T J BOOTH ASSOCIATES

CONSULTING CIVIL & GEOTECHNICAL ENGINEERS

PHASE 1 & 2 ENVIRONMENTAL REPORT

Former Car Park/Land at Commercial Street Slaithwaite HD7 5JX

Author: Daniel Slattery

Client: Mr James Garside

Reference: rep-tjba-garside-commercial street, slaithwaite-phs 1&2-160921

Revision	Date	Reason
0	October 2021	Original for Planning.

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CONTENTS:

1. INTRODUCTION

T. J. Booth Associates have been appointed by Mr James Garside to undertake a Phase 1 & 2 Environmental Audit to support a planning/building regulations application for residential development.

The Site formerly comprised a car park used for the opposite doctor's surgery which has since relocated to new premises and the land sold for redevelopment.

Previous planning applications have been submitted but it is understood a new application for development will be submitted which this report will support.

This report provides a desk-based study & intrusive ground investigation based on current UK guidance for environmental investigation within the construction industry. Principal to the assessment is the potential for contamination pollutant linkages via the CLR-11 source-pathway-receptor methodology. Assessment of potential pollution linkages is primarily undertaken in strict accordance with BS5930:2015 BS 10175:2011+A2:2017 CIRIA C665 and BS 8485:2015+A1:2019 et al.

2. PROPOSED DEVELOPMENT

The proposal is for the redevelopment of the former car park into a residential development comprising a single detached two storey residential dwelling with associated parking to the front & north side of the dwelling, and rear garden to the east.

3. HISTORIC MAPS

DATE	ON-SITE	OFF-SITE/SURROUNDING AREA
c1854	Site is part of agricultural land/vacant.	Site is primarily surrounded by residential dwellings with minor amenities such as schools (adjacent) locally and larger industrial activities such as mills in the wider area nominally 250m from the Site. Kitchen Clough is located approximately 40m west flowing north.
c1892	Site comprises a building to the northeast side, and open land such as yard to both the northwest & south sides of the Site.	Lower scale maps show the general area comprises small buildings such as residential dwellings with some minor commercial activity such as smithies etc. Larger industrial units are indicated to be cotton & woollen mills generally with some dye works, chemical works & gas works etc. There are some old quarries noted to the south over 100m from Site but all at higher level.
c1906	No change.	Chapel and graveyard noted approximately 25m southeast.
c1932	No change.	No overall change.
c1948	No change.	No overall change.
c1956	No change.	No overall change.
c1968	On Site building by now demolished and replaced with smaller individual buildings/bays to the north side only.	Former school adjacent to the Site is now noted as Mechanics Institute. Residential development to the east and south of the area.
c1983	No change.	No overall change.
c1993	No change.	No overall change.
c2000	Site clear of structures and used for car parking only.	No overall change.

4. PRESENT DAY MAPS

Site Boundaries, Outlines of Structures and Buildings:	The Site is enclosed by existing buildings to the north and south sides, by access driveway (to offsite land) to the east, and by Commercial Street to the west side. There are no on-site structures.
Ground Contours, Natural Drainage Features:	Locally natural drainage contours are to the northeast.
Water Courses:	Kitchen Clough (now Bradley Brook) is located 40m west of the Site flowing north.
Below Ground Obstructions:	None noted.

5. GEOLOGY

Bedrock Geology:	The Site is underlain by interbedded sandstone-mudstone/siltstone of the Millstone Grit Group., with a fault close to the southwest boundary.
Superficial Geology:	The geological maps indicate the Site and local area are within an area of no superficial cover. However, there are some river terrace deposits noted to the south and some alluvial fan deposits noted to the north.
Coal Seams.	No coal seams indicated locally.

6. BOREHOLES RECORDS

There are no relevant borehole records within close proximity to the Site.

7. PLANNING/OTHER DATA.

N/A.

8. LANDMARK ENVIRONMENTAL DATA

8.1. AGENCY & HYDROLOGICAL

Contaminated land register entries & notices:	No records within a 250m radius.
Discharge consents:	No records within a 250m radius.
Integrated pollution prevention & control:	There were 3 records noted as: Britannia Mill 143m northwest, revoked 2011, Brook Dyeing Company. Coating, Printing and Textiles; Pre-Treating by Washing Etc. Greater Than 10T/Day.
Local Authority pollution prevention & controls:	There were 3 records noted as:

	Shaw Pallet Control Ltd 214m northeast, March 1992, air pollution control relating to timber products.
Pollution incidents to controlled waters:	There were 5 records noted. The closest was 107m northwest. No records noted upstream.
Substantiated pollution incident register:	There was 1 record noted 138m northwest in Jun 2003 downstream of the Site.
Water abstractions:	There was 1 record noted within 250m radius noted as Globe Worstead Co. 79m north for textiles & leather.
Bedrock aquifer:	Secondary A Aquifer.
Superficial aquifer:	n/a.
Source protection zone:	The Site is not within a Source Protection Zone.

8.2. WASTE

BGS recorded landfill sites:	None noted within a 250m radius.
Historic landfill sites:	None noted within a 250m radius.
Licenced waste management facilities:	None noted within a 250m radius.
Registered landfill sites:	None noted within a 250m radius.

8.3. HAZARDOUS SUBSTANCES

Planning hazardous substance consents:	No records within a 250m radius of the Site.
Planning hazardous substance enforcements:	No records within a 250m radius of the Site.

8.4. GEOLOGICAL

Mining Instability:	Within a coal mining area.
Potential for Collapsible Ground Stability Hazards:	Very low risk.
Potential for Compressible Ground Stability Hazards:	No hazard.
Potential for Ground Dissolution Stability Hazards:	No hazard.
Potential for Landslide Ground Stability Hazards:	Very low-low risk.
Potential for Running Sand Ground Stability Hazards:	No risk.
Potential for Shrinking or Swelling Clay Ground Stability Hazards:	Very low risk.
Radon Potential - Radon Affected Areas:	The property is within an intermediate probability radon area (1-3% of homes estimated to be at or above the action level).
Radon Potential - Radon Protection Measures:	No radon protection measures are required.

9. COAL AUTHORITY

The Site is not within a coal mining area.

10. INDUSTRY PROFILES

N/A.

11. SITE RECONNAISSANCE

Details of Existing Structures:	A Site reconnaissance was undertaken on 16.09.2021. The Site comprised a former car park to the Colne Valley Health Centre. The entrance was from Commercial Street to the southwest corner. The Site was paved in macadam and had no structures of note. There was a telegraph pole noted to the back of the pavement on the Commercial Street side nominally central to the Site.
Adjacent Properties:	The Site was enclosed by buildings to the north and south sides, and by fencing/access road to the east, and Commercial Street to the west side.
Water Levels, Directions of Flow and Rates in Rivers:	Bradley Brook flows north towards the River Cone.
Old Mine or Quarry Workings:	None noted.
Obvious/Immediate Hazards to Health/Safety:	None noted.
Areas of Discoloured Soil, Polluted Water, Vegetation, and Significant Odours:	None noted.
Relevant Ground Levels, Ground Water Levels, Positions of Wells and Springs:	The local area falls to the north along Commercial Street and the Site has been levelled. Due to this the Site is retained to the northeast and northwest boundaries where they intersect with the off-site access road, and commercial Street respectively.

12. ENVIRONMENTAL SITE SUMMARY

12.1. Summary

The desk study and Site walkover has shown there is the potential for contaminative risk from historic uses of the Site. The Site was previously developed twice to the north side before finally being demolished c1990s.

The local topography falls to the north and the Site has been levelled off and retained by a small retaining wall to the northeast & northwest sides where it abuts Commercial Street & the un-named access road respectively, suggesting some infilling towards the north side of the Site.

There have been no specific contaminative uses in the local area, especially not upstream of the Site. There has been some larger industry in the wider area generally to the valley bottom adjacent and around the River Colne approximately 200-250m to the north of the Site.

There are no historic or current landfill sites within 250m of the Site so there is no risk of ground gas migration from this source at least. Quarries in the local area were minor and generally higher in elevation than the Site.

The Site is not within a coal mining area, and although the geology comprises Namurian deposits often with higher levels of Radon gas, the Landmark dataset indicates an intermediate risk with no precautions required.

12.2. Potential Contaminants

CURRENT SOURCE/S	ORIGINAL ASSOCIATED USAGE	CONTAMINANT/S
Onsite upper soil/made ground	Made ground	Metals, PAH, sulphates, inorganics, asbestos.

12.3. Potential Pathways

PATHWAY	MEDIA
Soil and dust ingestion	Soil and indoor dust
Consumption of home-grown fruit and vegetables	Produce
Skin contact (indoors)	Indoor dust
Skin contact (outdoors)	Soil
Inhalation of dust (indoors)	Air
Inhalation of dust (outdoors)	Air
Vapours (indoors)	Air
Vapours (outdoors)	Air

12.4. Potential Receptors

Receptors mainly comprise workers in the construction phase, and residents for the proposed end use.

13. CONCEPTUAL MODEL

POLLUTANT LINKAGE	CURRENT SOURCE/S	CONTAMINANT TYPE	PATHWAY	RECEPTOR	POLLUTION LINKAGE	CONSEQUENCE	PROBABILITY	RISK
1	Site surface /sub soil beneath the existing macadam car park and especially in the location of the former buildings.	Metals, PAH, inorganics, asbestos, hydrocarbons.	Direct ingestion, aerial ingestion, dermal contact, drinking water.	Site construction operatives & future occupants. Site buildings.	POTENTIALLY PRESENT – Building rubble made ground beneath the macadam yard area may heavy metals, PAH, and/or asbestos contamination.	Medium.	Likely.	Moderate risk.
2	Geology - Carboniferous coal measures & ground gas such as coal seams & radon sources.	CH4, CO2, Rn, other trace gases.	Diffusion through soil, substructures, aerial inhalation.	Future occupants. Explosion, suffocation.	NOT PRESENT – Radon and coal seams are not thought to pose a risk to the development.	Mild.	Unlikely.	Very low risk.
3	Anthropogenic ground gas from decomposing organic material/landfill.	CH4, CO2, other trace gases.	Diffusion through soil, substructures, aerial inhalation.	Future occupants. Explosion, suffocation.	NOT PRESENT – Not source in the local area.	Medium.	Unlikely.	Very low risk.
4	Contaminated ground /surface water. Controlled Waters.	Chemical contamination.	Permeation into ground water, local watercourses.	Water supplies, watercourses, aquatic habitats & associated wildlife.	NOT PRESENT – There is no potential risk noted from the Site to controlled waters. No tanks or other risk associated with the Site has been noted in the desk study.	Minor.	Unlikely.	Very low risk.
5	Aerial contaminants.	Chemical contamination.	Dermal contact & aerial inhalation.	All site users / occupants.	POTENTIALLY PRESENT – Although there will have likely been very minor polluting activities historically, these will now be recorded in pollutant linkage 1 in the upper ground profile. Current aerial contaminants are regulated.	Minor.	Unlikely.	Low risk.

