



GEO-ENVIRONMENTAL AUDIT

PHASE 1 PRELIMINARY RISK ASSESSMENT

**PROPOSED RESIDENTIAL DEVELOPMENT
GROVE ROAD
MIDDLETON
M24 2LZ**

Author: Daniel Slattery
Client: Mr Vrajitoru
Reference: rep-tjba-vrajitoru-grove rd-Phs1Env-100726.docx

Revision	Date	Reason
0	July 2026	Original for planning.

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1. PHASE 1 - PRELIMINARY RISK ASSESSMENT.

1.1. Introduction.

T. J. Booth Associates have been appointed by Mr Vrajitoru to compile a phase 1 preliminary risk assessment (PRA) to a vacant plot of land off Grove Road, Middleton.

The proposal is for a single block of residential apartments.

A planning application has not yet been submitted, and so there are no planning conditions to address.

Building regulations Part C relating to contaminated land applies to all developments.

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 Land Contamination Risk Management (LCRM) source-pathway-receptor methodology. Assessment of potential pollution linkages is primarily undertaken in strict accordance with BS 5930:2015, BS 10175:2011+A2:2017, CIRIA C665, and BS 8485:2015+A1:2019 et al.

1.2. Proposed Development.

The proposal is for the construction of a single residential apartment building. The building will comprise 6No apartments over 3 floors.

The front of the site between Grove Road and the building will comprise a hardstanding/driveway area.

There may be some soft landscaping to the rear and side of the site.

Refer to Proposed Plan in the Appendix.

1.3. Historic Maps.

The historic maps were obtained for the site in 2019.

DATE	ON-SITE	OFF-SITE/SURROUNDING AREA
c1851	Site is part of agricultural land.	Surrounding area comprises predominantly open fields with some farm houses, and mills in the wider area nominally 100-200m distant. Small mill pond associated with Boarshaw Mill approximately 75m west.
c1893	No change.	Area of spoil & reservoir noted approx 225m northeast. Spoil also noted at Boarshaw Mill (cotton) 100m west. Development in the wider area generally over 150-200m from site.
c1909	No change.	Further development in the wider area. Chromer Cotton Mill 200m southwest.
c1932	No change.	Beginning of construction of the local estate. Phoenix bleach works noted approx 75m northwest.
c1954-55	Site remains vacant but surrounded by residential housing estate.	Substation noted approximately 10m east. Estate now mostly fully developed as in the present day. Reservoirs and previous areas of spoil/excavation removed from map and redeveloped.
c1960-77	Garages noted to the north side of the site, with the south being part of an access road.	No overall change.

c1992	No change.	No overall change.
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1.4. Present Day Maps.

Site boundaries, outlines of structures and buildings:	The site is currently used as a car park and access road, with access via the east off Dale Road. To the north side is a grass verge. It is assumed that the car park serves buildings that front onto Jubilee Road. The substation noted in historic mapping data remains to the east.
Ground contours, natural drainage features:	No topographic survey has yet been undertaken. Land elevation in the local area falls to the east, down the access road to Dale Road.
Watercourses:	Hopwood Clough is 350m west, and the River Irk is 300m southeast.
Below ground obstructions:	None noted on current maps obtained for the site, but presumably there are significant underground electric cables locally serving the substation.

1.5. BGS Geology.

Superficial geology:	The site is within an area of sand and gravel glacial cover.
Bedrock geology:	The site is underlain by Carboniferous Westphalian Coal Measures. There is a fault approximately 10m south dipping to the southwest.
Coal seams:	There is a coal seam approximately 95m southwest, dipping southwest. The closest coal seam are as follows: 140m southeast (faulted out beneath the site). 120m south (faulted out beneath the site). No relevant seams to the north dipping beneath the site.

1.6. BGS Boreholes Records.

Closest BH is 150m west, and indicates the following stratigraphy:

0.00m – 3.65m	Glacial Clay.
3.65m – 10.97m	Interbedded mudstone & sandstone (general coal measures).
10.97m – 14.32m	Hard brown sandstone.
14.32m – 49.07m	Interbedded mudstone & sandstone (general coal measures).
49.07m – 68.73m	Hard grey sandstone.
68.73m – 78.02m	Interbedded mudstone & sandstone (general coal measures).

2. LANDMARK ENVIROCHECK REPORT.

The Landmark report was obtained for the site in 2019.

2.1. Agency & Hydrological.

Discharge Consents	3 records within 0-250m radius, closest of which is 236m W.
Pollution incidents to controlled waters:	4 records within a 0-250m radius.
Groundwater Vulnerability:	High vulnerability.

Bedrock aquifer designation:	Secondary A Aquifer.
Superficial aquifer designation:	Secondary A Aquifer.
Source Protection Zones:	Site is not within a SPZ.
Flooding from Rivers & Sea:	Not within a flood zone. Closest flood zone is 183m SE.

2.2. Waste.

BGS Recorded Landfill Sites:	No records within a 250m radius.
Historic Landfill Sites:	No records within a 250m radius.
Local Authority Landfill Sites.	No records within a 250m radius.

2.3. Hazardous Substances.

No records within a 250m radius.

2.4. Geological.

Coal mining affected area:	Site is within a coal mining area.
Potential for collapsible ground stability hazards:	Very low.
Potential for compressible ground stability hazards:	No risk.
Potential for ground dissolution stability hazards:	No risk.
Potential for landslide ground stability hazards:	Very low.
Potential for running sand ground stability hazards:	very low.
Potential for shrinking or swelling clay ground stability hazards:	No risk.
Radon Potential/Radon Affected Areas:	The property is within a Lower probability Radon Area (where <1% of homes are estimated to be at or above the action level).
Radon Potential/Radon Protection Measures:	No protection measures are necessary in new dwellings or extensions.

2.5. Industrial Land Use.

Contemporary trade directory enquiries:	0 on site records. 14 records noted within a 250m radius – closest is 7m S.
Fuel Station Entries:	0 records within a 250 radius.
Gas pipelines:	No records noted.
Underground electrical cables:	No records noted.

2.6. Mining Remediation Authority.

2.6.1. Mining activity & geology.

Past underground mining:	There are no recorded underground workings beneath the site.
Probable unrecorded shallow workings:	Probable shallow workings are noted beneath the site.
Spine roadways at shallow depth:	Not known to be a risk.
Mine entries:	None close to the site boundaries.

