

LAND AT DOBFIELD HOUSE, ROCHDALE

PHASE 1: PRELIMINARY RISK ASSESSMENT

Job Number: LKC 20 1164
Date: February 2020
Client: HNA Architects Ltd



INCREASING LAND VALUE

LK 
GROUP

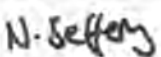
INCREASING LAND VALUE

LK
GROUP

LK
GROUP



LK
GROUP

LK Consult Document Verification			
Site Address	Land at Dobfield House, Rochdale, OL16 3AW		
Report Title	Phase 1 Preliminary Risk Assessment		
Job Number	LKC 20 1164	Document Ref.	CL-602-LKC 20 1164-01
Date Issued	February 2020	Report Version	R0
Prepared By	Natasha Jeffery	Signature	
Reviewed By	Beth Ryder	Signature	
Reviewed By	Ben Smith	Signature	

Revision Record			
Revision No.	Date	Nature of Revision	Approved By

DISCLAIMER

This report has been prepared by LK Consult (LKC) who have exercised such professional skill, care and diligence as may reasonably be expected of a properly qualified and competent consultant, experienced in preparing reports of a similar scope.

However, to the extent that the report is based or relies upon information contained in records, reports or other materials provided to LKC, which have not been independently produced or verified, LKC gives no warranty, representation or assurance as to the accuracy or completeness of such information.

This report is prepared solely for the benefit of HNA Architects Ltd. It may not be relied upon by, or submitted to a third party for their reliance for the purposes of valuation, mortgage, insurance and regulatory approval, until all invoices have been settled in full.

Those using this information in subsequent assessments or evaluations do so at their own risk.

Contents

1	Introduction	1
1.1	Background	1
1.2	Site Details	1
2	Site History - Historical Map Review	2
3	Environmental Setting	3
4	Site Reconnaissance	5
5	Preliminary Conceptual Model	6
5.1	Introduction	6
5.2	Potential Contaminants	6
5.3	Potential Receptors	7
5.4	Potential Pathways	7
5.5	Preliminary Contamination Conceptual Model	8
6	Preliminary Geotechnical Risk Assessment	11
7	Summary Conclusions and Recommendations	12
7.1	Summary Conclusions	12
7.2	Recommendations	13
7.3	Further Considerations	14

Figures

Figure 1:	Site Location Plan
Figure 2:	Site Boundary Plan
Figure 3:	Proposed Site Use

Appendices

Appendix A:	Historical Maps
Appendix B:	Envirocheck Report
Appendix C:	Coal Authority Report
Appendix D:	Zetica UXO Unexploded Bomb Risk Map
Appendix E:	Site Reconnaissance
Appendix F:	Risk Evaluation

1 Introduction

1.1 Background

LK Consult Ltd (LKC) has been commissioned by HNA Architects Ltd to carry out a Phase 1 Preliminary Risk Assessment (PRA) for Dobfield House, Rochdale. The report was undertaken in support of a planning application to redevelop the site for the construction of 14no. residential houses with gardens and soft landscaping.

According to guidance set out in CLR11¹ and the National Planning Policy Framework (NPPF)², a PRA with a site reconnaissance is required as a minimum to ascertain if there is a potential contamination risk.

In accordance with current guidance, the PRA will include a site reconnaissance, site history, geology, hydrogeology, hydrology, mineral search and a landfill search. Information gathered from the desk study and site reconnaissance will be used to develop a contamination conceptual model for the site, which will support the identification and assessment of any pollutant linkages.

In addition, the information gathered will be used to identify potential geotechnical constraints associated with the redevelopment of the site.

Based on the findings of this report, an appropriate site investigation can be derived if required, once planning approval has been granted.

1.2 Site Details

A summary of the site details is presented in Table 1-1. Figures 1 and 2 indicate the site location and boundary. Figure 3 indicates the proposed development.

Location	End of Dobfield Road before Belfield Mill Lane, Rochdale, OL16 3AW. Centred at approximate National Grid Reference 391757N 413860E (nearest 5m).
Approximate Area	7500m ² .
Topography	148-149 metres Above Ordnance Datum (AOD). Site is approximately level.
Current Land Use	<u>Site</u> Hard stood ground in the west of the site, majority of the site is grassland and a paddock. <u>Surrounding Area</u> North: River, residential properties. East: Trading estate, mill. South: Vacant land, refuse tip. West: Canal, residential properties.
Proposed Development	14no. residential apartments including soft landscaping and car parking.

Table 1-1: Summary of the site details.

¹ EA (2004). "Model Procedures for the Management of Land Contamination". R&D Publication CLR 11.

² "National Planning Policy Framework." The Ministry of Housing, Communities and Local Government. February 2019.

2 Site History - Historical Map Review

In compiling the site history, LKC consulted historical mapping provided by the Landmark Information Group Ltd. Copies of relevant historical plans are provided in Appendix A and are summarised Table 2-1. Notable potentially contaminated features within 100m of the site boundary have been presented (distances will be approximate). The exception to this will be potentially significant features within a 250m buffer that could be infilled historically.

Site Features	Location	Map Dates Present	Comments
Tenters	Whole site	1851	- No longer mapped by 1893. - Likely to be associated with Belfield Mill.
Footpath	NE	1893-1910	
Pastoral fields	Centre	1988-Present	
Building	SW	2019-Present	
Car Park	SW	2019	- Private car park for farm use.
Caravan Park	NE	2019	
Surrounding Area Features	Distance / Location	Map Dates Present	Comments
Belfield Cotton Mill	86m NE	1849-Present	- Mapped as Cotton waste in 1910. - Not labelled Mill by 2019 mapping. - Labelled Mill on envirocheck current mapping.
5 ponds/rivers	199m NE, 119m E, 123m E, 124m NE, 205m SE	1849-1956	- Marshland area associated ponds. - All infilled by 1958 mapping.
Rochdale Canal	11m W	1851-Present	
Belfield Mill dwellings	40m N	1851-Present	
Belfield Mill lane and bridge	77m NW	1851-Present	
Mill Stream	227m SE	1851-1979	- No longer mapped by 1988. Potentially infilled.
Reservoirs	87m NE	1893-1979	- No longer mapped by 1988. Potentially infilled.
Tank	34m N	1910	- Only seen in 1910 mapping.
Bowling Green/Tennis Courts/Sports ground	23m W	1959-Present	
Dobfield House Farm	10m N	1988-Present	- May now be industrial not residential.
Refuse Tip	Adj E	1992-2006	- Labelled refuse tip in 1992 and extent seen in 2002/2006 mapping.

Table 2-1: Summary of the historical features.

3 Environmental Setting

In compiling this section, LKC consulted environmental information provided by the Envirocheck Report (Appendix B), the Coal Authority (Appendix C), Zetica UXO (Appendix D). A summary is presented in Table 3-1.

Categories (data sources)		Details
Geology	Artificial ¹	- Worked ground along the S site boundary. None recorded elsewhere on the site. - Made Ground recorded adjacent SE of the site.
	Superficial ¹	- Glaciofluvial deposits (sand and gravel).
	Bedrock ^{1,2}	- Pennine Lower Coal Measures (mudstone, siltstone, and sandstone). - A coal outcrop occurs across the middle of the site associated with the Arley seam, striking S-NW.
	BGS Logs ³	- None within 250m.
Hydro-geology ¹	Aquifer Designation	- Superficial - Secondary A Aquifer. - Bedrock - Secondary A Aquifer.
	Source Protection Zone (SPZ)	- Site is not within an SPZ.
	Groundwater Abstractions	- None within 250m. - Nearest: 485m E Heginbottoms Farm Ltd, General Agriculture; General Use (Medium Loss), Plumb House Farm, Milnrow.
Hydrology ¹	Nearest Surface Water	- 5m W Rochdale Canal.
	Water Quality Data	- Two within 250m: - 5m E Rochdale Canal, River Quality B. - 68m NE Beal, River Quality C.
	Flooding	- Limited potential for groundwater flooding to occur.
	Surface Water Abstractions	- None within 250m. - Nearest 581m S Making Metal Powders Ltd, Cooling, Rochdale Canal.
	Discharge Consents	- None within 250m. - Nearest: 454m SW United Utilities Water Limited, TORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Public Sewage: Storm Sewage Overflow.
Hydrology ¹	Pollution Incidents	- None within 250m. - Nearest: 470m SE, 22nd November 1995 Oils - Other Oil, Inadequate Construction, Category 3 - Minor Incident.
Minerals & Mining	Coal Report ⁴	- Past underground mining: No. - Probable unrecorded shallow mining: Yes. - Spine roadways at shallow depth: No. - Mine entries: None recorded in 100m of the boundary. - Outcrops: Yes (Arley, workable seam within the site boundary). - Faults, fissures, breaklines: No. - Opencast mines: No. - Coal Authority managed tips: No.

Table 3-1: Summary of the environmental setting.

Data Sources:

¹ Envirocheck Report (Appendix A & B).

² BGS Sheet 16 1:50,000.

³ BGS GeoIndex <http://mapapps2.bgs.ac.uk/geoindex/home.html>

⁴ Coal Authority Report (Appendix C)

Categories ^(data sources)		Details
Minerals & Mining continued	Coal Mining Development High Risk Area (DHRA) ⁵	- Site is within DHRA. - Outcrop seen through the centre of the site trending N-S. - Probable Shallow Coal Mine Workings across the site.
	Surface Extractions ¹	- None within 250m. - Nearest: 851m NE Howarth Cross Clay Pit, Opencast, ceased.
	Cheshire Brine Compensation District ^{1,6}	- N/A.
Ground Stability (onsite) ¹	Collapsible Ground	- Very low hazard.
	Compressible Ground	- No hazard.
	Ground Dissolution	- No hazard.
	Landslide	- Very low hazard.
	Running Sand	- Very low hazard.
	Shrinking / Swelling Clay	- No hazard.
Landfill Sites ¹	Known / Registered	- Two within 250m: Adjacent E Rochdale and District Playing Fields Association, Off Belfield Lane, Rochdale, Last input: 31st December 1993, Deposited Waste included Inert and Commercial Waste, Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year, licence lapsed). - 110m SE Rochdale & Dist. Playing Fields, 60 Little Dale Street, Rochdale, Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year), Landfill, dated 19th November 1982.
	Potential	- 5 ponds/rivers: - 86 NE, 92m NE, 1m NE, 119m E, 123m E, 124m NE, 205m SE infilled by 1958 mapping. - 87m NE Reservoirs 1893-1979, potentially infilled by 1988.
Radon ¹		- Probability of <1% of homes above Action Level. No further action required.
Designated Sites ¹		- Site is within an area of adopted Green Belt. - Sites of Special Scientific Interest and Construction: 5m W Rochdale Canal.
Contemporary Trade Directory ¹		- 5 within 100m. Nearest: 15m N P D L, Distribution Services, Inactive.
Fuel Station Entries ¹		- None within 100m. Nearest 755m SW: Hornets Service Station, Kingsway, Obsolete.
Unexploded Bomb Risk (UXO) ⁷		- Low.