14. SITE INVESTIGATIONS

14.1. Investigation Design from Conceptual Model

BS10175:2011+A1:2013 & R&D TECHNICAL REPORT P5-066/TR considers the upper 500mm is sufficient to categorise the ground profile for development with respect to:

- human/animal intake arising from ingestion and dermal contact
- potential for wind entrainment leading to inhalation (of contaminated soils and dusts)
- or deposition onto neighbouring land
- surface water run-off (e.g. due to flash flooding)
- uptake by shallow rooting plants (e.g. crops, ornamental and wild species)
- surface leaching to groundwater.

There is no definitive guidance on the number of samples required for soil representation in current guidance. However, R&D TECHNICAL REPORT P5-066/TR indicates that sample spacing should be between 10-25m for residential applications with wider sampling grids suitable for commercial/industrial.

Considering the proposed area, and with the entire front pf the Site taken up by the proposed building footprint and parking, the residual risk is to human receptors to the rear.

Without specific parts of the site for targeted sampling nominally 2 samples representative of the upper 500mm of MADE GROUND from the previously developed part of the Site would satisfy guidance criteria for sampling. Extra samples can be taken as required if a risk is found.

Soil samples should be tested for the following contaminant suites: metals, speciated PAH, inorganics & sulphates, SOM, and asbestos screening, and analysed against common threshold comparison data, specifically the Defra Category 4 Screening Levels (C4SLs) where available, then to the LQM/CIEH (S4ULs) thereafter.

14.2. Site Investigations

The Site was attended on 16.09.2021, and the west part of the Site was investigated for both geotechnical and geo-environmental purposes.

The Site investigations comprised 3No. trial holes (TH1-3), and 2 No. soil samples (S1-S2) taken from the respective trial holes, refer to SI plan in the Appendix.

TH1	
0-900	Macadam/Mot over black/brown very loose building rubble (stone) MADE GROUND. (S1)
900-1250	Soft becoming firm (at 1250) light brown very sandy, gravelly CLAY.
TH2	
0-400	Macadam & gravel fill (MADE GROUND). (S2)
400-1500	Dark brown clayey fill, with abundant gravel sized stone/occasional brick rubble MADE GROUND.
1500-1600	Firm light brown/orange mottled CLAY.
TH3	
0-500	Light brown sand & gravel sized fill MADE GROUND.

The soil samples were sealed in 1kg white plastic snap top containers & amber jars, and sent to Eurofins Chemtest Ltd to be tested for metals, speciated PAH, inorganics & sulphates, SOM, and asbestos screening testing suites.

There was no visual or olfactory evidence of hydrocarbon contamination noted on the ground surface, within the samples, or elsewhere on the Site.

14.3. Soil Sampling Assessment

On return the sample results were assessed by TJ Booth Associates to common threshold comparison data, specifically the Defra Category 4 Screening Levels (C4SLs) where available, then to the LQM/CIEH (S4ULs) thereafter.

The samples tested above threshold levels for lead, benzo(b)fluoranthene, and dibenz(ah)anthracene.

Refer to TJ Booth Associates Soil Analysis Table and Chemtest Ltd sample certification in the appendix.

14.4. Gas Monitoring Assessment

No gas monitoring undertaken.

15. REMEDIATION STRATEGY

15.1. Ground/Soil Contamination Risk

Existing Site soils have been assessed and found to be unsuitable for the proposed end use.

While existing soil may remain on Site beneath permanent hardstandings such as driveways and footpaths etc; to mitigate the risk to receptors, it is advised that a cover layer of clean inert soil is imported for garden and soft landscaping areas ONLY.

Existing made ground was generally recorded noted over 900mm deep & should be excavated and removed to 600mm from finish level, and replaced with imported soil to suit finishes. The 600mm cover system is adopted for the following reasons:

- Root systems for shrubs are typically up to 600 mm;
- Excavations are unlikely to be deeper than 600 mm in typical gardening activities;
- Bioturbation is typically limited to the top 600 mm of the soil profile;
- Excavations by children or pets are unlikely to exceed 600 mm.

Imported soil should be clean/inert/free from deleterious materials, should be suitable for use in a residential end use setting, and should be able to pass the contamination requirements in the validation section for use in a residential end use setting.

15.2. Ground Gas Risk

No legitimate ground gas source or pathway has been noted within the risk assessment and thus the no pollutant linkage exists.

No ground gas monitoring nor any protection measures required in the development.

15.3. Validation:

Validation of the imported soil may be required for Planning or Building Control/Building Regulations submission. Should this be required, it will need to be undertaken by suitably qualified consultants.

Samples should be tested for the following contamination suites: metals, inorganics, PAH USEPA16 speciated, and asbestos screening. Results will be analysed against Defra Category 4 Screening Levels (C4SLs) where available, and then to the LQM/CIEH (S4ULs), for use in a residential end use setting.

Cover depth check to 600mm should be included.

15.4. Additional Notes

Before any further work is undertaken, this report should be submitted to and agreed by the Local Planning Authority Contaminated Land Department/Building Control Department as necessary.

We trust that the above clear, but should you require further advice please contact the undersigned.

Signed…….

D S Slattery BSc (Hons).

T J Booth Associates.

Signed…….

T J Booth BSc (Hons), C. Eng. C. Env. MICE.

T J Booth Associates.

16. REFERENCES

BS5930:2015. Code of practice for site investigations.

BS 10175:2011+A2:2017. Investigation of potentially contaminated sites. Code of practice.

Environment Agency. 2005. Secondary Model Procedure for the Development of Appropriate Soil Sampling Strategies for Land Contamination. R&D Technical Report P5-066/TR.

CIRIA. Report C665.

CL:AIRE. 2012. Research Bulletin-RB17-A Pragmatic Approach to Ground Gas Risk Assessment.

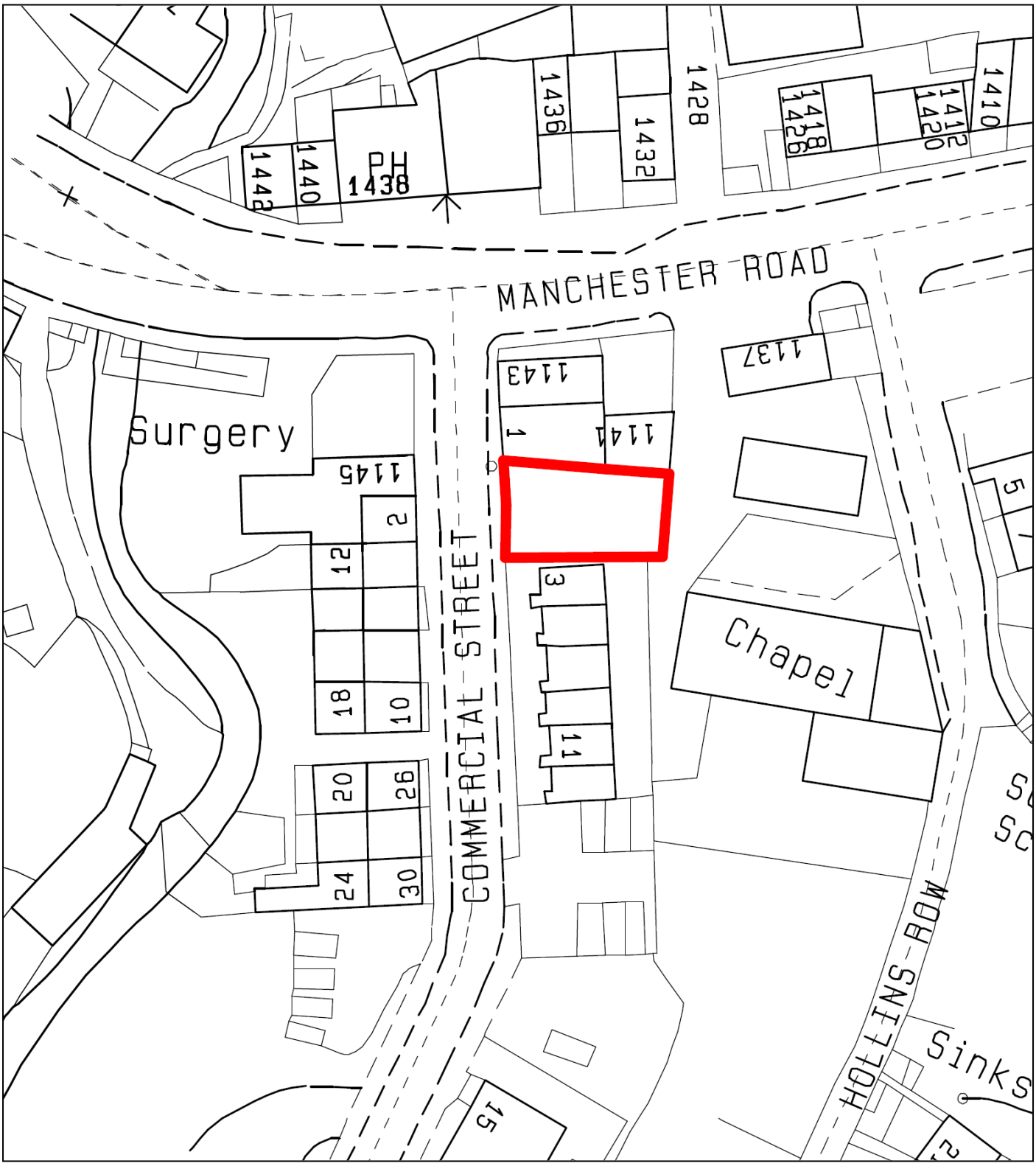
BS 8485:2015+A1:2019. Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings.