Abandoned mine plan catalogue numbers:	N/A.
Outcrops:	The Mining Remediation Authority suggests there is a coal seam ending on the convergence of the access road and Dale Road.
Geological faults, fissures and breaklines:	Not shown.

3. PLANNING/OTHER DATA.

3.1.1. 147 Jubilee Road, Middleton.

There was a planning application for No.147 Jubilee Road which is 20m east of the current Application Site.

The application was for a residential apartment block, similar to the current proposal.

As part of the application, a coal mining risk assessment and investigation was undertaken by GeoInvestigate Ltd, refer to site investigation report in the Appendix, ref: Rotary Borehole Site Investigation Report, G17402, dated October 2017.

Two rotary boreholes (RH1 & RH2) were undertaken to the front and rear of the site.

The investigations recorded the following stratigraphy:

Rotary BH RH1

0.00m – 3.20m	Brown drift.
3.20m – 8.50m	Siltstone with sandstone inclusions.
8.50m – 16.20m	Sandstone.
16.20m – 30.00m	Mudstone with sandstone inclusions.

Rotary BH RH2

0.00m – 3.20m	Brown drift.
3.20m – 8.30m	Siltstone with sandstone inclusions.
8.30m – 15.70m	Fractures/faulted sandstone.
15.70m – 30.00m	Mudstone with sandstone inclusions.

The conclusions of the report were that the fault noted on the BGS maps was encountered in BH R2 and that coal seams were not present at shallow depth beneath the site. There were no voids, cavities or broken ground associated with the presence of mine workings in either hole. The risk was considered mitigate due to the absence of coal seams underlying the site.

4. UK RADON.

The updated UK Radon maps indicate the site is within a 1km grid square where there are 1-3% of homes at or above the action level.

Radon protection is not required.

4.1. Site Reconnaissance.

Details of existing structures:	The site was accessed in July 2026. Weather was dry and sunny. Access was gained via Dale Road along a short access driveway to the rear of the properties to Jubilee Road. The site comprised an access road, car parking spaces, and a verge to the north side. It was fenced off from surrounding land except the remaining access driveway to the east. The access road and car park comprised macadam, with the verge comprising a hardcore finish.
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	A gully was noted to the south east corner within the site. There were no other features of note.
Adjacent properties:	There was a substation approximately 10m east. Residential estates surrounding the site. Generally commercial (shops) to the southeast fronting Jubilee Road.
Water levels, directions of flow and rates in rivers:	None noted.
Old mine or quarry workings:	None noted on site reconnaissance.
Obvious/immediate hazards to health/safety:	None noted.
Areas of discoloured soil, polluted water, vegetation, and significant odours:	The site is likely to comprise made ground owing from its history as an access road, but no specific contaminants were noted on reconnaissance.

4.2. Identification of Source-Pathway-Receptor.

4.2.1. Environmental Summary.

Historic mappings indicate the site was undeveloped through its early history, comprising agricultural land up until around c1930. After this period, the site and surrounding area were transformed by the local housing development, particularly the housing estate to the north of the site, and the shops to the south, leaving the site and land between as an access road.

There is a substation which was built presumably to service the local housing estate, and it appears this was also erected around the same time. Because the substation was erected pre ban on PCBs, transformers could have used PCBs locally. Although unlikely, there may be a risk to the site.

As the site has been developed, there is likely made ground beneath the surfacing material which will likely contain some mild contamination (metals, PAH, asbestos), and although unlikely, PCBs could have been used within 10m of the site boundary. Hardcore building rubble was noted to the north side verge.

The wider area also predominantly remained agricultural until the current estate was developed. However, before this there were some mills/commercial activities in the wider area especially to the west & south within 150m.

There was also an area of landfilling to the northeast, which appears to be present beneath current allotment land surrounded by the local housing estate – although this appears to be at higher elevation to the Application Site.

No particular risks were noted within the Landmark Data Report, in particular was the absence of any landfill sites within 250m.

Coal mining site investigations to the adjacent site have indicated no shallow seams beneath the development.

The site is not within a radon protection area.

4.2.2. Potential Contaminant Sources.

ORIGINAL ASSOCIATED SOURCE	CONTAMINANT/S
Historic made ground.	Generally: metals, PAHs, sulphates, asbestos. Rarely but may be found in localised places are TPH but only if suspected on site investigation.
Substation.	PCBs.

4.2.3. Potential Pathways.

The potential pathways to/from the Development Site include (not an exhaustive list but a summary of the main points):

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

4.2.4. Potential Receptors.

Human: Future residential users & construction phase workforce.

Controlled waters: None noted.

4.3. Preliminary Conceptual Model.

POLLUTANT RISK IDENTIFIER	SOURCE	CONTAMINANT TYPE	PATHWAY	RECEPTOR	POLLUTION LINKAGE	CONSEQUENCE	PROBABILITY	RISK
PL1	General contaminants in upper site soil/made ground, and effects on humans/animals/ecology as a receptor.	Metals, PAHs, inorganics, organics, asbestos.	Direct ingestion, aerial ingestion, dermal contact, drinking water. Crops.	Primarily human - Site construction operatives & future worker & site users.	Made ground, hardcore.	Medium.	High likelihood.	High risk.
PL2	Potential for mortars/plasters and associated effects on concrete.	Sulphates.	Contact with underground structures.	Building structures /concrete.	Made ground, hardcore.	Medium.	High likelihood.	High risk.
PL3	Potential historic use of hazardous PSRAS chemicals & effects on PE water pipes.	Hydrocarbons, BTEX & MTBE, VOCs/SVOCs, phenols, cresols and chlorinated phenols.	Contact with water pipes/services.	Water pipes/services & human/pet end users.	Unlikely, site is covered with an impermeable macadam surface which falls to surface water drains away from site.	Medium.	Unlikely.	Low risk.
PL4	Hydrocarbon contaminants in upper site soil/made ground, and effects on groundwater or watercourses as a receptor.	Potential hydrocarbons.	Groundwater via potential leaching and transport of potential contaminants.	Underlying aquifer or watercourse as a receptor.	Unlikely, site is covered with an impermeable macadam surface which falls to surface water drains away from site. No surface waters noted.	Medium.	Unlikely.	Low risk.
PL5	Geological ground gas from coal seams/workings.	CH ₄ , CO ₂ , other trace gases.	Diffusion through soil, substructures, aerial inhalation.	Human - future residential Site occupants. Explosion, suffocation.	Coal seams are deep & no coal shafts present. No pathway present.	Medium.	Unlikely.	Low risk.
PL6	Geological ground gas, radon sources in Namurian deposits.	Rn.	Diffusion through soil, substructures, aerial inhalation.	Human - future residential Site occupants.	UK Radon maps indicate a 1-3% risk, no radon protection measures are required. No source present.	Medium.	Unlikely.	Low risk.