Table 3-1: Summary of the environmental setting continued.

Data Sources:

¹ Envirocheck Report (Appendix A & B).

⁵ The Coal Authority Web Mapping Services (WMS) and Interactive Map Viewer <http://coal.decc.gov.uk/en/coal/cms/publications/data/map/map.aspx>

⁶ Cheshire Brine Subsidence Compensation Board Compensation District & Consultation Areas <http://www.cheshirebrine.com/wp-content/uploads/2016/11/NL08134-001-002.pdf>

⁷ Zetica UXO Unexploded Bomb Risk Map (Appendix D)

4 Site Reconnaissance

A site reconnaissance was carried out on 15th January 2020. Hand dug trial holes were undertaken in accessible areas to confirm the shallow ground conditions.

An annotated plan with photographs, and trial hole descriptions is provided in Appendix E.

Relevant features identified on site are summarised below:

- Rough ground across the majority of the site, with trees surrounding. Hardstood ground in the west area of the site. Compacted tarmac / gravel driveway in the north.
- Buildings on site include stables.
- Present day potentially contaminative activities include farm vehicles, containers, waste manure stored in the west of the site (collected on a weekly basis).
- Two soakaways are present on site, one north of the paddock and the second south of the office building in the east of the site.
- Disused oil tanks are east of the office building (offsite) and a septic tank is present north of the site for Dobfield House (also offsite). No spillages or leakages seen.
- Mild hydrocarbon staining observed in the car park.
- Invasive species Japanese knotweed and Himalayan Balsam have been identified on the southwest of the site.
- Embankment of unknown material across the southwest corner of the site.
- No made ground observed on site, topsoil over slightly gravelly clayey sand from 0.15m.
- Permission needed to access site.

The surrounding area comprises:

- North: Residential properties, and office building.
- East: Public footpath, commercial properties.
- South: Sports field.
- West: Canal.

5 Preliminary Conceptual Model

5.1 Introduction

The aim of the conceptual model is to provide a preliminary assessment of the likelihood of a pollutant linkage for each potential combination of contaminant, pathway and receptor. A conceptual model can be used to make an informed decision on the contamination risks associated with the site and whether further site investigation work is required.

The sections below are therefore divided into potential contaminant, potential pathway and potential receptor as described in CLR11³, on the premise that, if there is no pollutant linkage, then there will be no risk to the receptor. The final section provides an assessment of the potential pollutant linkages that may still be present on the site if redevelopment were to occur.

5.2 Potential Contaminants

Potential contamination sources are detailed in Table 5-1.

Source	Contaminants
Onsite made ground (general made ground)	- Ash and clinker (e.g. from hearths and boilers, often historically used for site raising / levelling): Heavy metals, sulphates and PAHs. - Other unknown inorganic / organic contaminants (dependant on fill material source). - If significant depth of organic / putrescible material: Hazardous gas (principally carbon dioxide and methane).
Onsite car park	- Private residential car park therefore spillages / leakages: petroleum hydrocarbons, oils (source expected to be minimal and localised to).
Onsite buildings	- Asbestos Containing Material (ACM) considered unlikely due to the age of the building (approx. 2018 construction).
Offsite potentially infilled ground	- Hazardous gas (principally carbon dioxide and methane).
Surrounding industries (cotton mill, agriculture, refuse tip)	- Cotton mill: Metals, inorganic compounds and organic compounds. Other ancillary activities could include coal fired boilers producing large quantities of boiler ash (heavy metals, sulphates and PAHs), if powered by gas or oil there may historically have been fuel storage tanks. - Refuse tip: Oil/fuel hydrocarbons, chlorinated aromatic hydrocarbons, PCBs, Dioxin and furans.
Underlying Pennine Lower Coal Measures	- Ground Gas (principally carbon dioxide and methane).

Table 5-1: Potential contamination sources.

³ Defra (2004). "Model Procedures for the Management of Land Contamination". R&D Publication CLR 11.

5.3 Potential Receptors

Potential receptors are detailed in Table 5-2.

Receptors	
Human Health	- Future site users (including residents, visitors and site workers). - Offsite land users.
Controlled Waters	- Rochdale Canal 5m E. - Secondary A Aquifers.
Buildings and structures.	
Potable water pipes.	
Flora within future gardens and landscaping.	

Table 5-2: Potential receptors.

5.4 Potential Pathways

Potential pathways are detailed in Table 5-3.

Pathways		
Soil	Human Health ⁴ (residential land use: houses with private gardens)	- Ingestion of soil. - Ingestion of soil-derived indoor dust. - Ingestion of contaminated vegetables. - Ingestion of soil attached to vegetables - Dermal contact with soil. - Dermal contact with soil-derived indoor dust - Inhalation of soil-derived outdoor dust. - Inhalation of soil-derived indoor dust. - Inhalation of vapours outside. - Inhalation of vapours inside.
		- Windblown dust and fibres to adjacent receptors.
		- Direct contact with receptors (building foundations, services).
		- Root uptake.
Water		- Surface run-off over impermeable surface. - Site is relatively flat and grassed with areas of hardstood; therefore, surface run-off will be limited. - Infiltration into the ground, through potentially contaminated material (contamination possibly going into solution). - Site is predominantly flat and grassed with areas of hardstood; therefore, infiltration is likely to occur variably. - Migration through potentially permeable strata and preferential pathways. - Superficial (sand and gravel) is likely to be relatively permeable. - Bedrock (mudstone, siltstone, sandstone) likely to be variably permeable. - Preferential pathways: services, possible shallow worked coal seams.
Gas		- Migration through potentially permeable strata and preferential pathways. - Superficial (sand and gravel) is likely to be relatively permeable. - Bedrock (mudstone, siltstone, sandstone) likely to be variably permeable. - Preferential pathways: services, possible shallow worked coal seams. - Migration into buildings (e.g. via services) and accumulation of gases in confined spaces (potentially causing explosion if methane is present).

Table 5-3: Potential pathways.

⁴ EA (2008). "Updated Technical Background to the CLEA Model". Science Report – SC050021/SR3.

5.5 Preliminary Contamination Conceptual Model

The Preliminary Contamination Conceptual Model is illustrated in Table 5-4 and has identified seven generic potential pollutant linkages.

Each linkage is described along with an assessment of the risk based upon guidance on probabilities and consequences outlined in CIRIA C552⁵.

In order to assess the potential risk for each pollutant linkage, an assessment of the magnitude of the potential consequence (severity) of the risk occurring and the magnitude of the probability (likelihood) of the risk occurring has been considered and classified. This is based on the guidance provided in CIRIA C552 and further details including a risk matrix is provided in Appendix F.

Where LKC identified a low to very low risk, limited intrusive investigation work, a watching brief (during construction work) or no investigation work will be recommended. This will be dependent on the nature of the site and the proposed development.

Where the risk falls into the moderate/low risk, LKC will undertake an assessment to establish what category the pollutant linkage will fall into (i.e. moderate or low risk will be chosen).

Where LKC identifies a moderate or higher risk, intrusive work or precautionary remedial measures will be recommended.

It should be noted that there may be risk from short term exposure from contaminated soil to site workers. The Preliminary Contamination Conceptual Model deals with long term exposure to key receptors. Acute risks can be easily mitigated by good environmental management of the site during site works. Standard health and safety precautions (as per HSE guidance⁶) should be adopted by all workers involved with site enabling and construction works. Therefore, this receptor is not considered in the contamination conceptual model.

⁵ CIRIA (2001). "Contaminated Land Risk Assessment: A Guide to Good Practice". C552.

⁶ HSE (1991). "Protection of Workers and the General Public During Development of Contaminated Land". London HMSO.

Pollutant Linkage	Pathway	Receptor	Contaminant (source)	Probability	Consequence	Risk	Assessment & Recommendations
PL1	- Dermal contact. - Inhalation of soil, fibres and dust. - Ingestion of soils, dust, vegetables, soil attached to vegetables. - Windblown dust.	- Future site users. - Offsite receptors.	- ACM (potential made ground). - Heavy metals, PAHs (potential made ground).	Low likelihood	Medium	Moderate / Low	- Low likelihood given history of site and no made ground observed, potential pathway to receptors in gardens / landscaping. - Moderate risk assumed at this stage due to sensitive receptor. - Recommendation: Intrusive investigation required to include soil sampling to confirm risk.
			- Hydrocarbons (potential made ground).	Unlikely	Medium	Low	- Unlikely given site history and limited on site contamination source. - Recommendation: Sampling required if evidence of hydrocarbons found in soil.
PL2	- Inhalation of vapours. - Migration through permeable strata and preferential pathways.	- Future site users. - Offsite receptors.	- Volatile contaminants such as hydrocarbons (car park).	Unlikely	Medium	Low	- Unlikely due to limited historical sources. - Low risk assumed at this stage. - Recommendation: No testing required unless evidence of volatile contaminants identified in the ground.
PL3	- Inhalation of gas. - Migration through permeable strata and preferential pathways. - Explosion in confined spaces.	- Future site users. - Buildings. - Offsite land users.	- Ground Gas (underlying Lower Pennine Coal Measures): - Methane, carbon dioxide (coal measures)	Likely	Severe	Moderate / Low	- Low likelihood due to probable worked seam through the centre of the site. Permeable strata unlikely to limit migration, and sensitive nature of development (residential). - Recommendation: Gas monitoring or precautionary measures may be required.
			- Hazardous Gas: - Methane, carbon dioxide (potentially infilled features 250m of the site - refuse tip).	Likely	Severe	High	- Likely due to viable source of gas identified (refuse heap adjacent to the east) permeable strata unlikely to limit migration, and sensitive nature of development (residential). - Recommendation: Gas monitoring or precautionary measures may be required (CS2 or CS3).
PL4	- Surface run-off. - Migration through permeable strata and preferential pathways. - Perched waters migration.	- Groundwater (Secondary A Aquifer). - Surface water (Rochdale Canal).	- Mobile contaminants such as metals, PAHs, hydrocarbons, volatile compounds (car park, potential made ground).	Low likelihood	Medium	Moderate / Low	- Low likelihood due to limited potential historical contamination source, distance to receptors and strata (mudstone, siltstone, sandstone, sand and gravel). - Recommendation: Sampling required if evidence of significant potentially mobile contamination noted in made ground.

Table 5-4: Preliminary Contamination Conceptual Model.

Pollutant Linkage	Pathway	Receptor	Contaminant (source)	Probability	Consequence	Risk	Assessment & Recommendations
PL5	- Sulphate attack on concrete.	- Building structure.	- Sulphate (potential made ground).	Low likelihood	Mild	Low	- Low likelihood probability due to limited historical sources. - Recommendation: Intrusive investigation required as part of PL1.
PL6	- Ingestion of tainted water supply.	- Future site users. - Water pipes.	- Organic contaminants such as hydrocarbons, solvents car park).	Low likelihood	Medium	Moderate / Low	- Low likelihood as limited source therefore, significant contamination is not anticipated at pipeline depth (0.75-1.35m). - Low risk assumed at this stage. - Recommendation: Sampling required if made ground present at pipeline installation depths.
PL7	- Direct contact (plant uptake).	- Flora.	- Phytotoxic contaminants (made ground).	Low likelihood	Minor	Very Low	- Low likelihood as contamination considered possible, which may be taken up by flora in soft landscaping / gardens. - Recommendation: Investigation work as part of PL1.