CIRIA. Report SP32.

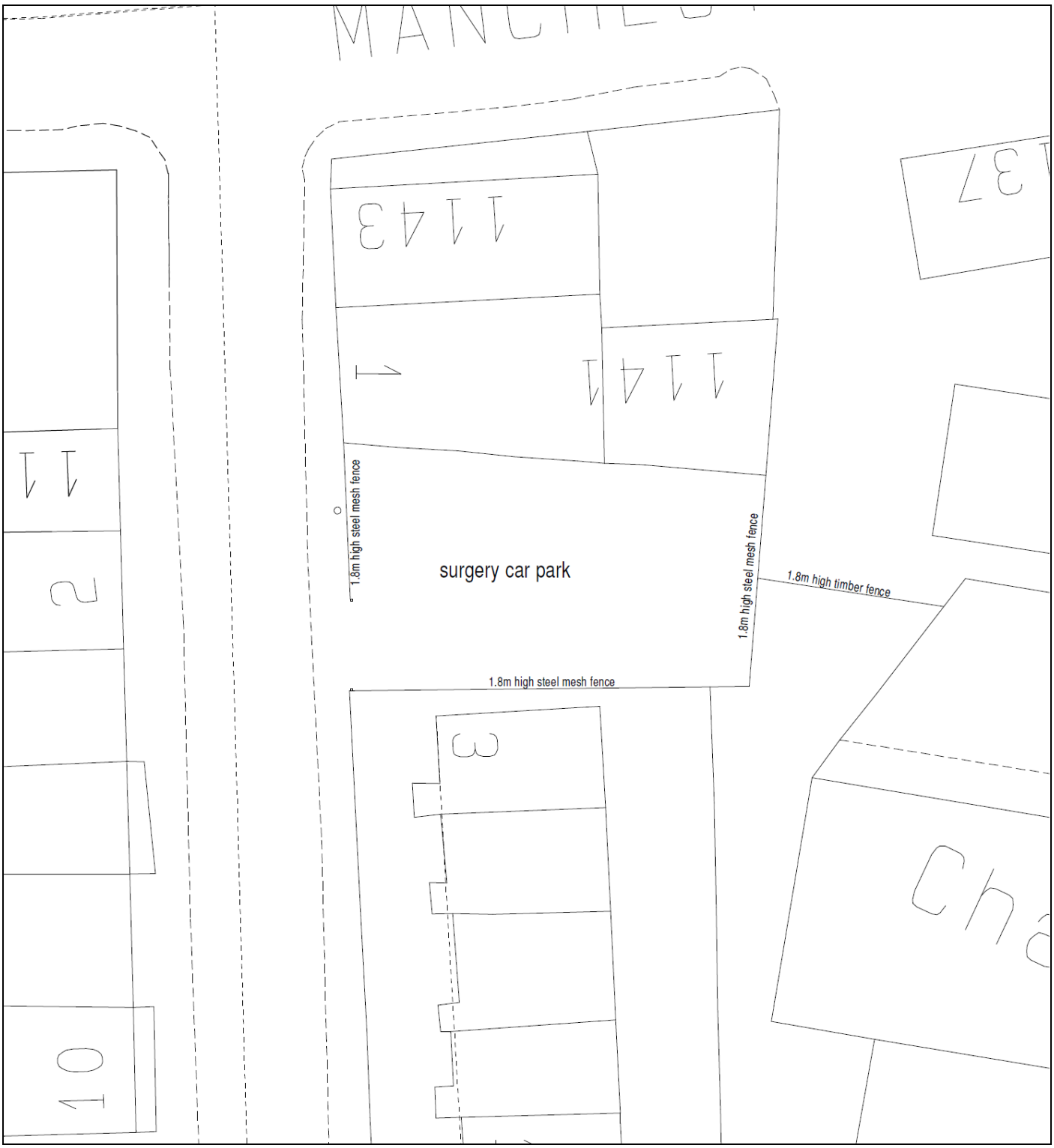
ICE Manual of Geotechnical Engineering Volume I. 2012.