PL7	Anthropogenic ground gas from historic/present landfill, infilled mill ponds & onsite made ground.	CH ₄ , CO ₂ , other trace gases.	Diffusion through soil, substructures, aerial inhalation.	Human - future residential Site occupants. Explosion, suffocation.	Although there has been some minor infilling historically in the wider area, there are no registered historic landfill sites in within 250m. Infilled land is also at higher level. Source tenuous, no pathway present.	Medium.	Unlikely.	Low risk.
PL8	Alluvial ground gas.	CH ₄ , CO ₂ .	Diffusion through soil, substructures, aerial inhalation.	Human - future residential Site occupants. Explosion, suffocation.	No source & no pathway present.	Medium.	Unlikely.	Low risk.

5. CONCLUSIONS & SUGGESTED SITE INVESTIGATIONS.

5.1. Summary.

It is proposed that a site investigation is undertaken comprising soil sampling for any soft landscaped areas.

Due to the residential end use, general soil sampling should be undertaken at a suitable ratio of 10-25m.

5.2. Human Health Risk.

5.2.1. Shallow soil contamination.

The potential for made ground has been noted in the initial assessment, and general soil sampling at a suitable ratio (10-25m) for a residential end use is proposed with the following contaminant analysis:

- Metals.
- PAH.
- Inorganics.
- Asbestos.
- Hydrocarbons (where suspected).
- VOCs/SVOCs (where suspected).

5.2.2. Buildings & services.

5.2.2.1. Water pipes.

There is a potential risk of contamination to water supply pipes, and to assess whether a barrier pipe is required, a sample should be analysed for PSRAS chemicals as follows in accordance with United Utilities protocol:

- Total VOCs.
- Total BTEX & MTBE.
- Total SVOCs (excluding PAH, phenols & chlorinated phenols).
- EC5-10 aliphatic & aromatic hydrocarbons.
- EC10-16 aliphatic & aromatic hydrocarbons.
- EC16-40 aliphatic & aromatic hydrocarbons.
- Phenols.
- Cresols & chlorinated phenols.

This will need to be undertaken in due course if required by United Utilities, and based on findings from a site investigation once the stratigraphy is known.

5.2.3. Ground Gas Risk.

No significant risk exists.

5.2.4. Controlled Waters Risk.

No risk to the development.

5.2.5. 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.

Authorised...

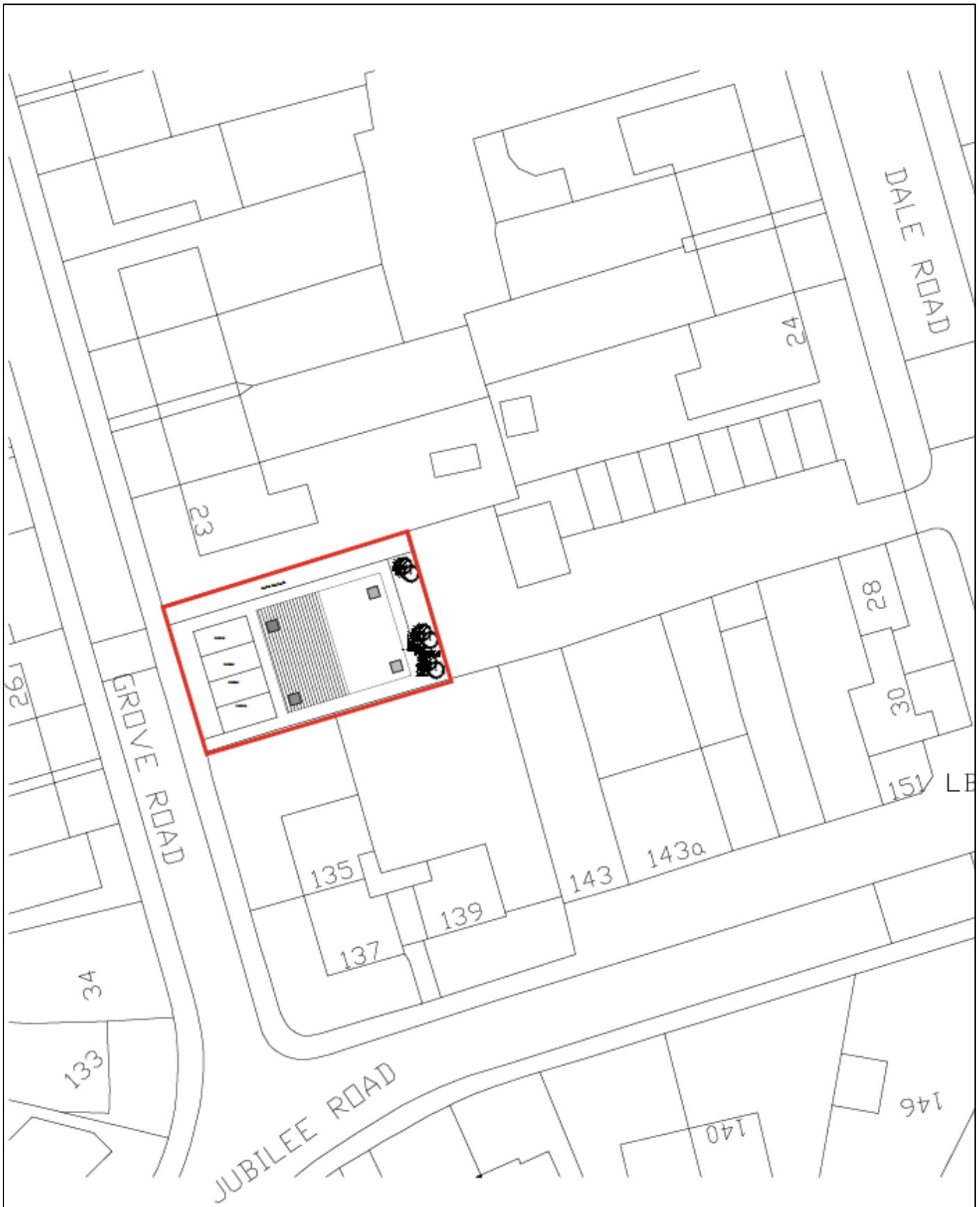


T J Booth BSc (Hons), C. Eng. C. Env. MICE.