Table 5-4: Preliminary Contamination Conceptual Model continued.

6 Preliminary Geotechnical Risk Assessment

Geology is mapped as glaciofluvial deposits (sand and gravel) overlying Pennine Lower Coal Measures (mudstone, siltstone, and sandstone). A limited trial hole survey identified topsoil to 0.15m overlying slightly gravelly clayey sand. Given the history of the site, limited made ground is anticipated.

The Envirocheck Report identified a very low hazard of collapsible ground, landslides, running sand, no hazard of compressible ground, ground dissolution, and shrinking / swelling clay.

A potential for instability associated with coal mining has also been identified.

The following need to be considered and investigated before any construction work commences:

- Risk posed from shallow coal mining. Based on information to date, there is a potential risk from shallow underground coal workings in the east of the site. Stabilisation work may be required.
- The strength and variability of superficial deposits need to be confirmed. An allowable bearing pressure of the soils should be confirmed to allow the design of suitable foundations.
- Mapped geology of the site includes glaciofluvial sand and gravels superficial geology present onsite. The trial hole undertaken during the site reconnaissance recorded topsoil overlying slightly gravelly clayey sand from 0.5m gbl. The depth, type and strength of the bedrock should be determined to allow the design of suitable foundations.
- The depth of groundwater and variability of the water table should be confirmed as shallow / fluctuating groundwater can affect the strength of the soil, particularly in granular ground.
- Plasticity of clay deposits should be confirmed, particularly where trees are present or proposed, to identify the shrinkability risk.
- The CBR value of the ground for footpath and road design should be calculated. There is a potential for low / poor CBR values from underlying strata, therefore site roads may require the import of suitable granular material or modification of existing soils.
- Sulphate content any potential made ground and natural ground should be confirmed to assess the concrete requirements.

7 Summary Conclusions and Recommendations

7.1 Summary Conclusions

The proposed development is for the construction of 14no. residential houses with gardens.

The site was historically used in relation to the cotton mill till 1894, prior to this the western end constructed a building, the east and west ends are used as a car park. Adjacent to the site, the eastern area was historically used as a cotton mill production area, before becoming a landfill refuse heap from 1933 to 1993.

The site currently comprises grass open ground in the form of a paddock across the majority of the site, with a stable building and containers overlying hardstood ground in the west of the site. Two soakaways were also present on site. No made ground was observed during the site reconnaissance. Evidence of Himalayan Balsam and Japanese knotweed were seen in the south west of the site.

Potential contamination sources affecting the site were identified as heavy metals, PAHs, sulphate, asbestos, hydrocarbons and gas (carbon dioxide and methane).

These contaminants may pose a risk to site users (via ingestion, dermal contact, inhalation pathways and explosion), controlled waters (via migration through permeable strata and preferential pathways), buildings and structures (direct contact and explosion), water pipes (direct contact) and flora (root uptake).

A contamination conceptual model has been produced by LKC. This has identified the following risks summarised in Table 7-1.

	Pollutant Linkage	Risk	Recommendations
1	Contaminants posing a risk to future site users via dermal contact, ingestion and inhalation (of soil, dust, fibres and vegetables).	Moderate	Investigation work required to include soil sampling to confirm risk.
		Low	
2	Volatile contaminants posing a risk to future site users via the inhalation of vapours.	Low	No testing required unless evidence of volatile contaminants identified in the ground.
3	Gas posing a risk to buildings and future site users via the migration of gas into building causing explosion and asphyxiation.	Moderate	Gas monitoring required or precautionary gas protection measures (CS2) required.
		High	Gas monitoring required or precautionary gas protection measures (CS2) required
4	Mobile contamination posing a risk to controlled waters via the migration through permeable strata.	Moderate	Investigation work not required unless evidence of significant mobile contamination identified.
5	Sulphate posing a risk to building via direct contact (sulphate attack).	Low	Investigation work required.
6	Organic contaminants posing a risk to water pipes.	Low	Investigation work required.
7	Phytotoxic metals posing a risk to flora via root uptake.	Very Low	Limited investigation work recommended as part of PL1.

Table 7-1: Summary risk table.

The preliminary geotechnical assessment has also identified the following potential risk which will need to be investigated:

- Instability risk associated with historic underground mining.
- Possible deep made ground with in-ground structures.
- Unknown strength of superficial deposits for foundation design.
- Composition of bedrock for foundation design.
- Depth and variability of the water table.
- Plasticity of any clay deposits.
- CBR values of proposed access road.
- Unknown sulphate content of natural and made ground onsite.

Further work is recommended, which is detailed in the following section.

7.2 Recommendations

7.2.1 General

It is recommended that to support the planning application for this development, a Phase 2 intrusive survey should be carried out across the site to investigate the identified potential pollutant linkages further.

LKC recommend that any remedial works or further assessment works undertaken at the site are suitably validated and supporting information documented in a Site Completion Report. This report will aid in the discharge of the appropriate planning conditions.

7.2.2 Phase 2 Site Investigation

In order to address the potential pollutant linkages, a site investigation is recommended. The site investigation should be carried in accordance with relevant guidance documents (including BS10175⁷ and BS5930⁸).

The investigation should include trial pits and / or boreholes at a sampling density of 1 sample per 25-50m square centres for an 'exploratory investigation'. In addition, targeted sampling locations should be undertaken in areas of concern (e.g car park).

Soil samples should be collected from the trial pits / boreholes and tested for contaminants of concern based on the preliminary conceptual model and field observations (PID tests and visual / olfactory evidence).

In order to address potential Pollutant Linkage 3 (gas risk), either gas monitoring or precautionary gas protection measures are recommended.

Boreholes drilled on site should be installed with monitoring wells. Monitoring should be undertaken in accordance with CIRIA C665⁹. As a minimum, gas monitoring would likely be over a three month period with at least six gas monitoring visits under worst case temporal conditions.

This would equate to a very low gassing risk under CIRIA C665. If high fluctuations occur during gas monitoring then further gas monitoring maybe required.

⁷ British Standard (2017). "Investigation of Potentially Contaminated Sites – Code of Practice". BS10175:2017.

⁸ British Standard (2015). "Code of Practice for Ground Investigations". BS5930:2015.

⁹ CIRIA (2007). "Assessing Risks Posed by Hazardous Ground Gases to Buildings". CIRIA C665.

If significant soil contamination is identified, groundwater / surface water sampling will be carried out to address Pollutant Linkage 4. Groundwater samples should be collected from boreholes (monitoring wells) and surface water samples collected from the adjacent canal. If no groundwater is present, soils can be subjected to leaching tests. Samples should be tested for contaminants of concern based on the Preliminary Risk Assessment, field observations and results of the soil analysis.

It should be noted that boreholes and / or trial pits may also be utilised to provide appropriate geotechnical information on sub-surface conditions.

This investigation, in conjunction with appropriate geotechnical testing, will identify and characterise any contaminants encountered. Information from this investigation can then be used to provide a more detailed assessment of the identified pollutant linkages, provide appropriate foundation solutions and, if necessary, identify appropriate remedial measures to ensure that the site is made suitable for its proposed end use.

7.3 Further Considerations

7.3.1 Invasive Species

Himalayan Balsam and Japanese Knotweed have been identified on the study site and these can present a risk to future site buildings. The Environment Agency has stressed the importance of preventing the further spread of Japanese Knotweed and Himalayan Balsam and insists that these areas be treated properly in accordance with statutory requirements.

Under Schedule 9 of the Wildlife and Countryside Act (WCA) 1981, it is an offence to spread Japanese Knotweed. In addition, the Environment Act (EPA) 1990 states that any material contaminated with Japanese Knotweed must be classified as controlled waste, to which the duty of care applies. In other words, an offence under the WCA could face criminal prosecution and an infringement of the EPA could result in enforcement action being taken by the Environment Agency, which subsequently could lead to an unlimited fine.

The LK Group have a designated Japanese Knotweed and other invasive species Management Department and would be happy to advise you on the appropriate steps to take in order to suitably treat any invasive species.

Figures

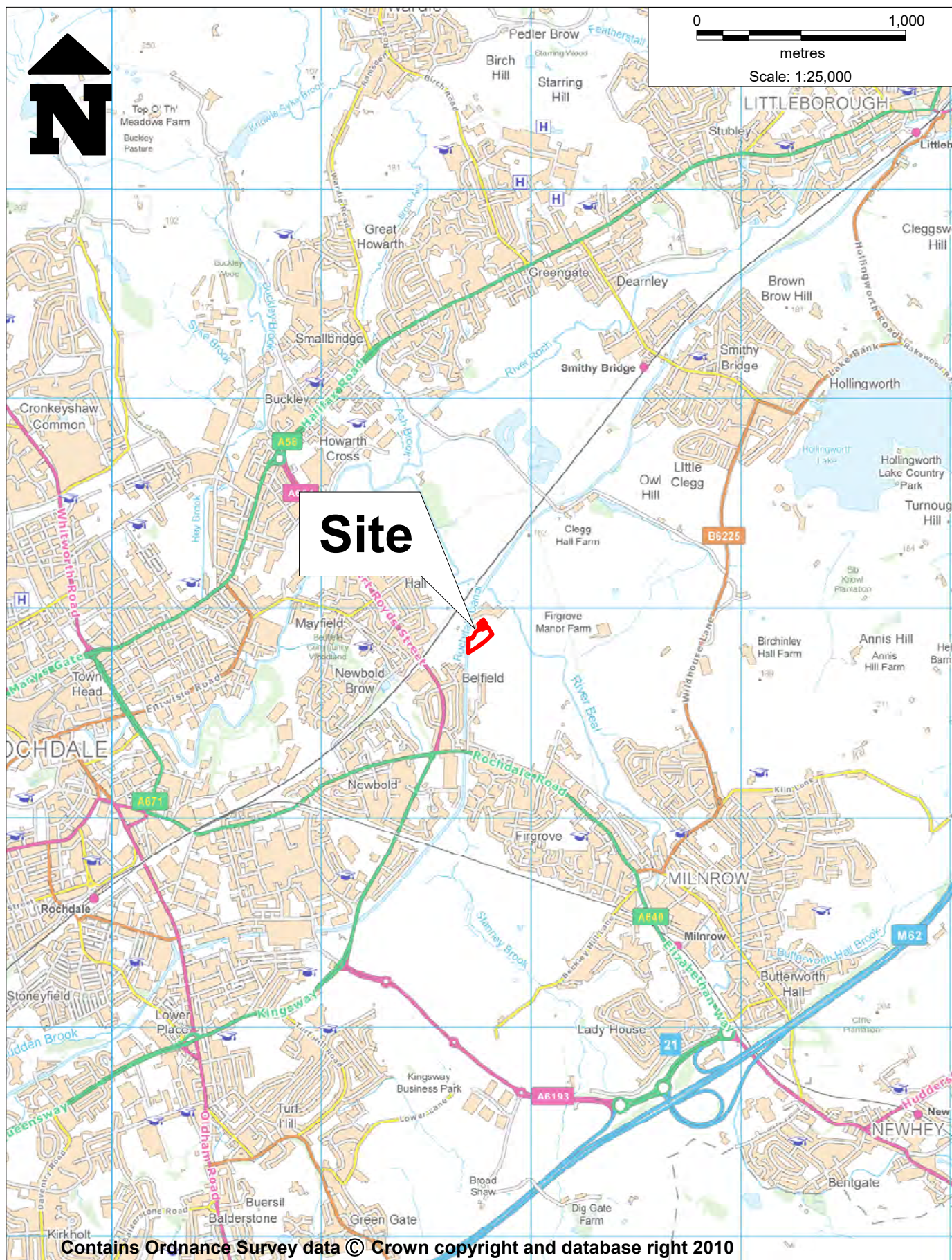
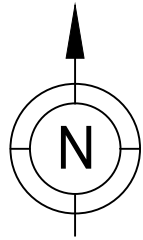