17. APPENDIX A: FIGURES

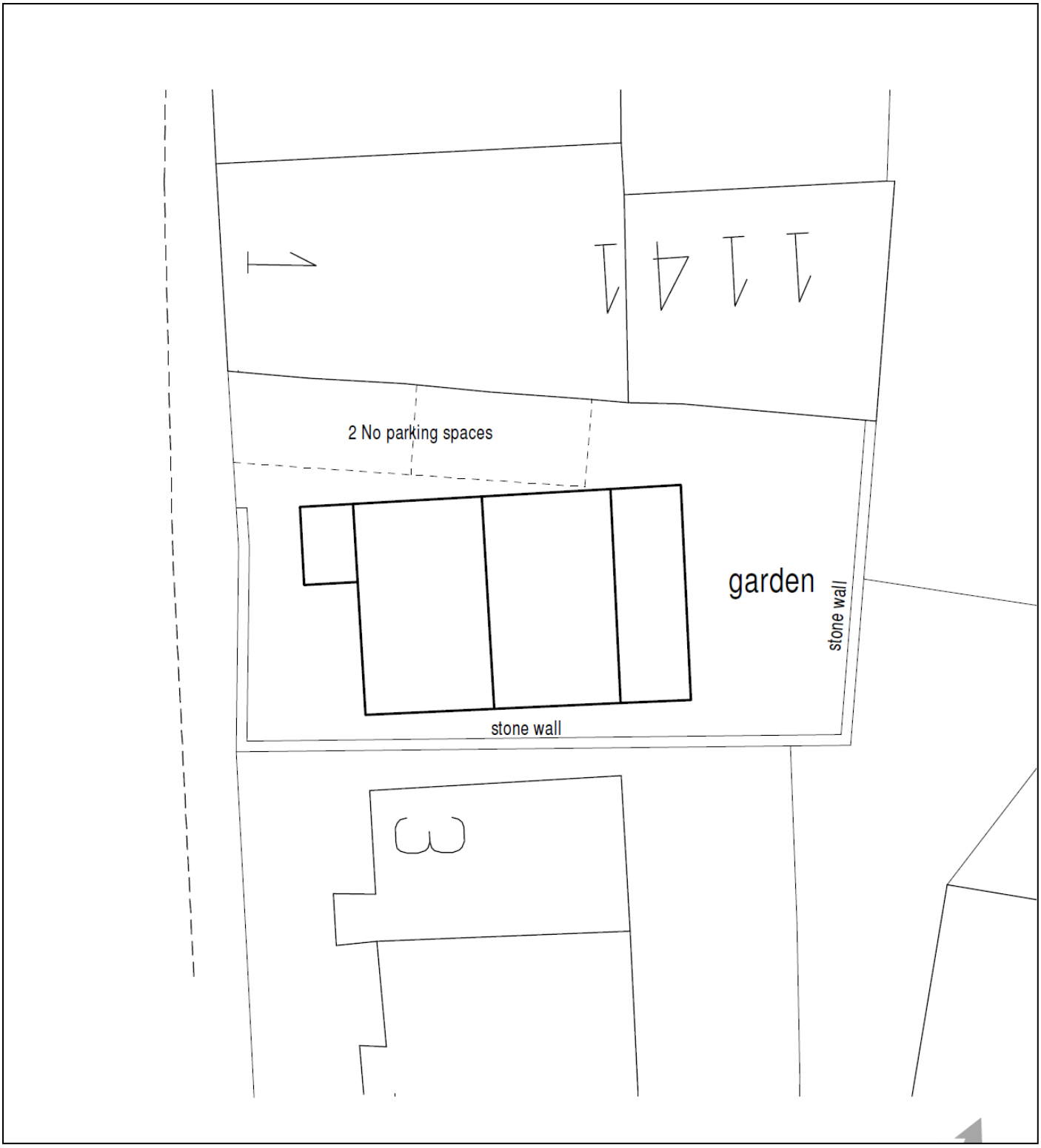
17.1. Location Plan



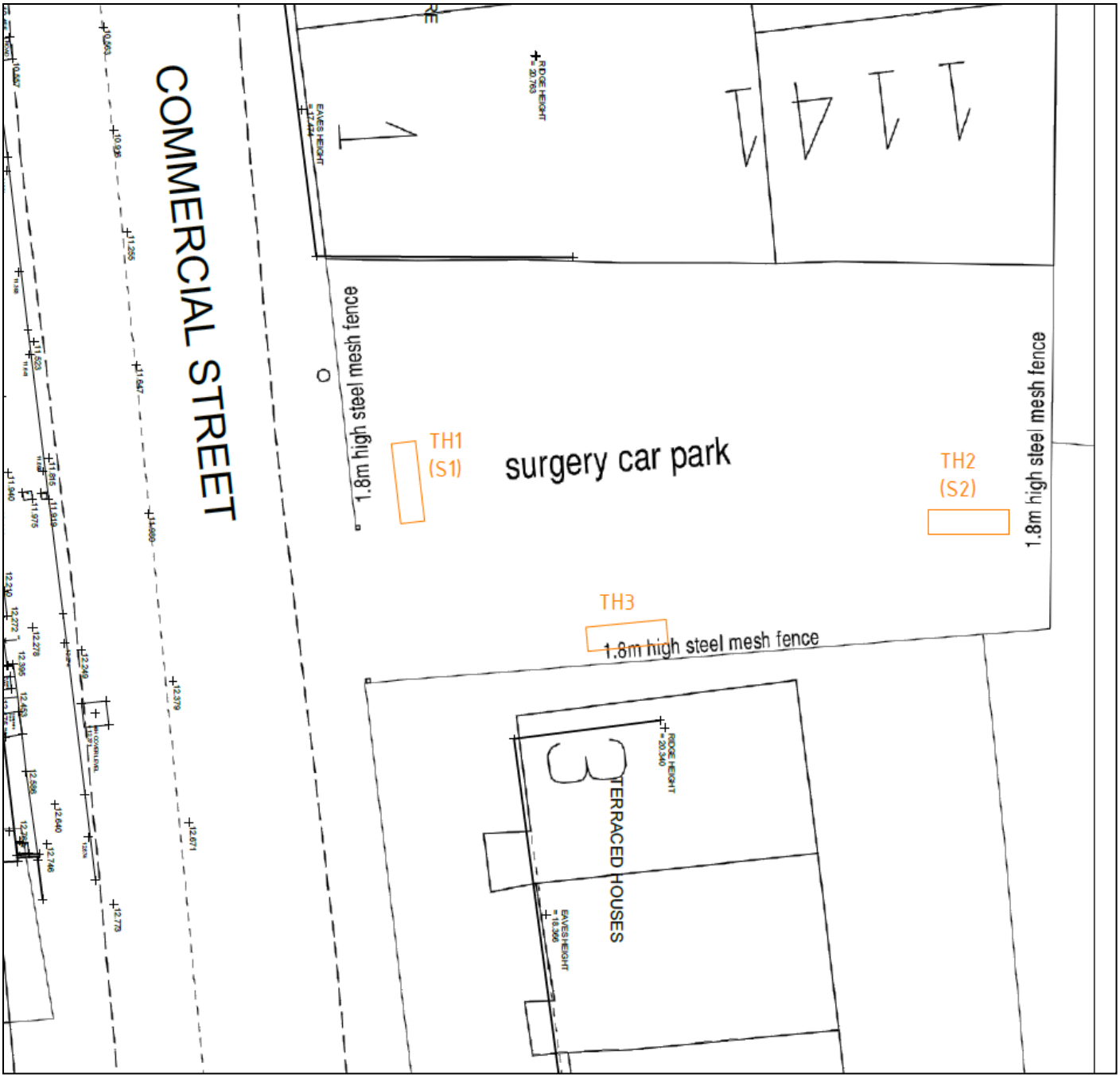
17.2. Ex Site Plan



17.3. Proposed Development



17.4. Site Investigation Plan



T J BOOTH ASSOCIATES

CONSULTING CIVIL & GEOTECHNICAL ENGINEERS

17.5. TJBA Soil Analysis

Client / Site	***Garside - Commercial Street, Slaithwaite***
Sampling Date	***16.09.2021***

Comparison of Contamination Test Results with Thresholds (mg/kg)

Contaminant		No	Max	Mean	t 95	RESIDENTIAL (with or without plant uptake)		
							Pass/Fail	Comment
METALS	Arsenic as As, dry weight	2	14	13	13.9	37	PASS	
	Boron as B, hot water sol dw	1	0.42	0.42	0.42	290	PASS	
	Cadmium as Cd, dry weight	2	0.46	0.28	0.442	22	PASS	
	chromium as Cr(III) dry weight	2	21	19.00	20.80	910	PASS	
	Chromium as Cr(VI), dry weight	2	0.5	0.5	0.5	21	PASS	
	Copper, as Dry Weight	2	820	440	782	2400	PASS	
	Lead, as Dry Weight	2	240	225	238.5	200	FAIL	
	Mercury as Hg, dry weight	2	0.2	0.195	0.1995	1.2	PASS	
	Nickel as Ni, dry weight	2	20	19.5	19.95	130	PASS	
	Selenium as Se, dry weight	2	0.2	0.2	0.2	250	PASS	
	Zinc as Zn, dry weight	2	120	106	118.6	3700	PASS	
INORGANIC	Cyanide (Total)	2	0.6	0.55	0.595	2.5	PASS	
	Sulphate (Total) as SO4	2	0.12	0.11	0.119	0.24	PASS	
	Sulphide	2	16	12.95	15.695	250	PASS	
	pH	2	8.6	8.6	8.6	6 to 8	ALKALINE	
	Sulphur (Elemental)	2	4.3	3.95	4.265	100	PASS	
	Asbestos Identification	2	0	0	0	0	PASS	
ORGANIC	SOM	2	6	4.25	5.825			
PAH	acenaphthene	2	0.52	0.31	0.499	1100	PASS	
PAH	acenaphthylene	2	0.13	0.115	0.1285	920	PASS	
PAH	anthracene	2	1.2	0.735	1.1535	11000	PASS	
PAH	benzo[a]anthracene	2	3.1	1.965	2.9865	13	PASS	
PAH	benzo[a]pyrene	2	3.2	1.875	3.0675	5	PASS	
PAH	benzo[b]fluoranthene	2	4	2.42	3.842	3.7	FAIL	
PAH	benzo[g,h,i]perylene	2	2	1.23	1.923	350	PASS	
PAH	benzo[k]fluoranthene	2	1.8	1.155	1.7355	100	PASS	
PAH	chrysene	2	4.2	2.6	4.04	27	PASS	
PAH	dibenz[ah]anthracene	2	0.86	0.58	0.832	0.3	FAIL	
PAH	fluoranthene	2	6.3	3.7	6.04	890	PASS	
PAH	fluorene	2	0.4	0.25	0.385	860	PASS	
PAH	indeno[123-cd]pyrene	2	2	1.205	1.9205	41	PASS	
PAH	napthalene	2	0.43	0.265	0.4135	13	PASS	
PAH	phenanthrene	2	4.5	2.74	4.324	440	PASS	
PAH	pyrene	2	6.9	4.2	6.63	2000	PASS	
PAH	PAH (Total - SUM EPA16)	2	42	25.4	40.34	1	comment	
SVOC	phenol	2	0.1	0.1	0.1	380	PASS	

17.6. Eurofins Chemtest Ltd Soil Testing Certificates

UKAS TESTING 2183

eurofins | Chemtest

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	21-33372-1		
Initial Date of Issue:	06-Oct-2021		
Client	TJ Booth Associates		
Client Address:	20a Eastgate Street Rochdale Lancs OL16 1DH		
Contact(s):	Daniel Slattery		
Project	Garside - Commercial Street, Slaitwaite		
Quotation No.:	Q19-18321	**Date Received:**	24-Sep-2021
Order No.:		**Date Instructed:**	24-Sep-2021
No. of Samples:	2		
Turnaround (Wkdays):	10	**Results Due:**	07-Oct-2021
Date Approved:	06-Oct-2021		
Approved By:			
Details:	Glynn Harvey, Technical Manager		

Page 1 of 5

Results - Soil

Project: Garside - Commercial Street, Slaitwaite

Client: TJ Booth Associates		Chemtest Job No.:		21-33372	21-33372
Quotation No.: Q19-18321		Chemtest Sample ID.:		1286349	1286350
		Client Sample ID.:		S1	S2
		Sample Location:		TH1	TH2
		Sample Type:		SOIL	SOIL
		Top Depth (m):		0.00	0.00
		Bottom Depth (m):		0.50	0.50
		Date Sampled:		16-Sep-2021	16-Sep-2021
		Asbestos Lab:		COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD		
ACM Type	U	2192		N/A	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	16	16
pH	U	2010		4.0	8.6	8.6
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	< 0.40	0.42
Sulphur (Elemental)	U	2180	mg/kg	1.0	3.6	4.3
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50	0.60
Thiocyanate	U	2300	mg/kg	5.0	< 5.0	< 5.0
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	9.9	16
Sulphate (Total)	U	2430	mg/kg	100	1200	1000
Arsenic	U	2450	mg/kg	1.0	12	14
Cadmium	U	2450	mg/kg	0.10	0.46	< 0.10
Chromium	U	2450	mg/kg	1.0	21	17
Copper	U	2450	mg/kg	0.50	60	820
Mercury	U	2450	mg/kg	0.10	0.19	0.20
Nickel	U	2450	mg/kg	0.50	19	20
Lead	U	2450	mg/kg	0.50	240	210
Selenium	U	2450	mg/kg	0.20	< 0.20	< 0.20
Zinc	U	2450	mg/kg	0.50	92	120
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50
Organic Matter	U	2625	%	0.40	4.1	13
Naphthalene	U	2700	mg/kg	0.10	0.43	< 0.10
Acenaphthylene	U	2700	mg/kg	0.10	0.13	< 0.10
Acenaphthene	U	2700	mg/kg	0.10	0.52	< 0.10
Fluorene	U	2700	mg/kg	0.10	0.40	< 0.10
Phenanthrene	U	2700	mg/kg	0.10	4.5	0.98
Anthracene	U	2700	mg/kg	0.10	1.2	0.27
Fluoranthene	U	2700	mg/kg	0.10	6.3	1.1
Pyrene	U	2700	mg/kg	0.10	6.9	1.5
Benzo[a]anthracene	U	2700	mg/kg	0.10	3.1	0.83
Chrysene	U	2700	mg/kg	0.10	4.2	1.0
Benzo[b]fluoranthene	U	2700	mg/kg	0.10	4.0	0.84
Benzo[k]fluoranthene	U	2700	mg/kg	0.10	1.8	0.51
Benzo[a]pyrene	U	2700	mg/kg	0.10	3.2	0.55
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10	2.0	0.41
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10	0.86	0.30

Results - Soil

Project: Garside - Commercial Street, Slaitwaite

Client: TJ Booth Associates			Chemtest Job No.:		21-33372	21-33372
Quotation No.: Q19-18321			Chemtest Sample ID.:		1286349	1286350
			Client Sample ID.:		S1	S2
			Sample Location:		TH1	TH2
			Sample Type:		SOIL	SOIL
			Top Depth (m):		0.00	0.00
			Bottom Depth (m):		0.50	0.50
			Date Sampled:		16-Sep-2021	16-Sep-2021
			Asbestos Lab:		COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD		
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10	2.0	0.46
Total Of 16 PAH's	U	2700	mg/kg	2.0	42	8.8
Total Phenols	U	2920	mg/kg	0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2180	Sulphur (Elemental) in Soils by HPLC	Sulphur	Dichloromethane extraction / HPLC with UV detection
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N–dimethyl-p-phenylenediamine.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

18. APPENDIX B: PHOTOS

Figure 1 – Front of the Site view from Commercial Street.

Figure 2 – View from front of Site to rear east side.

Figure 3 – View to Commercial Street.

Figure 4 – Trial Hole 1.

Figure 5 – Trial hole 2.