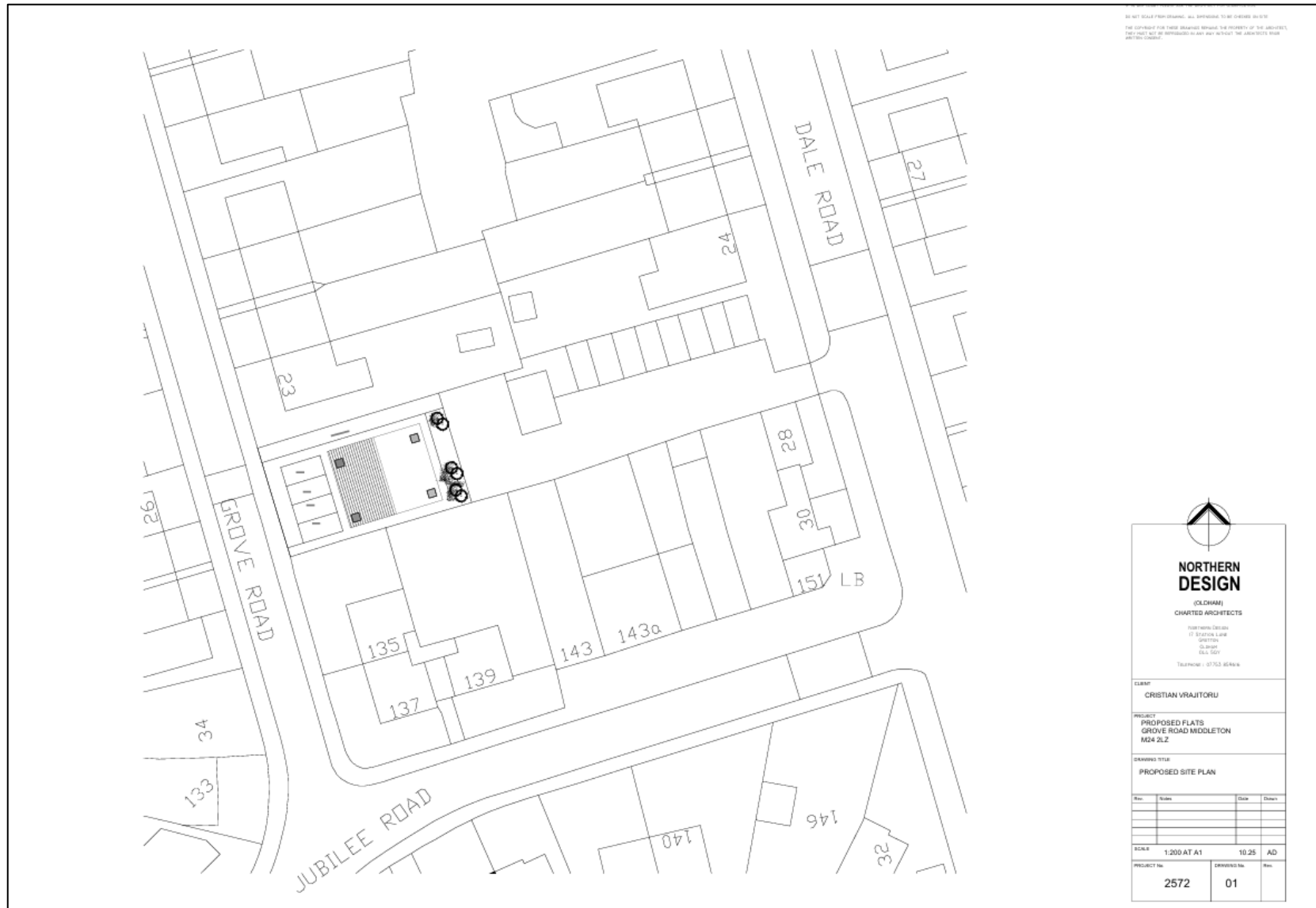
T J Booth Associates.

7. APPENDIX A: FIGURES.

7.1. Location Plan.



7.2. Proposed Site Plan.





(OLDHAM)
CHARTED ARCHITECTS

CLIENT	CRISTIAN VRAJITORU
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PROJECT
PROPOSED FLATS
GROVE ROAD
MIDDLETON

DRAWING TITLE:
PROPOSED FLOOR PLANS

Plan	Section	Date	Drawn
SCALE		1:50 AT A1	03.26
PROJECT No.		DRAWING No.	Plan
2572		02	

IT IS HEREBY REQUESTED THAT THE ARCHITECT PROVIDE CLARIFICATION.
DO NOT SCALE FROM DRAWING. ALL DIMENSIONS TO BE SHOWN ON SITE.
THE CONTRACT FOR THIS DRAWING REMAINS THE PROPERTY OF THE ARCHITECT.
THIS DRAWING IS NOT TO BE REPRODUCED IN ANY WAY WITHOUT THE ARCHITECT'S PRIOR WRITTEN CONSENT.