Figure 1: Site Location Plan, Land at Dobfield House, Rochdale

Drawn: January 2020 Scale: 1:25,000 @ A4 (see scale bar)



KEY

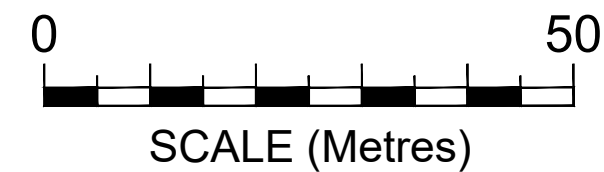


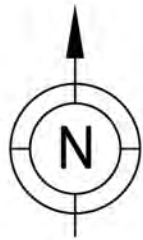
Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.



Client:				NHA Architects Ltd	
Site:				Land at Dobfield House, Rochdale	
Title:				Site Boundary Plan	
Job No.:		Scale (See Scale Bar):		Figure:	Revision:
LKC 20 1164		See Scale Bar		2	
Drawn By:	Checked By:	Drawn:			
AC	BS	Jan 2020			

Extract from: HNA Architects
Drawing Ref: Site Location Plan, No.1285/SLP, Rev:A (27/11/2019)





KEY

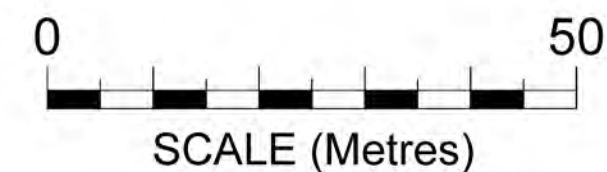
 Site Boundary

Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.



Client:			
NHA Architects Ltd			
Site:			
Land at Dobfield House, Rochdale			
Title:			
Proposed Site Use			
Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC 20 1164	See Scale Bar	3	
Drawn By:	Checked By:	Date:	
AC	BS	Jan 2020	

Extract from: HNA Architects
Drawing Ref: Proposed Site Plan - GF, No.1285/001, Rev:A (25/11/2019)



SCALE (Metres)

Appendix A

Historical Maps

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

	Gravel Pit		Sand Pit		Other Pits
	Quarry		Shingle		Orchard
	Osiers		Reeds		Marsh
	Mixed Wood		Deciduous		Brushwood
	Fir		Furze		Rough Pasture
	Arrow denotes flow of water		Trigonometrical Station		
	Site of Antiquities		Bench Mark		
	Pump, Guide Post, Signal Post		Well, Spring, Boundary Post		
	285 Surface Level				
	Sketched Contour		Instrumental Contour		
	Main Roads		Minor Roads		
	Sunken Road		Raised Road		
	Road over Railway		Railway over River		
	Railway over Road		Level Crossing		
	Road over River or Canal		Road over Stream		
	Road over Stream				
	County Boundary (Geographical)				
	County & Civil Parish Boundary				
	Administrative County & Civil Parish Boundary				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
	Rural District Boundary				
	Civil Parish Boundary				

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		Administrative County, County Borough or County of City
	Municipal Borough, Urban or Rural District, Burgh or District Council		Borough, Burgh or County Constituency
	Civil Parish		
	BP, BS		Ch
	CH		F E Sta
	FB		Fn
	GP		MP
	MS		Pol Sta
	PO		PC
	PH		SB
	Spr		TCB
	TCP		W
	Police Station		Post Office
	Public Convenience		Public House
	Signal Box		Spring
	Telephone Call Box		Telephone Call Post
	Well		

1:10,000 Raster Mapping

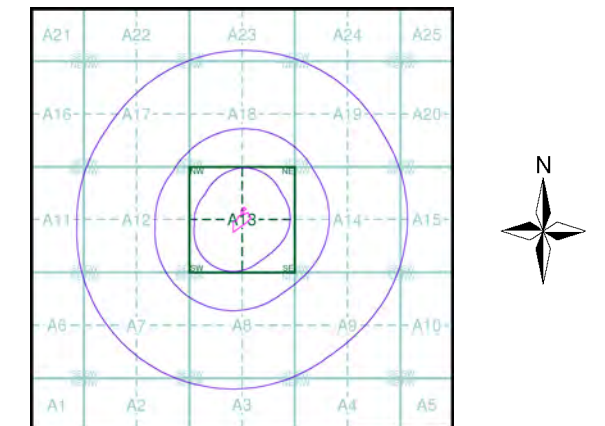
	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, parish or community boundary
	District, Unitary, Metropolitan, London Borough boundary		Constituency boundary
	Area of wooded vegetation		Non-coniferous trees
	Non-coniferous trees (scattered)		Coniferous trees
	Coniferous trees (scattered)		Positioned tree
	Orchard		Coppice or Osiers
	Rough Grassland		Heath
	Scrub		Marsh, Salt Marsh or Reeds
	Water feature		Flow arrows
	Mean high water (springs)		Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	Bench mark (where shown)		Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)		Pylon, flare stack or lighting tower
	Site of (antiquity)		Glasshouse
	General Building		Important Building



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1851	3
Yorkshire	1:10,560	1854	4
Lancashire And Furness	1:10,560	1894	5
Lancashire And Furness	1:10,560	1910 - 1911	6
Lancashire And Furness	1:10,560	1931 - 1932	7
Lancashire And Furness	1:10,560	1938	8
Ordnance Survey Plan	1:10,000	1956	9
Ordnance Survey Plan	1:10,000	1967 - 1968	10
Manchester	1:25,000	1975	11
Ordnance Survey Plan	1:10,000	1978 - 1979	12
Ordnance Survey Plan	1:10,000	1990	13
10K Raster Mapping	1:10,000	1999	14
10K Raster Mapping	1:10,000	2006	15
VectorMap Local	1:10,000	2019	16

Historical Map - Slice A



Order Details

Order Number: 230105286_1_1
 Customer Ref: LKC 20 1164
 National Grid Reference: 391750, 413860
 Slice: A
 Site Area (Ha): 0.75
 Search Buffer (m): 1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW

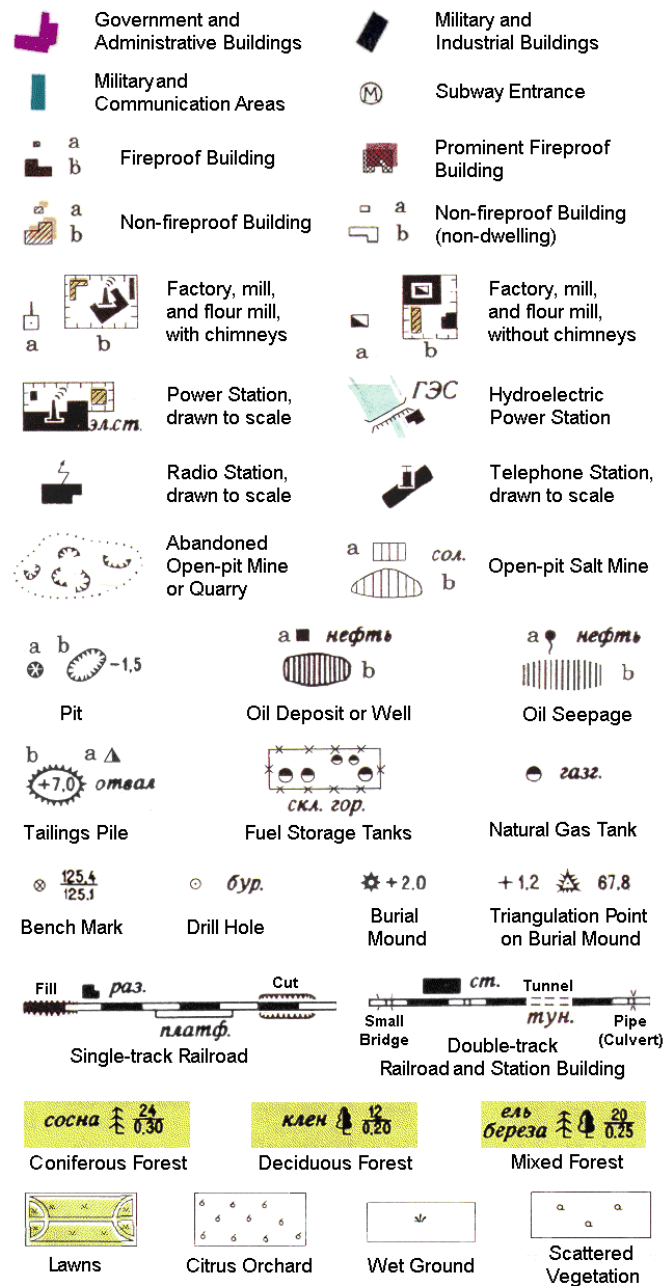


Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale



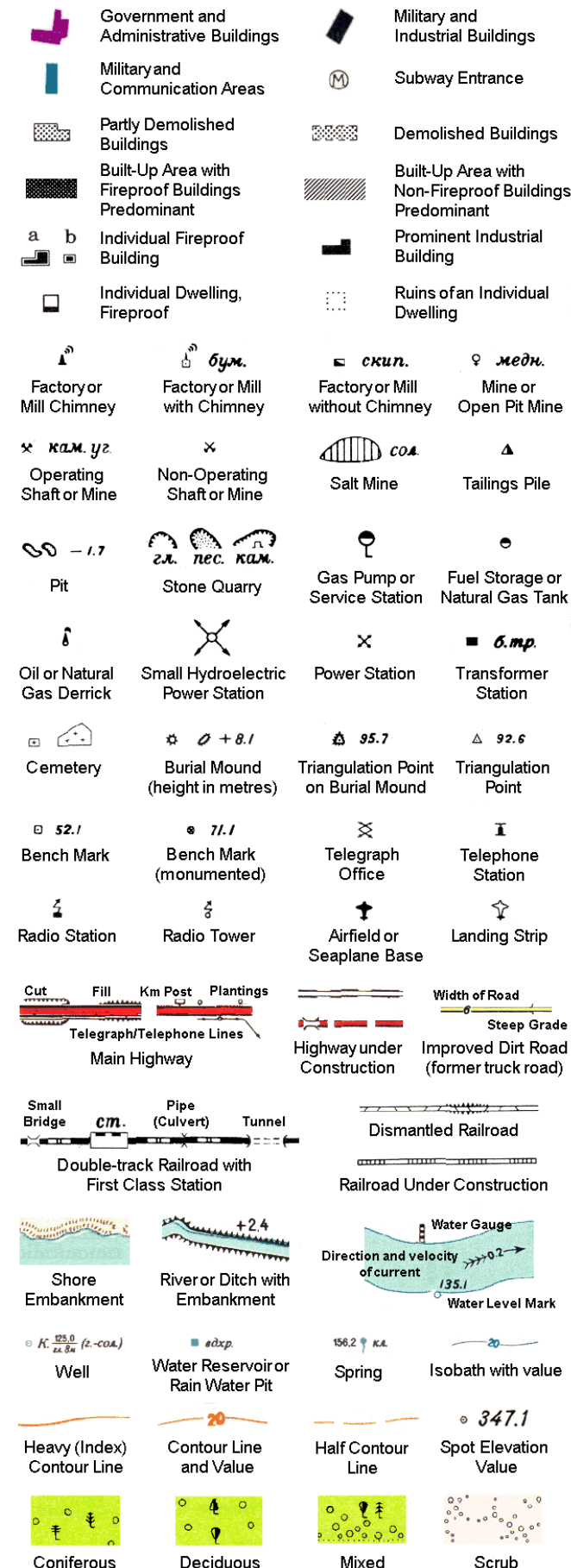
243.8 Values for prominent elevations
186.0 Numbers for spot elevations, depth soundings, contour lines, etc.
0.2 Velocity of the current, width of river bed, depth of river
180/12 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A) **З з (Z)** **П п (P)** **Ч ч (CH)**
Б б (B) **И и (I)** **Р р (R)** **Ш ш (SH)**
В в (V) **Й й (Y)** **С с (S)** **Щ щ (SHCH)**
Г г (G) **К к (K)** **Т т (T)** **Ъ (-)**
Д д (D) **Л л (L)** **У у (U)** **Ы (Y)**
Е е (E) **М м (M)** **Ф ф (F)** **Ь (')**
Ё ё (YO) **Н н (N)** **Х х (KH)** **Э э (E)**
Ж ж (ZH) **О о (O)** **Ц ц (TS)** **Ю ю (YU or IU)**
Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale



Key to Numbers on Mapping

SD91_Manchester

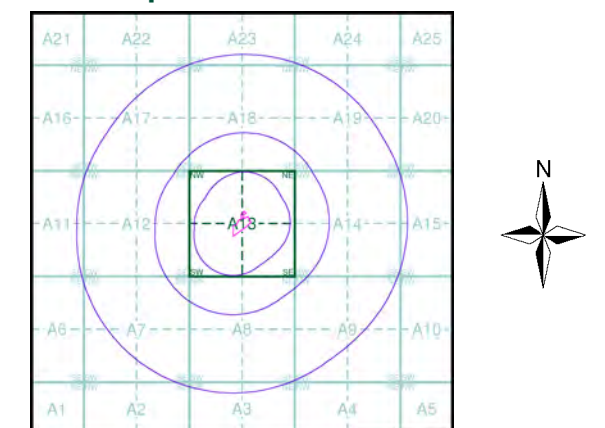
No.	Description
77	Factory (Machinery)



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1851	3
Yorkshire	1:10,560	1854	4
Lancashire And Furness	1:10,560	1894	5
Lancashire And Furness	1:10,560	1910 - 1911	6
Lancashire And Furness	1:10,560	1931 - 1932	7
Lancashire And Furness	1:10,560	1938	8
Ordnance Survey Plan	1:10,000	1956	9
Ordnance Survey Plan	1:10,000	1967 - 1968	10
Manchester	1:25,000	1975	11
Ordnance Survey Plan	1:10,000	1978 - 1979	12
Ordnance Survey Plan	1:10,000	1990	13
10K Raster Mapping	1:10,000	1999	14
10K Raster Mapping	1:10,000	2006	15
VectorMap Local	1:10,000	2019	16

Russian Map - Slice A



Order Details

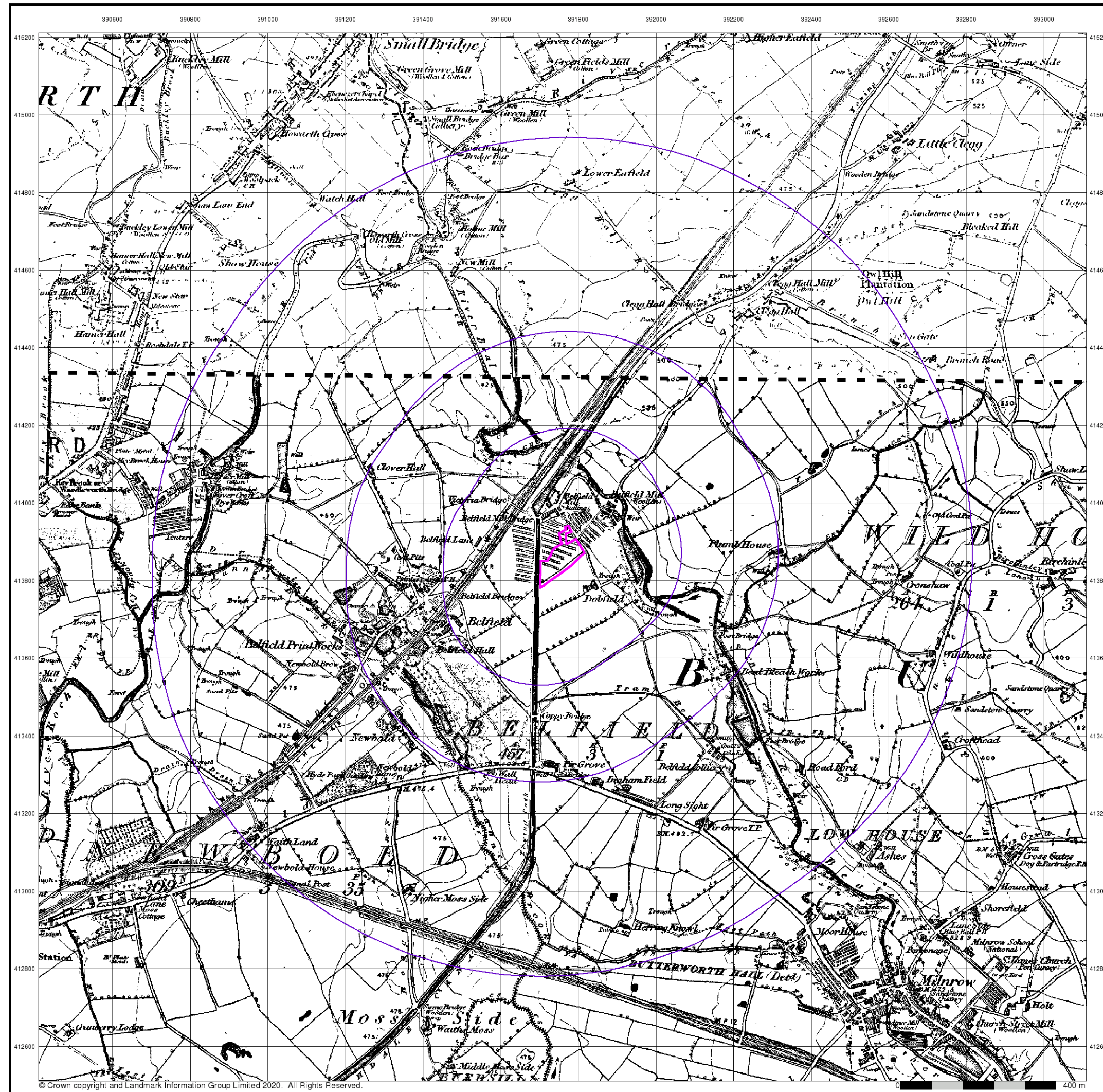
Order Number: 230105286_1_1
 Customer Ref: LKC 20 1164
 National Grid Reference: 391750, 413860
 Slice: A
 Site Area (Ha): 0.75
 Search Buffer (m): 1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

LK

GROUP

Lancashire And Furness

Published 1851

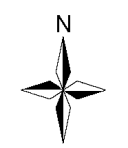
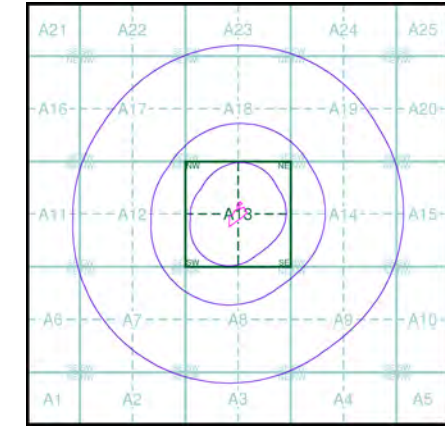
Source map scale - 1:10,560

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)