19. APPENDIX C: ENVIROCHECK

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LANDMARK INFORMATION GROUP

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
286694673_1_1

Customer Reference:
garside-croft hse&commercial st joint env-211021

National Grid Reference:
408090, 413810

Slice:
A

Site Area (Ha):
0.1

Search Buffer (m):
1000

Site Details:

Croft House & Commercial Street
Slaithwaite
Huddersfield
HD7 5JZ

Client Details:

Mr T Booth
TJ Booth Associates
20a Eastgate Street
Rochdale
Lancashire
OL16 1DH

Envirocheck®
LANDMARK INFORMATION GROUP

Contents

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency, it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.
In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

Report Version v53.0

Envirocheck®
LANDMARK INFORMATION GROUP

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1		Yes	Yes	n/a
Contaminated Land Register Entries and Notices	pg 3				2
Discharge Consents	pg 3				14
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices	pg 7				2
Integrated Pollution Controls	pg 7				23
Integrated Pollution Prevention And Control	pg 11		3	1	10
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 16		3	1	2
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 16	Yes			
Pollution Incidents to Controlled Waters	pg 16		5	6	54
Prosecutions Relating to Authorised Processes	pg 27				1
Registered Radioactive Substances					
River Quality	pg 27		3	2	
River Quality Biology Sampling Points					
Substantiated Pollution Incident Register	pg 31		1	1	3
River Quality Chemistry Sampling Points	pg 29			3	
Water Abstractions	pg 32		1	7	10 (*29)
Water Industry Act Referrals	pg 44				5
Groundwater Vulnerability Map	pg 44	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 45	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones	pg 45				1
Extreme Flooding from Rivers or Sea without Defences	pg 45	Yes	Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 45	Yes	Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 46		26	32	67

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites	pg 61				1
Historical Landfill Sites	pg 61				3
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 61				6
Local Authority Landfill Coverage	pg 63	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Registered Landfill Sites	pg 63				2
Registered Waste Transfer Sites	pg 64				2
Registered Waste Treatment or Disposal Sites	pg 65				3
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)	pg 67				2
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents	pg 67				5
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 68	Yes	n/a	n/a	n/a
BGS Recorded Mineral Sites	pg 68			7	9
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 70	Yes		n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 70	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 71		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 71	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 71		Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 71	Yes		n/a	n/a
Radon Potential - Radon Affected Areas	pg 71	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries	pg 72		23	45	71
Fuel Station Entries					
Gas Pipelines					
Underground Electrical Cables					
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt	pg 85		1		
Areas of Unadopted Green Belt	pg 85		1		
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

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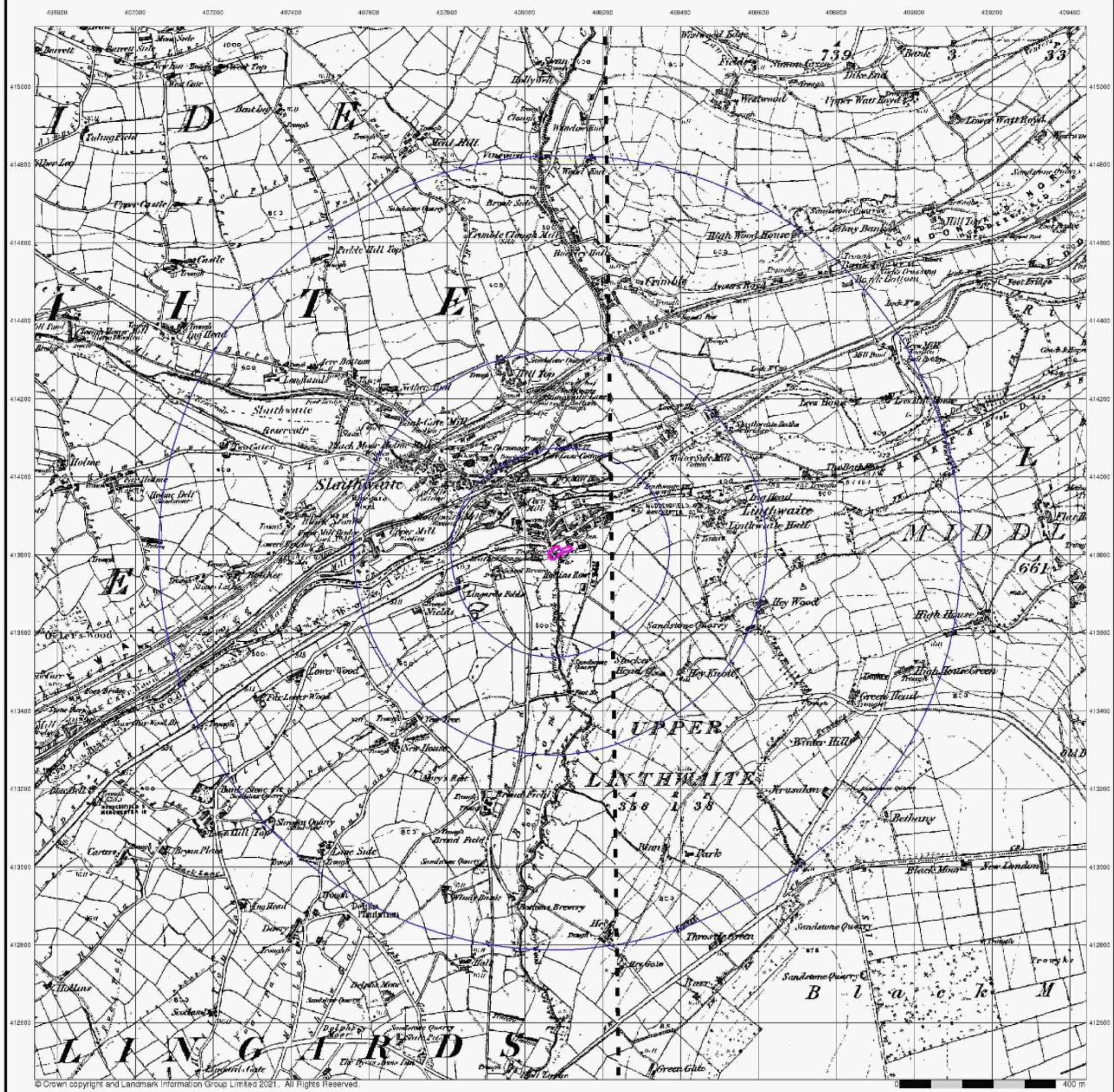

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LANDMARK INFORMATION GROUP®

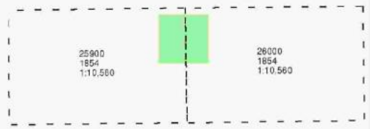
Yorkshire

Published 1854

Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



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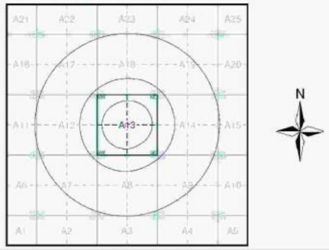

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Customer Ref:	garside-croft hse&commercial st joint env-211021
National Grid Reference:	408090, 413810
Slice:	A
Site Area (Ha):	0.1
Search Buffer (m):	1000

Site Details

Croft House & Commercial Street, Slaithwaite, Huddersfield, HD7 5JZ

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Fax: 0844 844 9951
Web: www.envirocheck.co.uk

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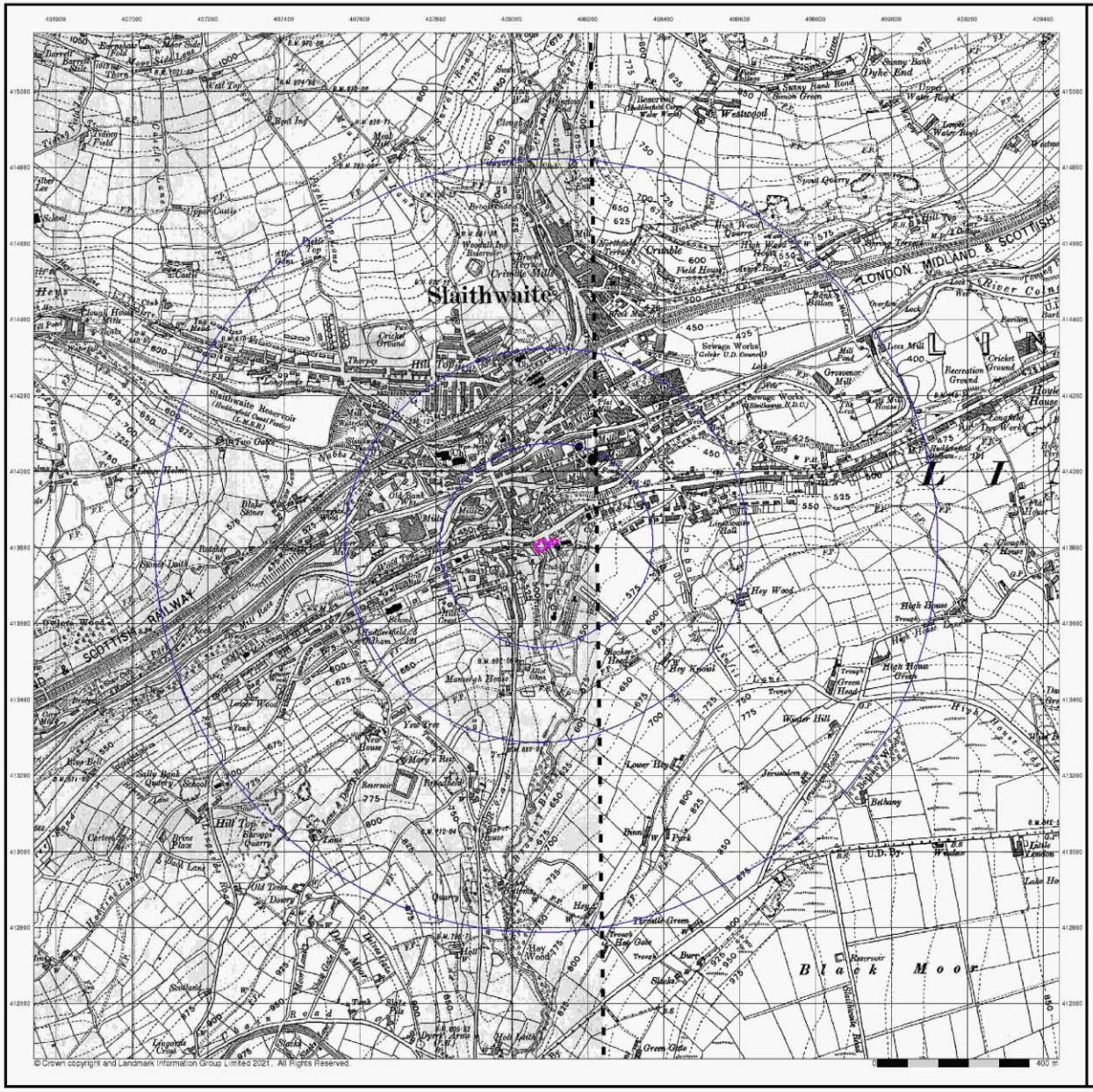