PROPOSED FRONT ELEVATION

PROPOSED GABLE ELEVATION

PROPOSED REAR ELEVATION

PROPOSED GABLE ELEVATION

NORTHERN DESIGN
(OLDHAM)
CHARTERED ARCHITECTS
FOOTMARK DESIGN
17 STATION LANE
OLDHAM
OL16 5PT
Telephone : 07552 851616

CLIENT
CRISTIAN VRAJITORU

PROJECT
PROPOSED FLATS
GROVE ROAD MIDDLETON

DRAWING TITLE
PROPOSED ELEVATIONS

Rev.	Name	Date	Drawn

SCALE 1:100 AT A1 02/26 AD

PROJECT No.	DRAWING No.	Rev.
2572	03	

8. APPENDIX B: SITE WALKOVER PHOTOS.

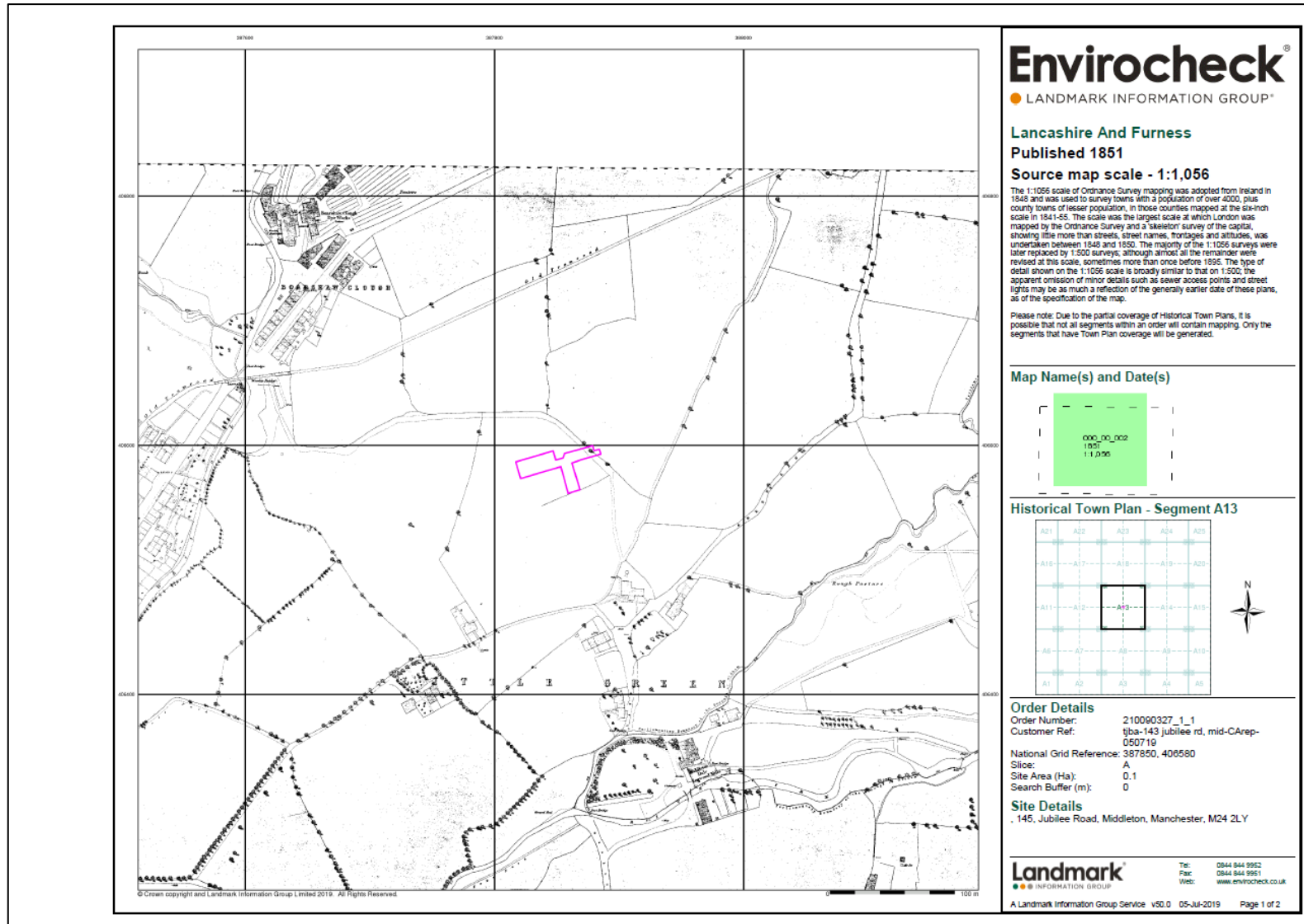


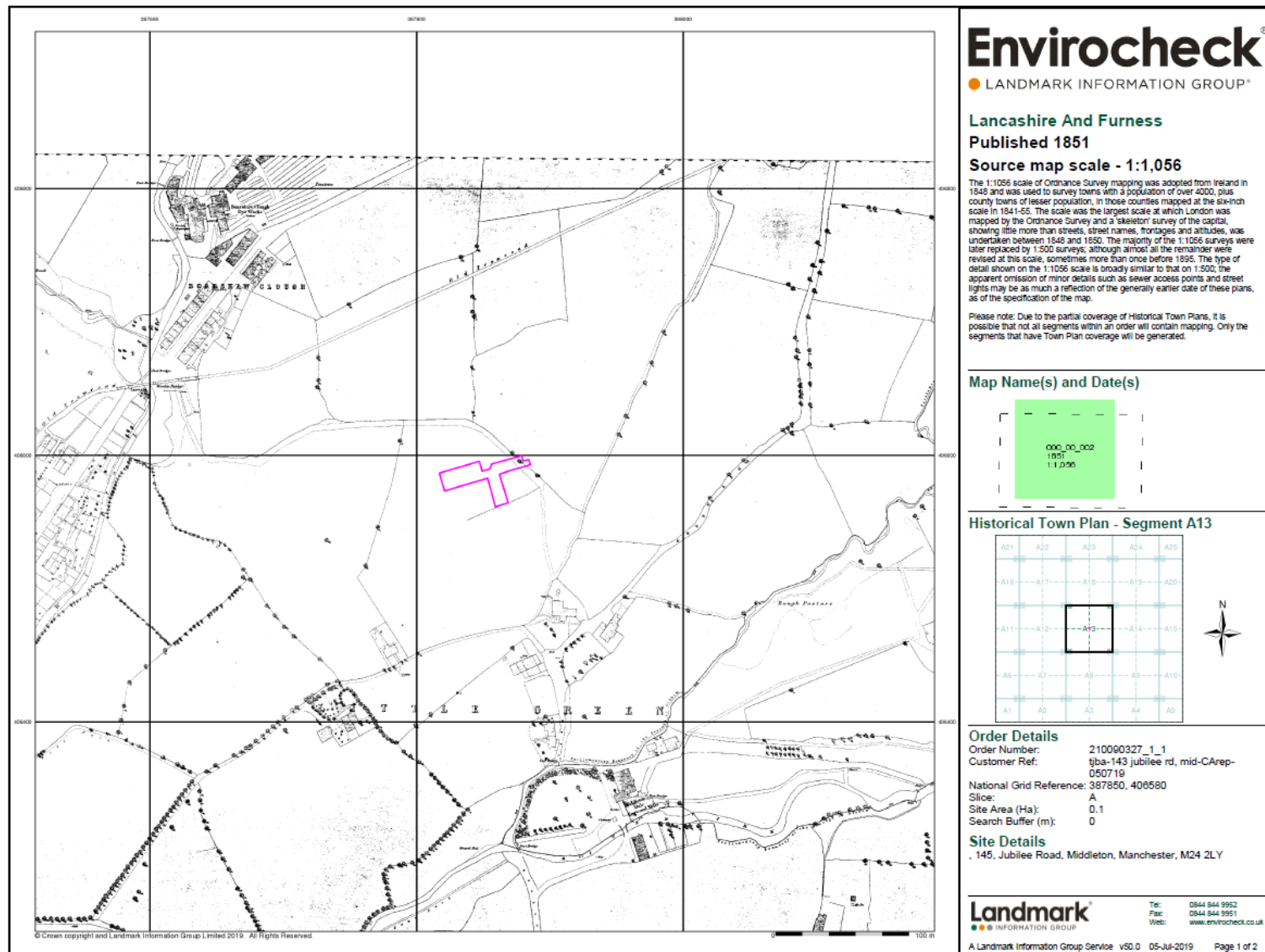


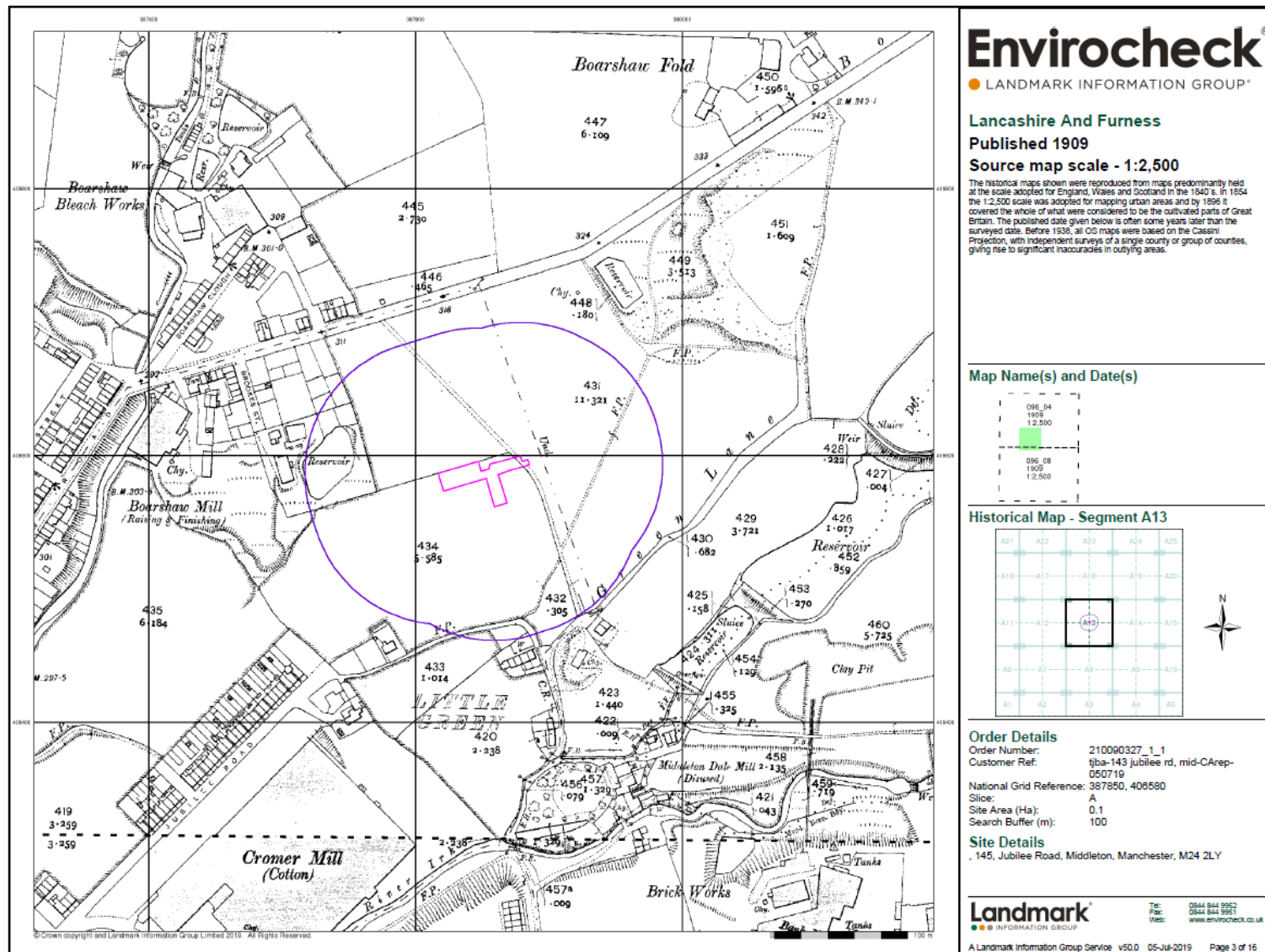


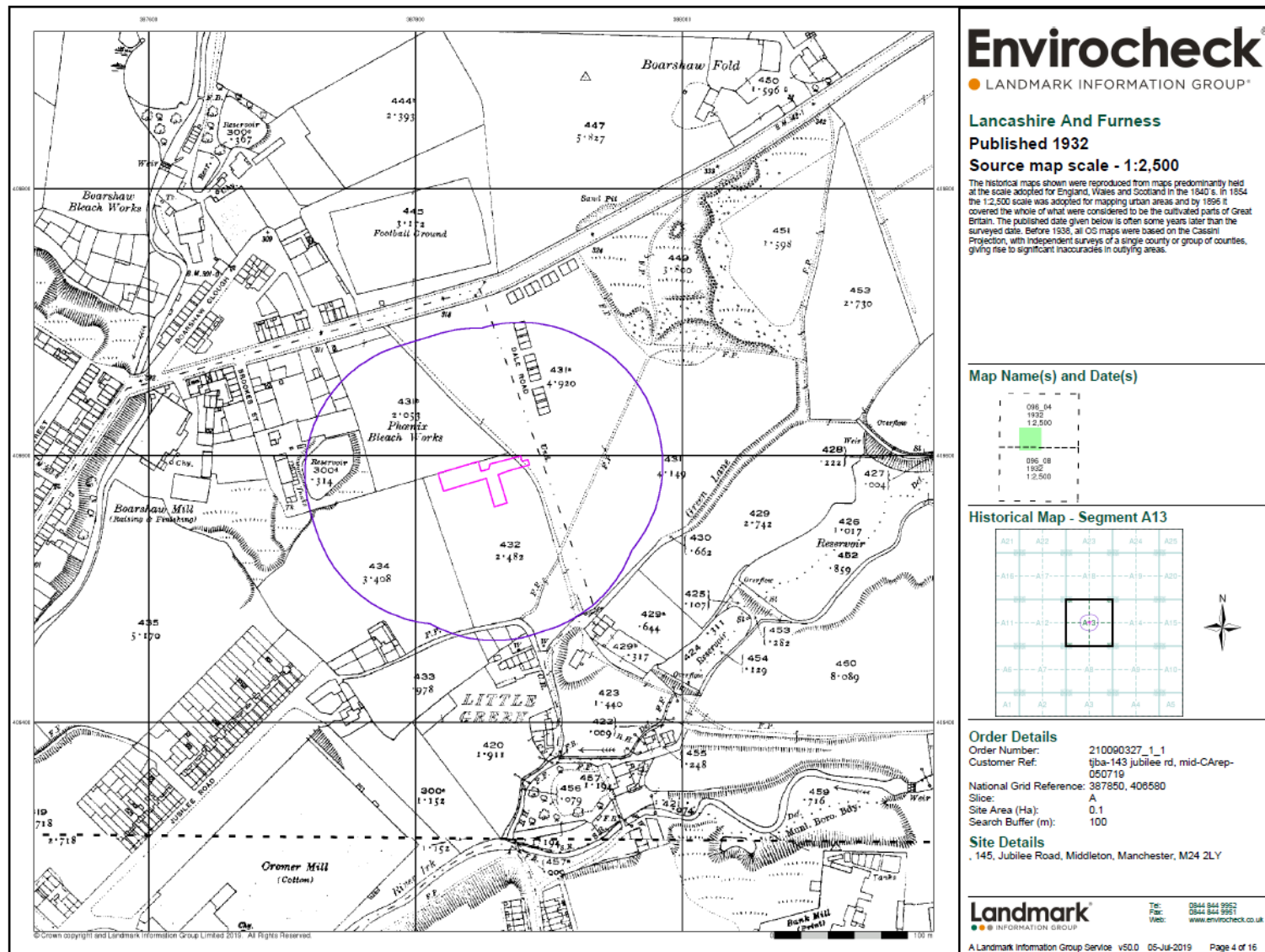


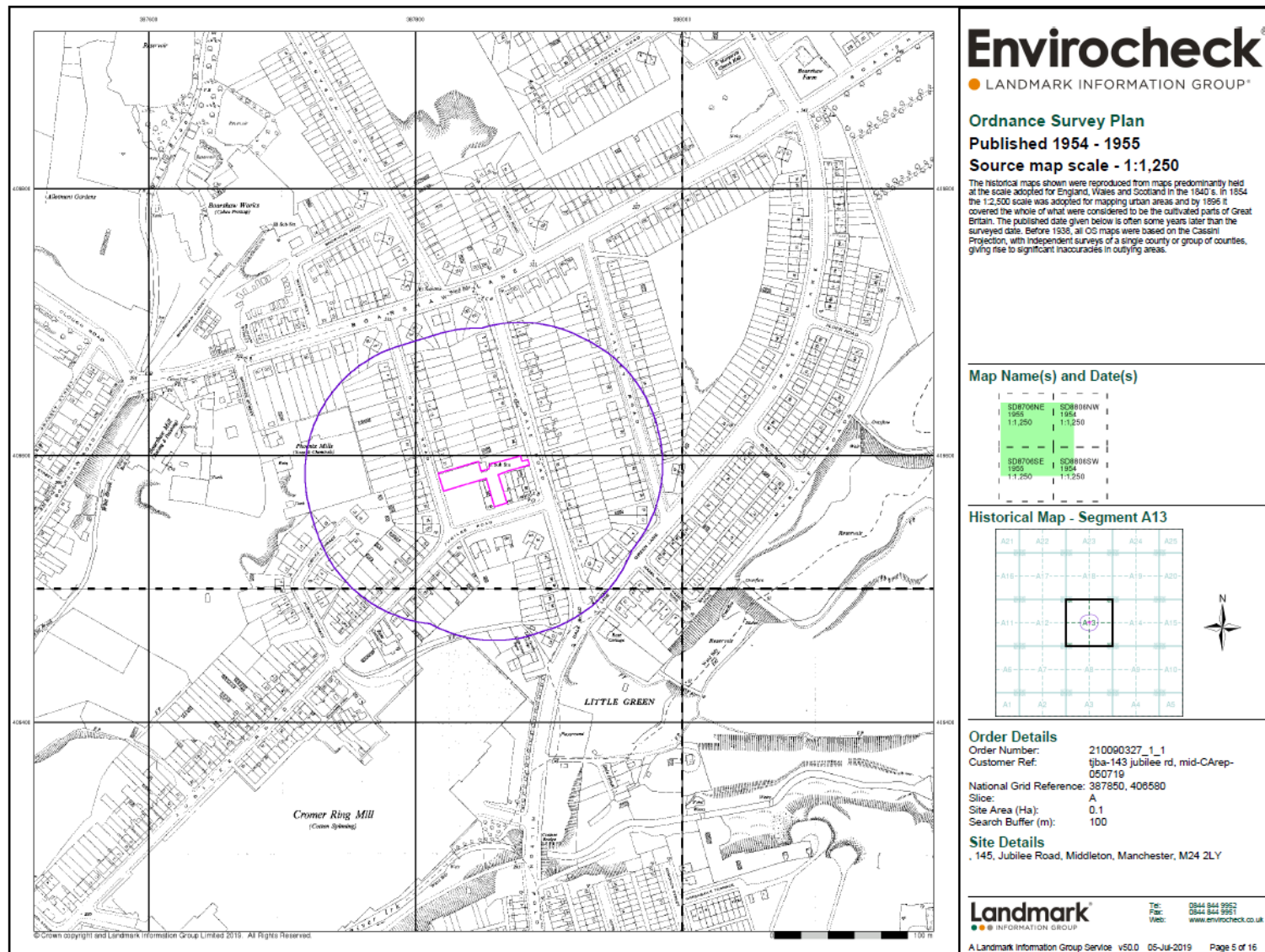
9. APPENDIX C: ENVIRONMENTAL DATA.