08100
1851
1:10,560
08900
1851
1:10,560

Historical Map - Slice A



Order Details

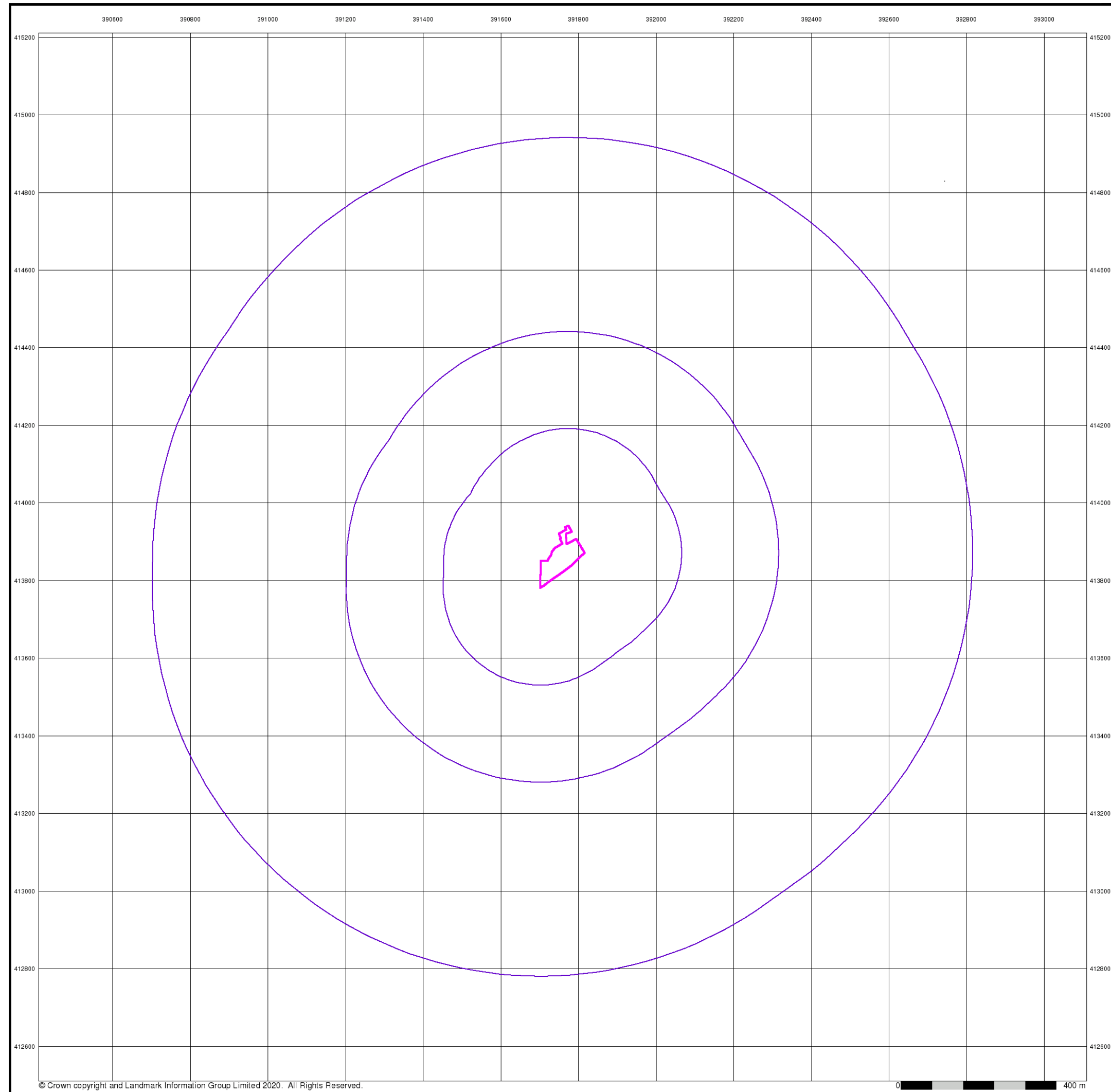
Order Number:	230105286_1_1
Customer Ref:	LKC 20 1164
National Grid Reference:	391750, 413860
Slice:	A
Site Area (Ha):	0.75
Search Buffer (m):	1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



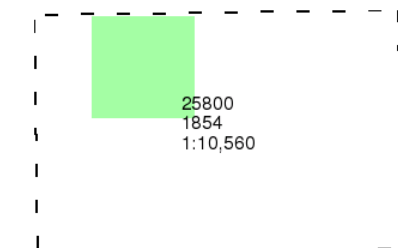
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



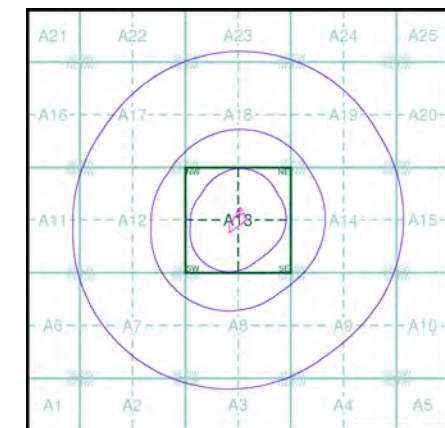
Published 1854
Source map scale - 1:10,560

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)



Historical Map - Slice A



Order Details

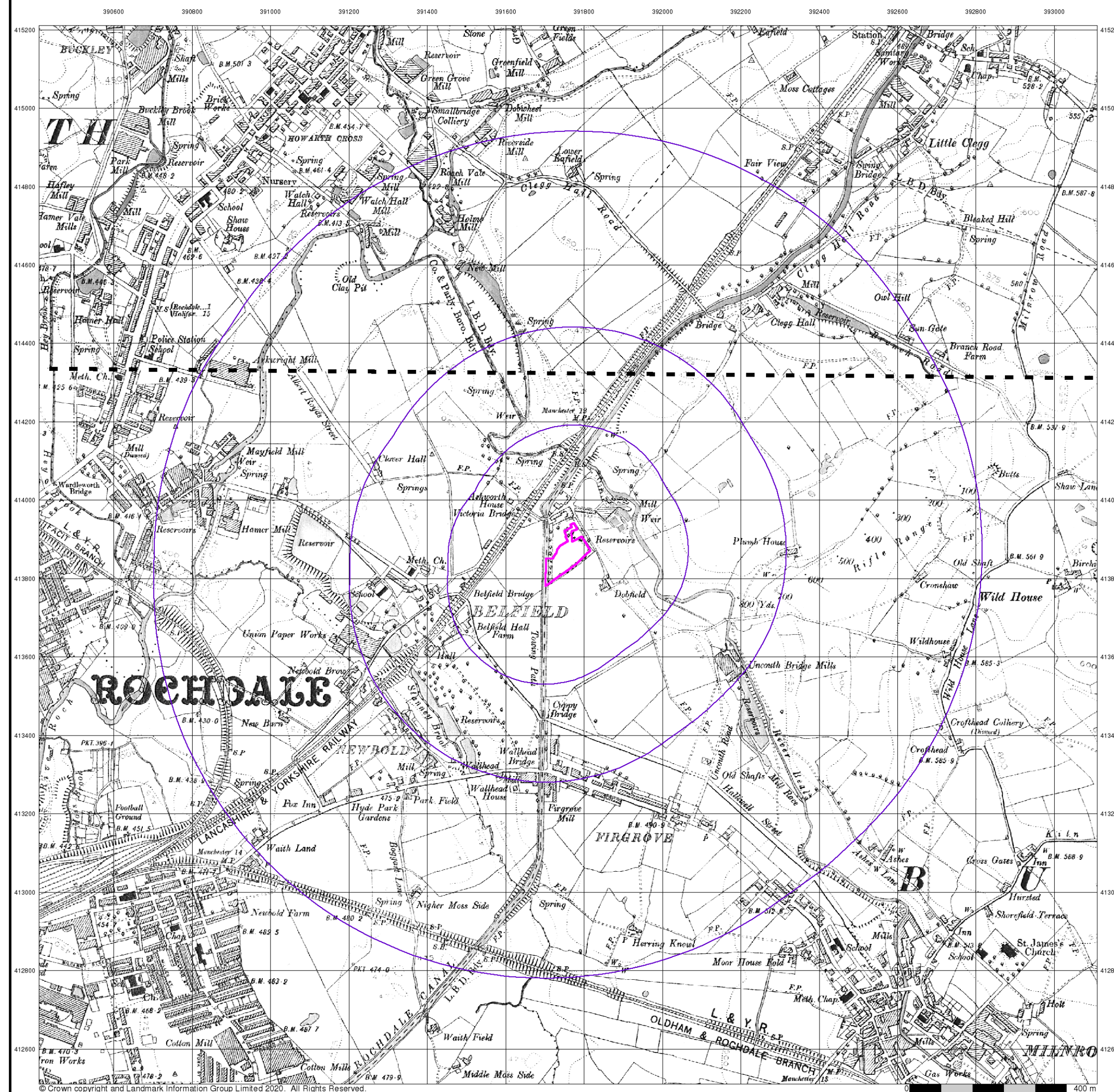
Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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

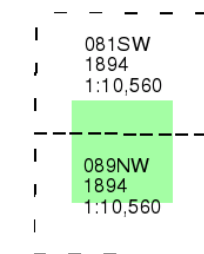


GROUP

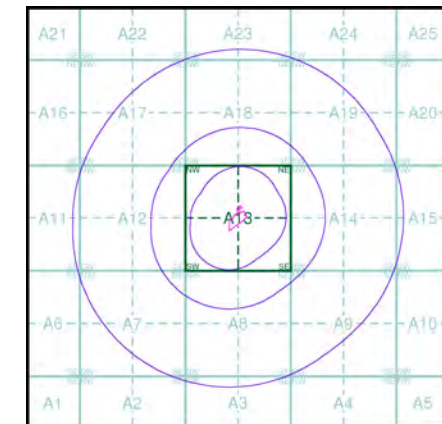
Source map scale - 1:10,560

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)



Historical Map - Slice A



Order Details

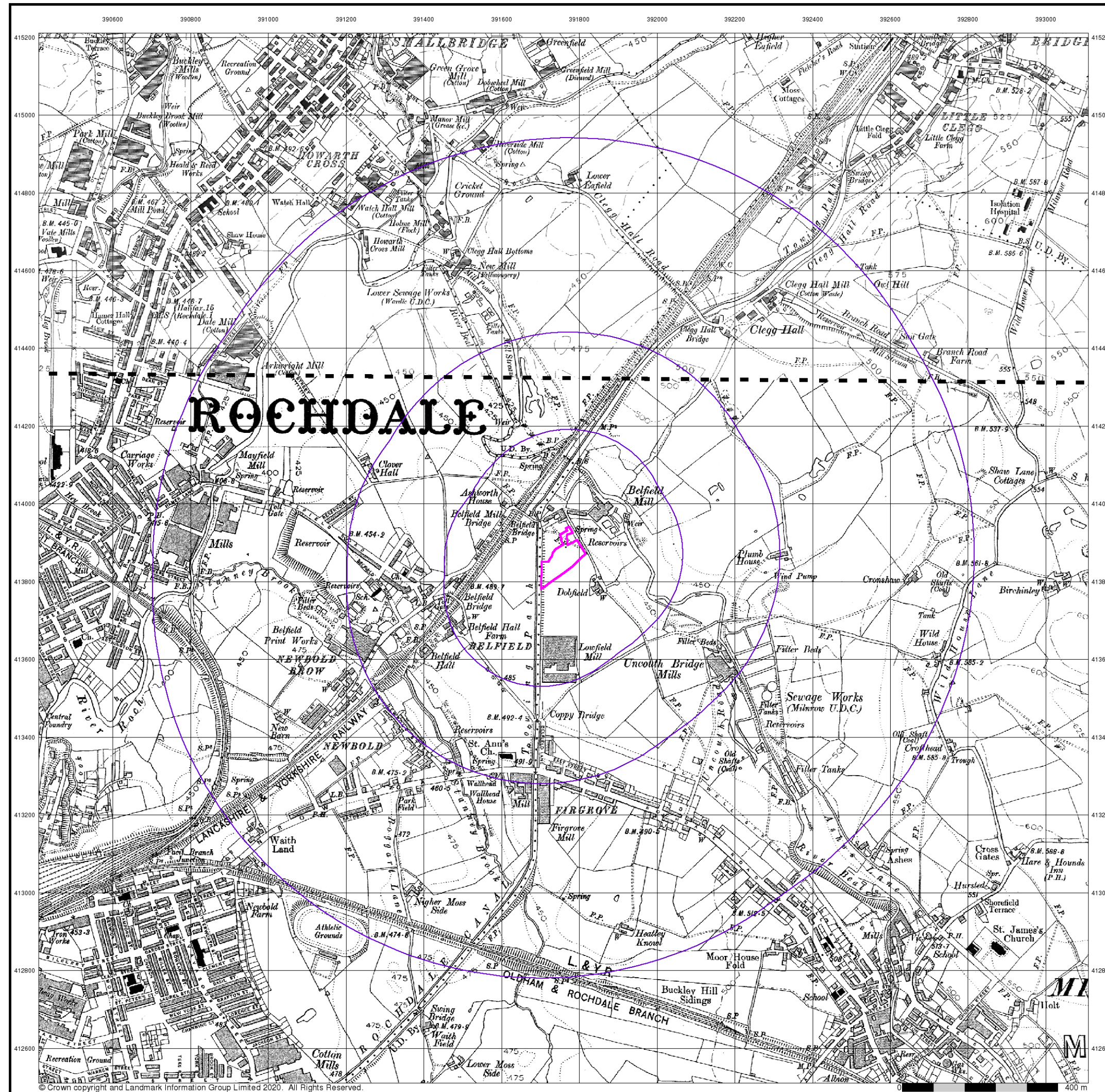
Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