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Yorkshire

Published 1938 - 1948

Source map scale - 1:10,560

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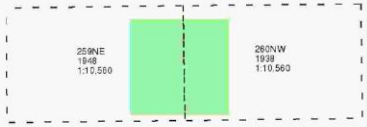
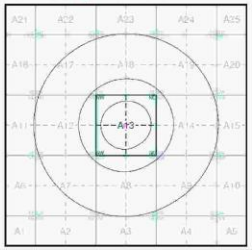


Historical Map - Slice A



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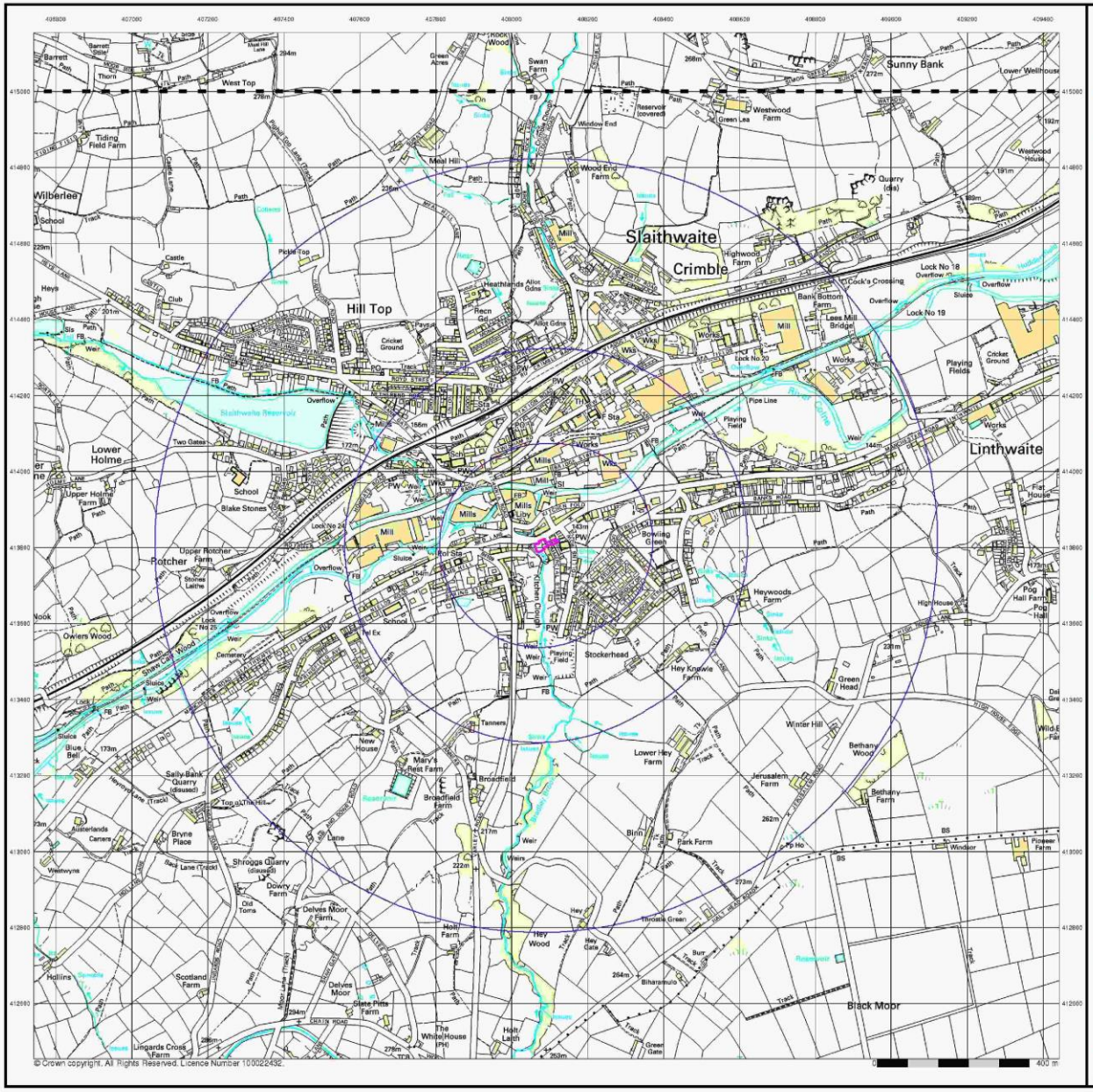

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10k Raster Mapping

Published 2000

Source map scale - 1:10,000

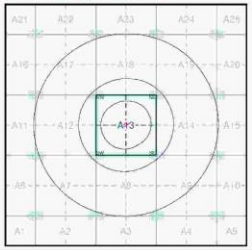
The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SE01NE 2000 1:10,000

SE01SE 2000 1:10,000

Historical Map - Slice A



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Customer Ref:	garside-croft hse&commercial st joint env-211021
National Grid Reference:	408090, 413810
Slice:	A
Site Area (Ha):	0.1
Search Buffer (m):	1000

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Yorkshire

Published 1892

Source map scale - 1:2,500

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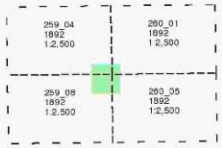
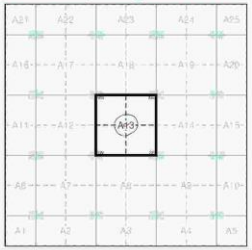
Map Name(s) and Date(s)



Historical Map - Segment A13



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Order Number:	286694673_1_1
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Yorkshire

Published 1906

Source map scale - 1:2,500

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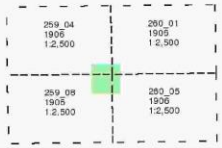
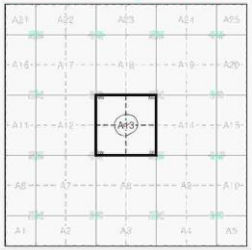


Historical Map - Segment A13



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Search Buffer (m):	100

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Yorkshire

Published 1917 - 1932

Source map scale - 1:2,500

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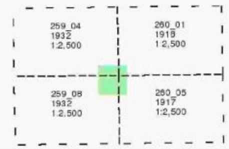

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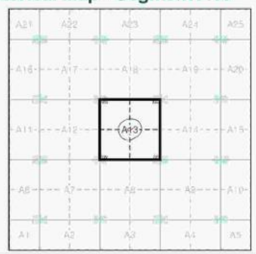

Order Details

Order Number: 286694673_1_1
Customer Ref: garside-croft hse&commercial st joint env-211021
National Grid Reference: 408090, 413810
Slice: A
Site Area (Ha): 0.1
Search Buffer (m): 100

Site Details

Croft House & Commercial Street, Slaithwaite, Huddersfield, HD7 5JZ

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Ordnance Survey Plan

Published 1968

Source map scale - 1:2,500

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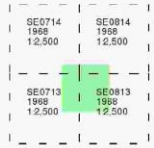
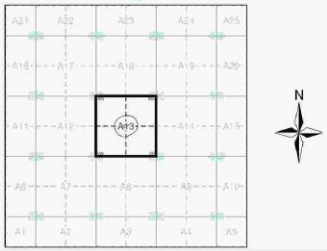
Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

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National Grid Reference:	408090, 413810
Slice:	A
Site Area (Ha):	0.1
Search Buffer (m):	100

Site Details

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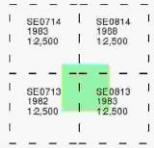
Additional SIMs

Published 1968 - 1983

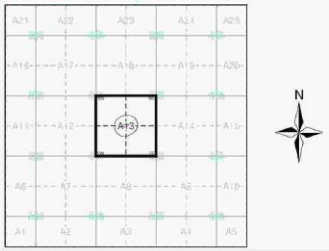
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	286694673_1_1
Customer Ref:	garside-croft hse&commercial st joint env-211021
National Grid Reference:	408090, 413810
Slice:	A
Site Area (Ha):	0.1
Search Buffer (m):	100

Site Details

Croft House & Commercial Street, Slaithwaite, Huddersfield, HD7 5JZ

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

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CONSULTING CIVIL & GEOTECHNICAL ENGINEERS

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Large-Scale National Grid Data

Published 1993

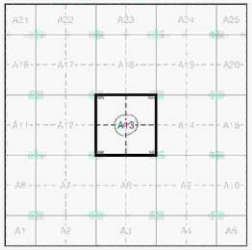
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SE0714 1993 1:2,500	SE0814 1993 1:2,500
SE0713 1993 1:2,500	SE0813 1993 1:2,500