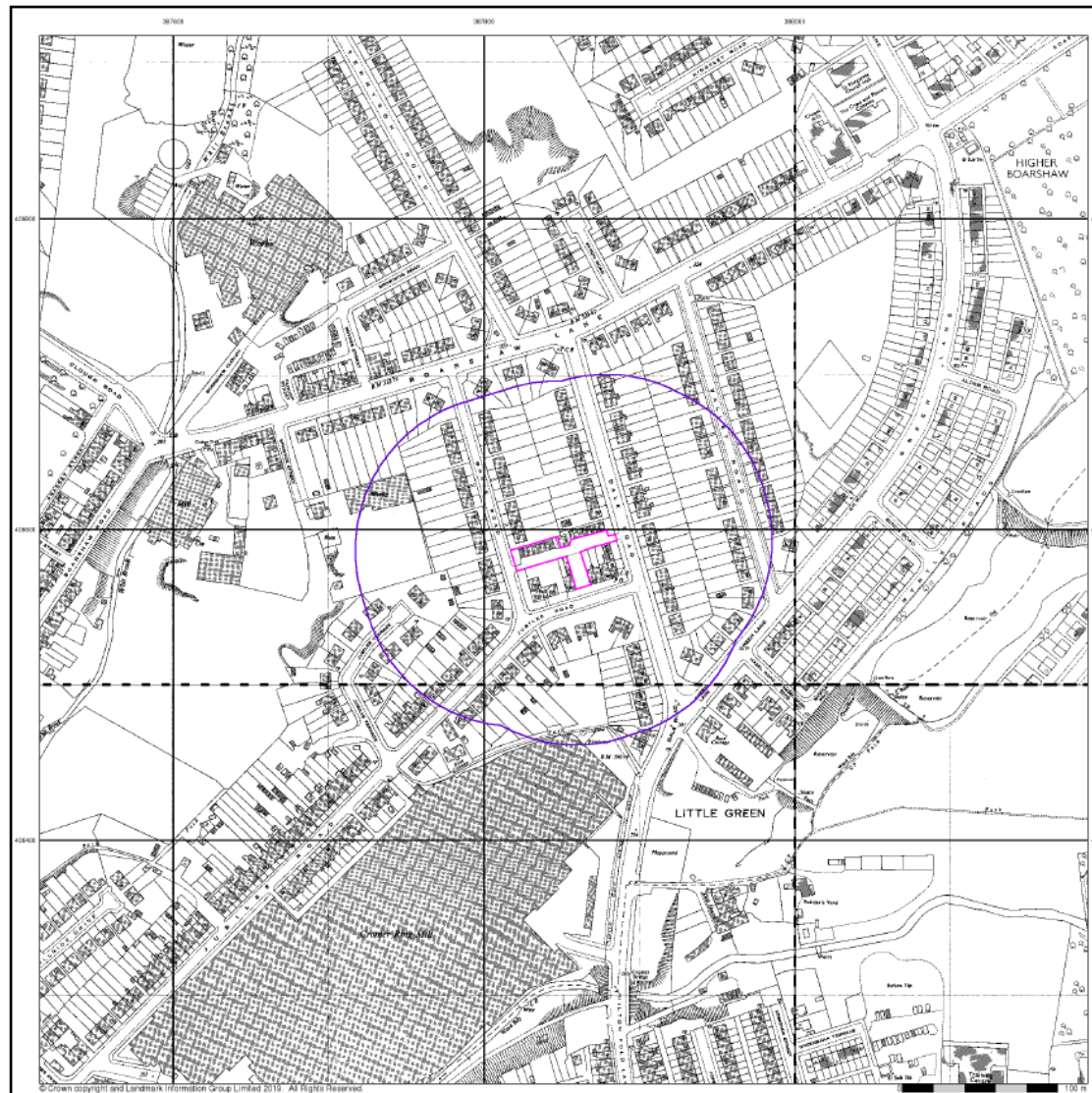












Envirocheck[®]
 LANDMARK INFORMATION GROUP[®]

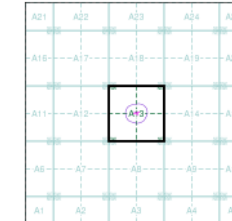
Ordnance Survey Plan
Published 1960 - 1977
Source map scale - 1:1,250

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 and by 1895 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1830, 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.

Map Name(s) and Date(s)

SD8706NE 1960 1:1,250	SD8806NW 1977 1:1,250
SD8706SE 1967 1:1,250	SD8806SW 1970 1:1,250

Historical Map - Segment A13



Order Details

Order Number: 210060327_1_1
 Customer Ref: tjba-143 jubilee rd, mid-CArep-050719
 National Grid Reference: 387850, 406580
 Slice: A
 Site Area (Ha): 0.1
 Search Buffer (m): 100

Site Details

, 145, Jubilee Road, Middleton, Manchester, M24 2LY

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 Web: www.envirocheck.co.uk

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