LK GROUP

Lancashire And Furness

Published 1910 - 1911

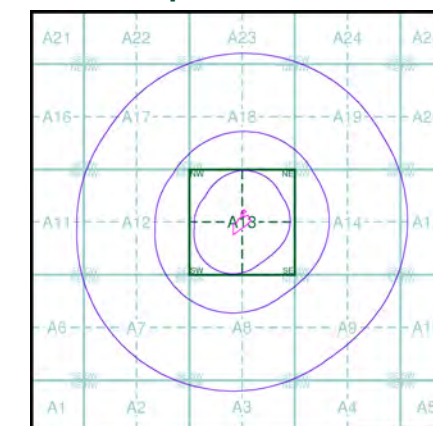
Source map scale - 1:10,560

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)

081SW
1911
1:10,560
089NW
1910
1:10,560

Historical Map - Slice A



Order Details

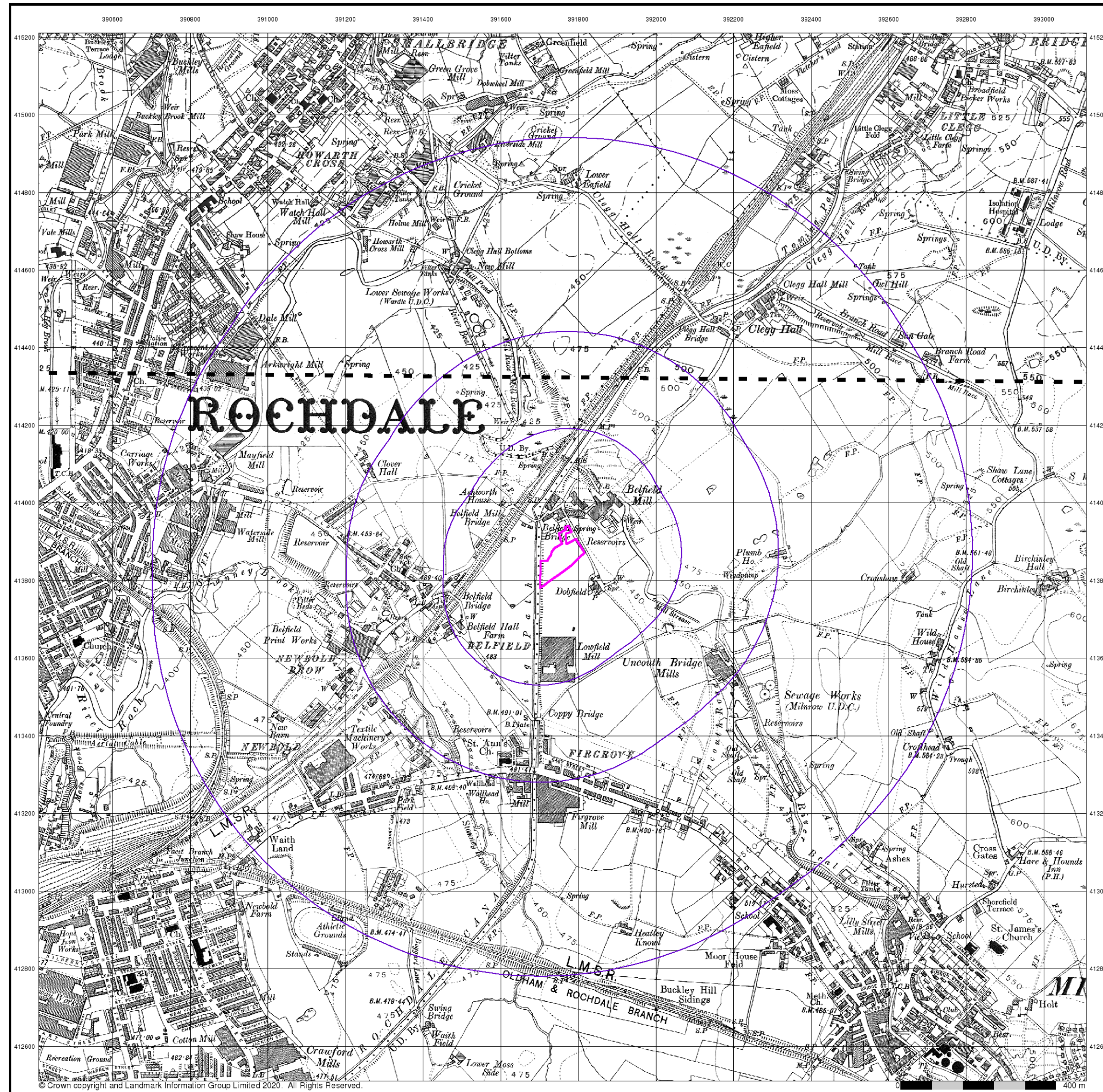
Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW

Landmark
INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

LK GROUP

Lancashire And Furness

Published 1931 - 1932

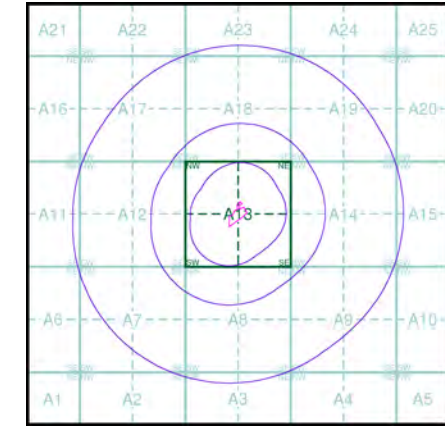
Source map scale - 1:10,560

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)

081SW
1932
1:10,560
089NW
1931
1:10,560

Historical Map - Slice A



Order Details

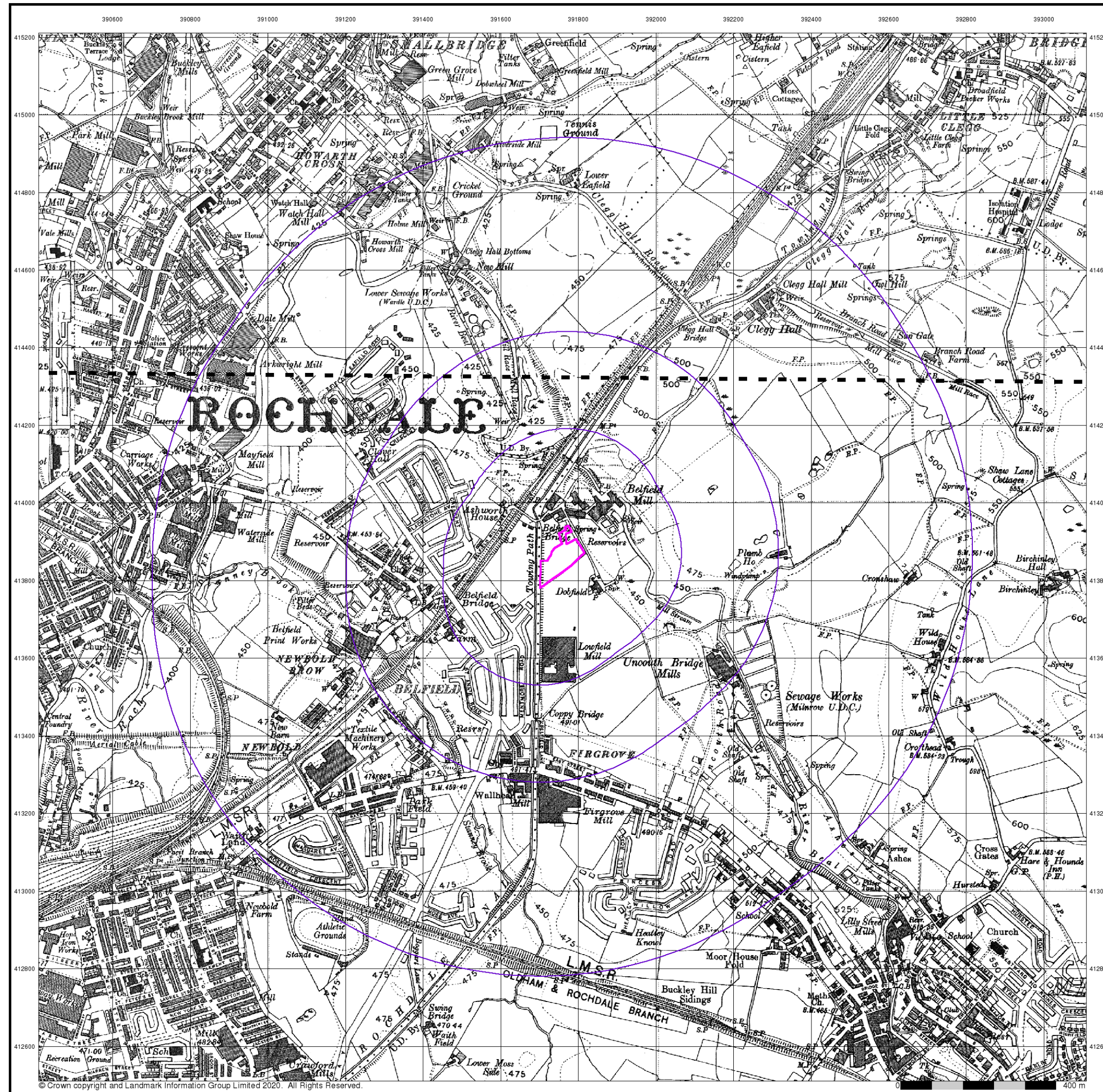
Order Number:	230105286_1_1
Customer Ref:	LKC 20 1164
National Grid Reference:	391750, 413860
Slice:	A
Site Area (Ha):	0.75
Search Buffer (m):	1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