Historical Map - Segment A13



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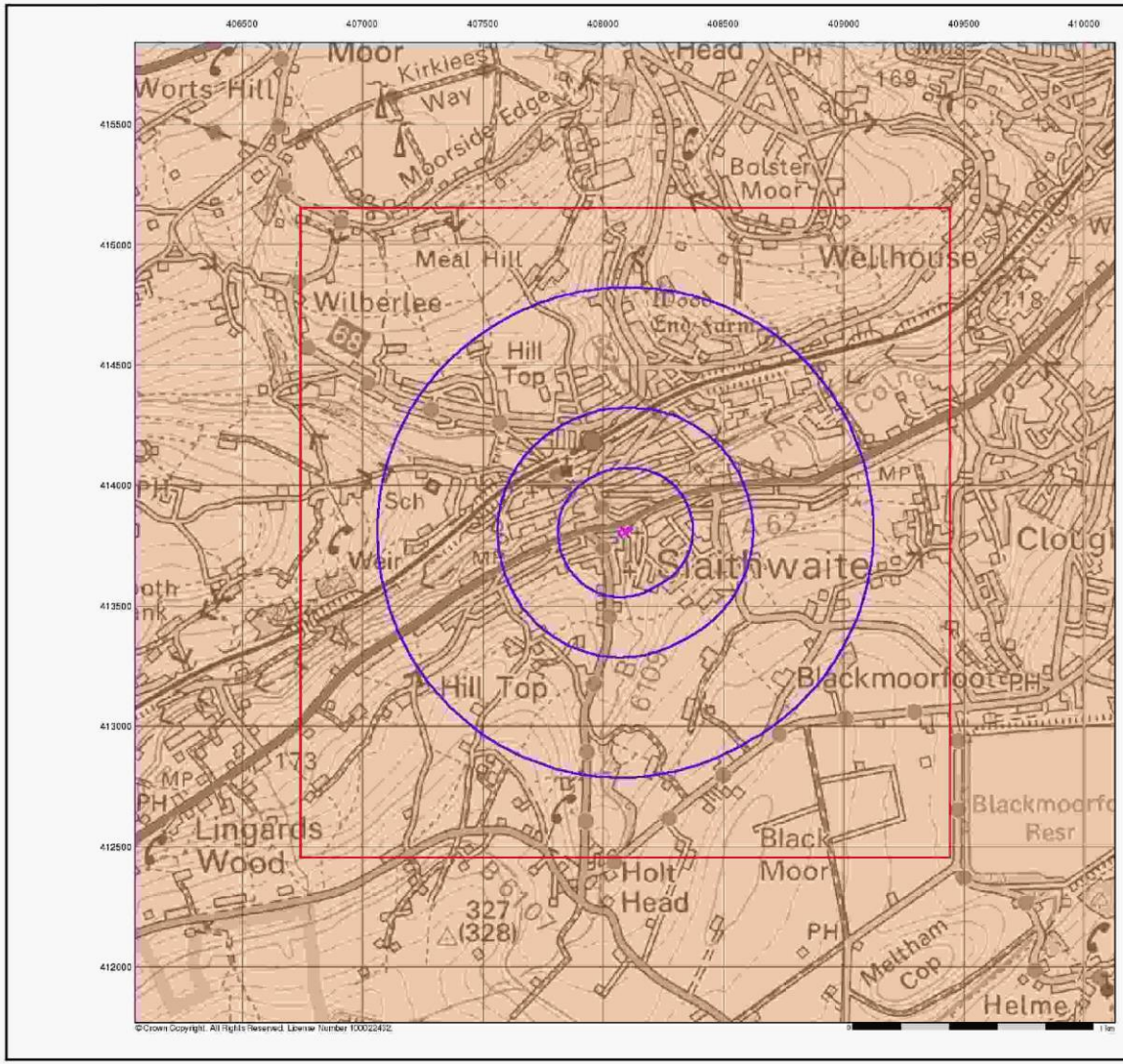

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Bedrock Aquifer Designation

General

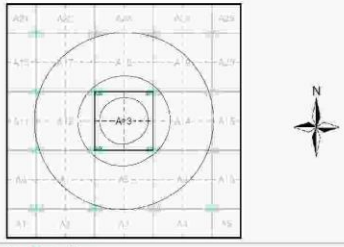
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



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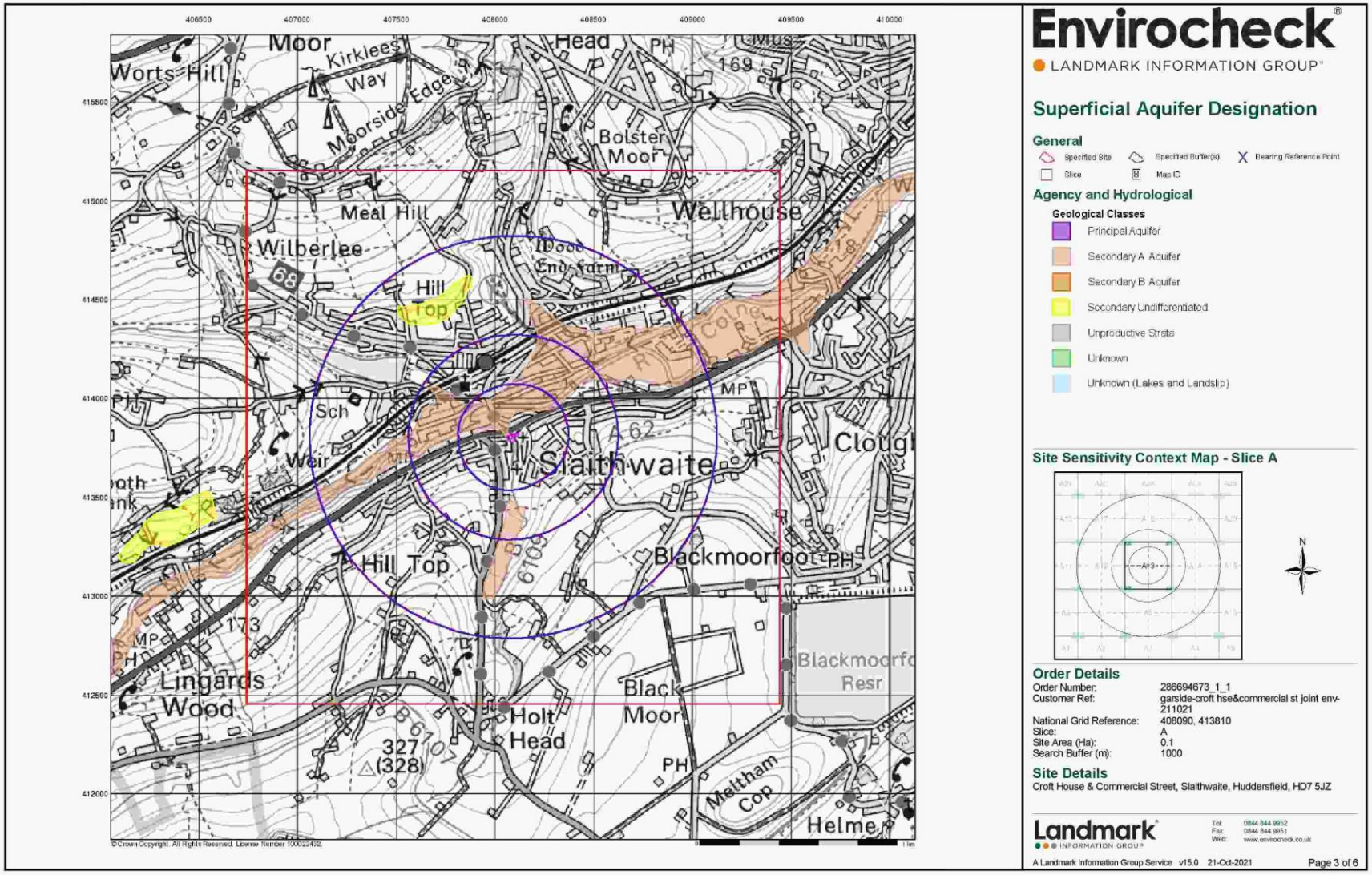

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Superficial Aquifer Designation

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A

Order Details

Order Number:	286694673_1_1
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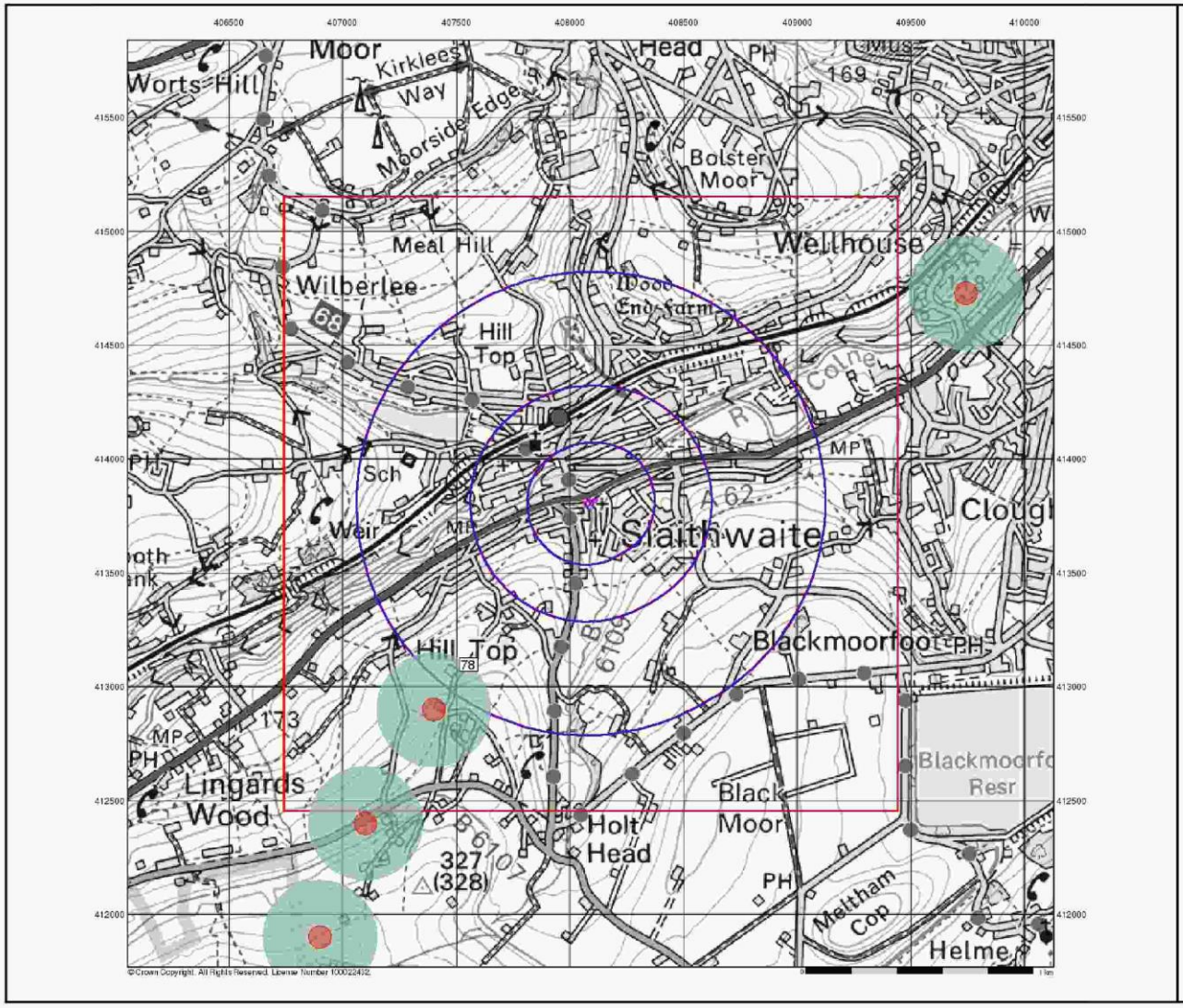

