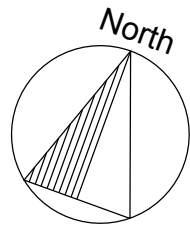
4.8.1 The installation of PE Barrier water pipes is outside the remit of the validation works to be carried out by BEK. However, P Casey & Co Limited will provide invoices/delivery notes to confirm that the PE Barrier pipe has been used at the site.

5. REPORTING

- 5.1 On completion of the remediation and mitigation works, BEK will prepare a Validation Report.
- 5.2 The Validation Report will describe the works undertaken in order to satisfactorily demonstrate that the works have been completed successfully and will include the following:
- (i) A description of works undertaken
 - (ii) Record of any material imported into the site for use in the residential gardens (if required)
 - (iv) Validation samples recovered and tested
 - (v) Assessment of the chemical test results
 - (vi) Photographs showing the remediation works being undertaken and completed
 - (vii) Confirmation for the purchase/delivery of the PE Barrier pipe along with any consultation response from United Utilities

APPENDIX A

Drawings



Accommodation Schedule

Type	Beds/Pers	Approx. Area		Storeys	Units
		m ²	ft ²		
A1	2B3P	72.4	779.3	2	23
B1	3B4P	91.1	980.6	2	27
B2x	3B4P	94.9	1021.5	2	8
D2	4B5P	102.2	1100.1	2	8
				Total	66

Car Parking

Type	Beds/Pers	Approx. Area	Number of Properties	Number of Spaces
A1	2B3P	1No. space per property	23	23
B1	3B4P	1No. space per property	27	27
B2x	3B4P	1No. space per property	8	8
D2	4B5P	2No. spaces per property	8	16
V=Visitor space		2 No. spaces		2
			Total	66
				76

Key

- Private driveway/parking bay – tarmac
- Turf
- Paving flags
- Space for external bin storage
- Space for cycle storage box
- New trees
- Low maintenance dense shrubbery

C106/12/19Tender IssueGRPC

P617/06/19Layout amended to reflect planning comments.PCPC

P501/03/19Issued in preparation for "Planning".CSPC

P427/02/19House type B1 updated and turning head revised to suit comments.CSPC

P322/02/19Turning head in front of plot 50 revised. Raised table turning head added.CSPC

P205/02/19Railing layout in front garden updated and trees moved out of adopted area to suit comments.CSPC

P121/12/19Initial IssueCSPC

REV	DATE	DESCRIPTION	DRAWN	CHK
CLIENT				
One Manchester				
PROJECT TITLE				
Bank Bridge Road Manchester				
DRAWING TITLE				
Proposed Site Layout				
DRAWING PURPOSE				
FOR TENDER				
DRAWN / CHECKED		DATE	SCALE	
CS/PC		Dec 2018	1:500 @ A2	
JOB No	DRAWING No	STATUS	REVISION	
10M1	10M1_MHA_XX_XX_DR_A_01-002	S2	C1	

51 Barton Arcade
Deansgate
Manchester
M3 2BJ

+44 (0)161 834 1018
+44 (0)161 834 4798
contact@mhaarchitects.com
www.mhaarchitects.com

mha

ARCHITECTS



Client
**Carley Daines &
Partners**

Title

**Exploratory Hole
Location + Proposed
Development Plan**

Scale		1:650	@ A3
Drawing No.		3906/1/002	
Rev	Date	Description	
File	.dwg		
Date	05/18	Engineer	JT
Drawn	PP	Checked	DRAFT



GEO-ENVIRONMENTAL CONSULTING ENGINEERS

Suite One | No 3 Mitton Road Business Park | Mitton Road | Whalley | Lancashire | BB7 9YE
Office: 01254 377622 Mobile: 07906 753583 mbuckley@bekenviro.co.uk www.bekenviro.co.uk