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Source Protection Zones

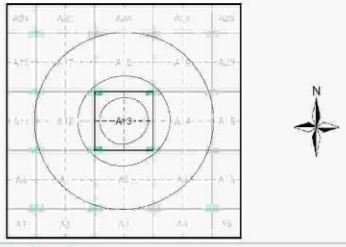
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



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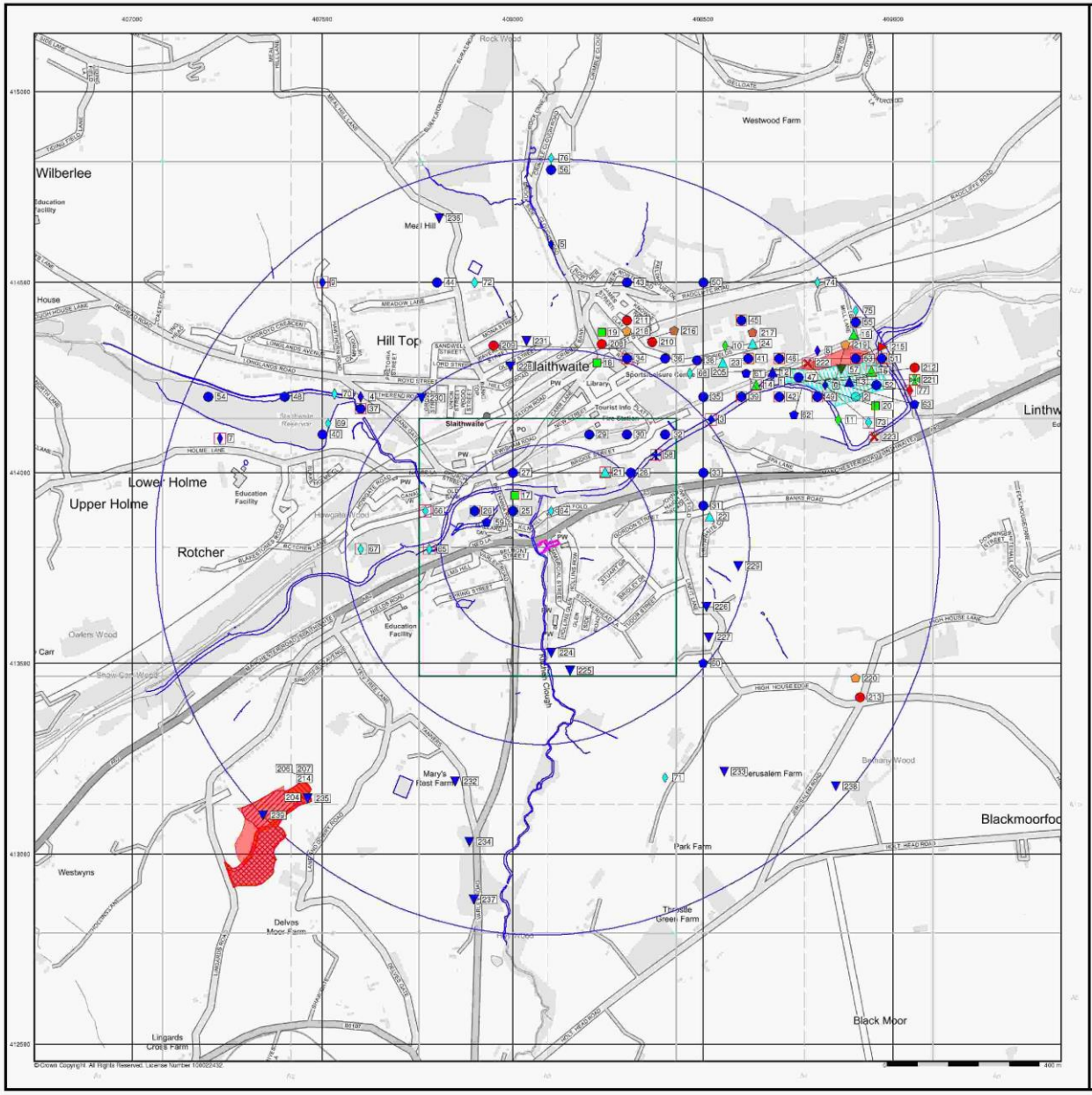

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General

Specified Site; Specified Buffer(s); Bearing Reference Point; Map ID; Several of Type at Location

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Geological

- BGS Recorded Mineral Site

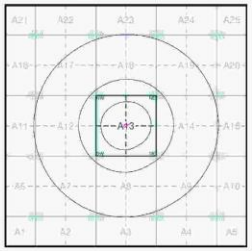
Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry

Site Sensitivity Map - Slice A



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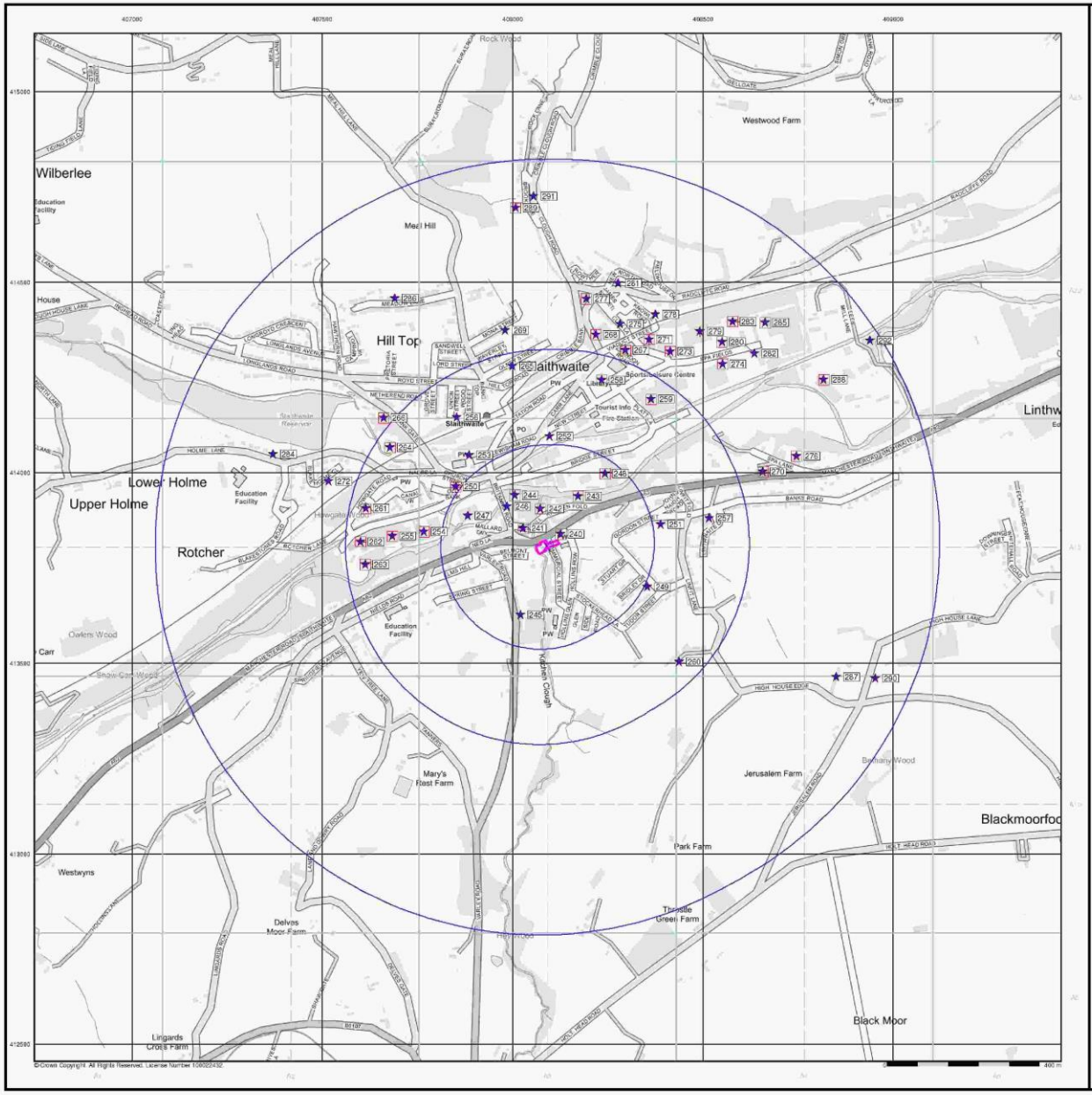

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Industrial Land Use Map

General

Specified Site | Specified Buffer(s) | Bearing Reference Point

Slice | Map ID

Industrial Land Use

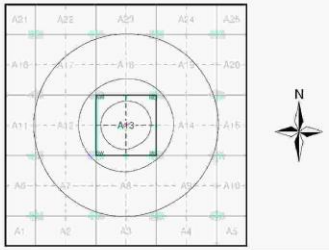
Contemporary Trade Directory Entry

Fuel Station Entry

Gas Pipeline

Underground Electrical Cables

Industrial Land Use Map - Slice A



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