LK GROUP

Lancashire And Furness

Published 1938

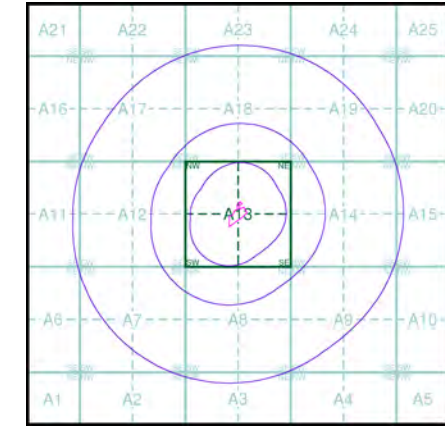
Source map scale - 1:10,560

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)

081SW
1938
1:10,560
089NW
1938
1:10,560

Historical Map - Slice A



Order Details

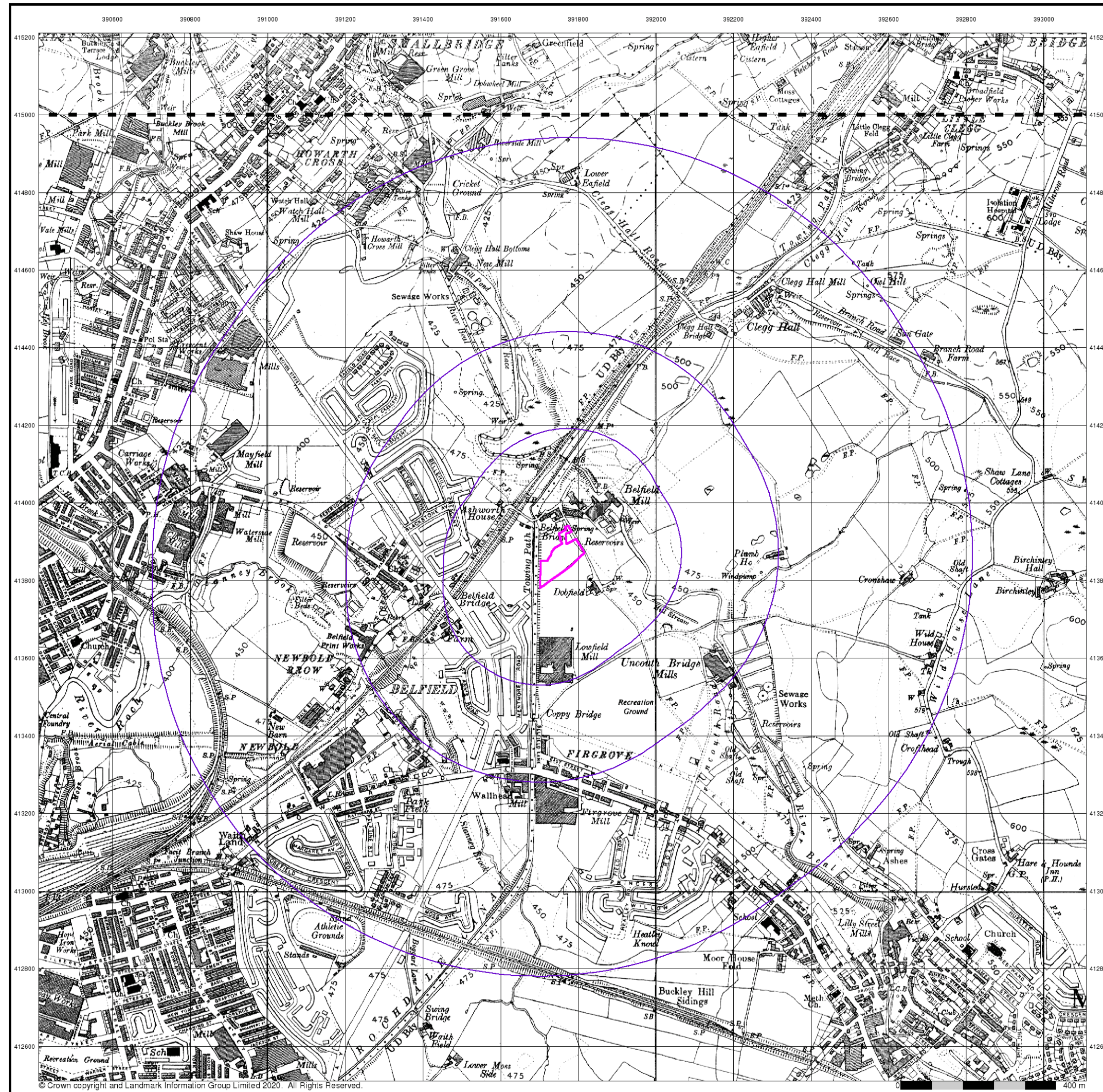
Order Number:	230105286_1_1
Customer Ref:	LKC 20 1164
National Grid Reference:	391750, 413860
Slice:	A
Site Area (Ha):	0.75
Search Buffer (m):	1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.



Ordnance Survey Plan

Published 1956

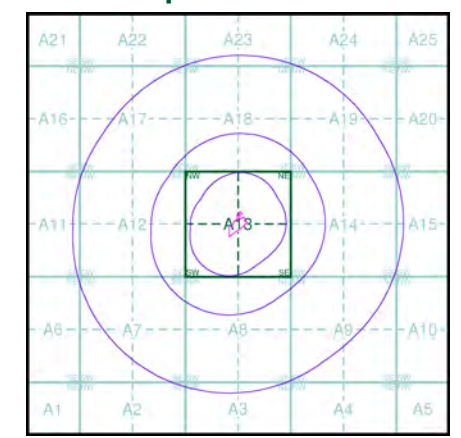
Source map scale - 1:10,000

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)

SD91NW	1956	1:10,560
SD91SW	1956	1:10,560

Historical Map - Slice A



Order Details

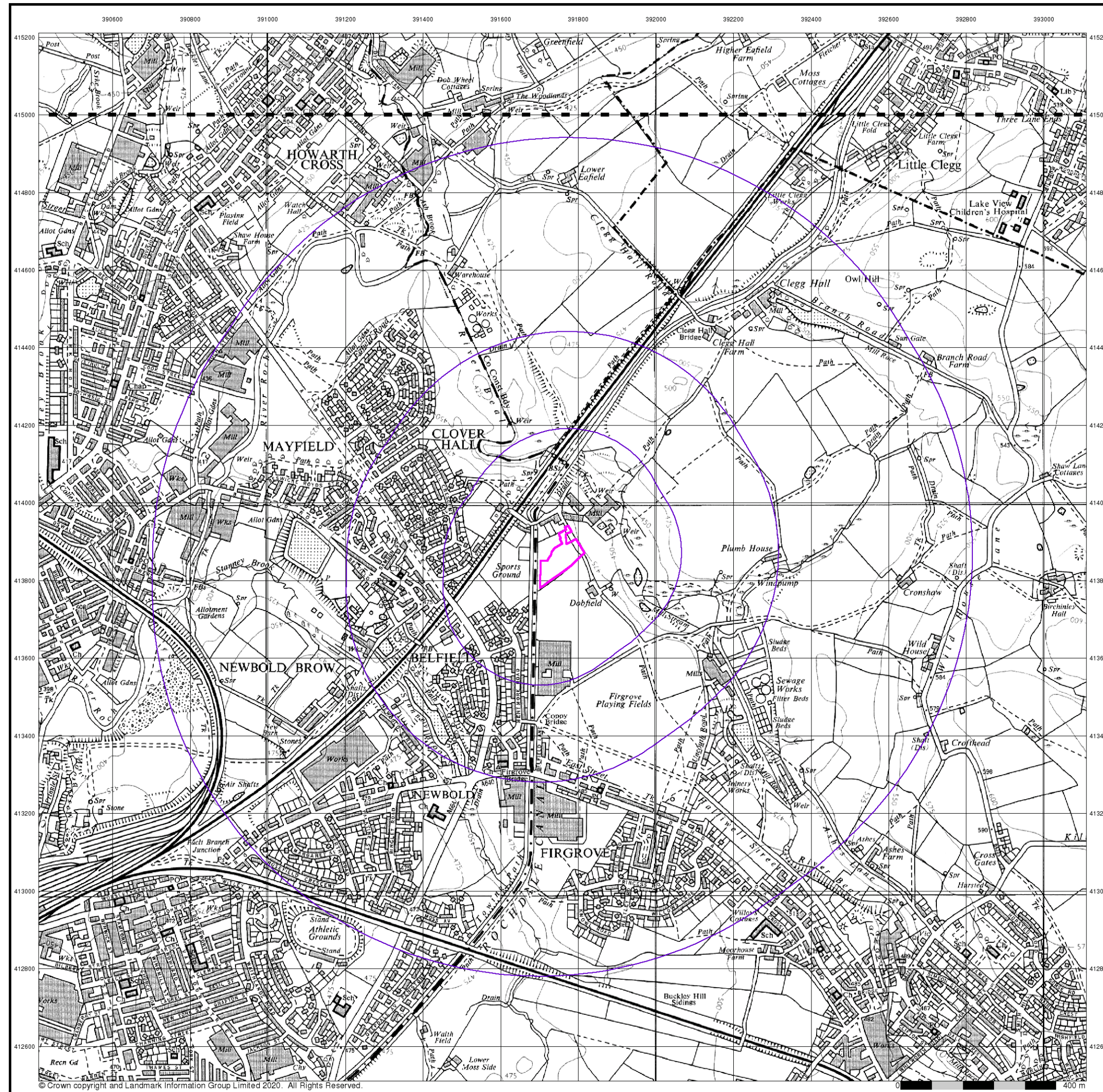
Order Number:	230105286_1_1
Customer Ref:	LKC 20 1164
National Grid Reference:	391750, 413860
Slice:	A
Site Area (Ha):	0.75
Search Buffer (m):	1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.



Ordnance Survey Plan

Published 1967 - 1968

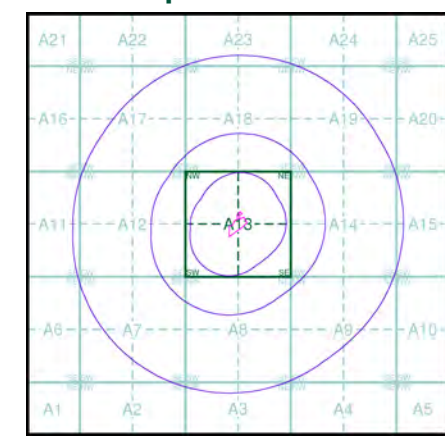
Source map scale - 1:10,000

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)

SD91NW	1968	1:10,560
SD91SW	1967	1:10,560

Historical Map - Slice A



Order Details

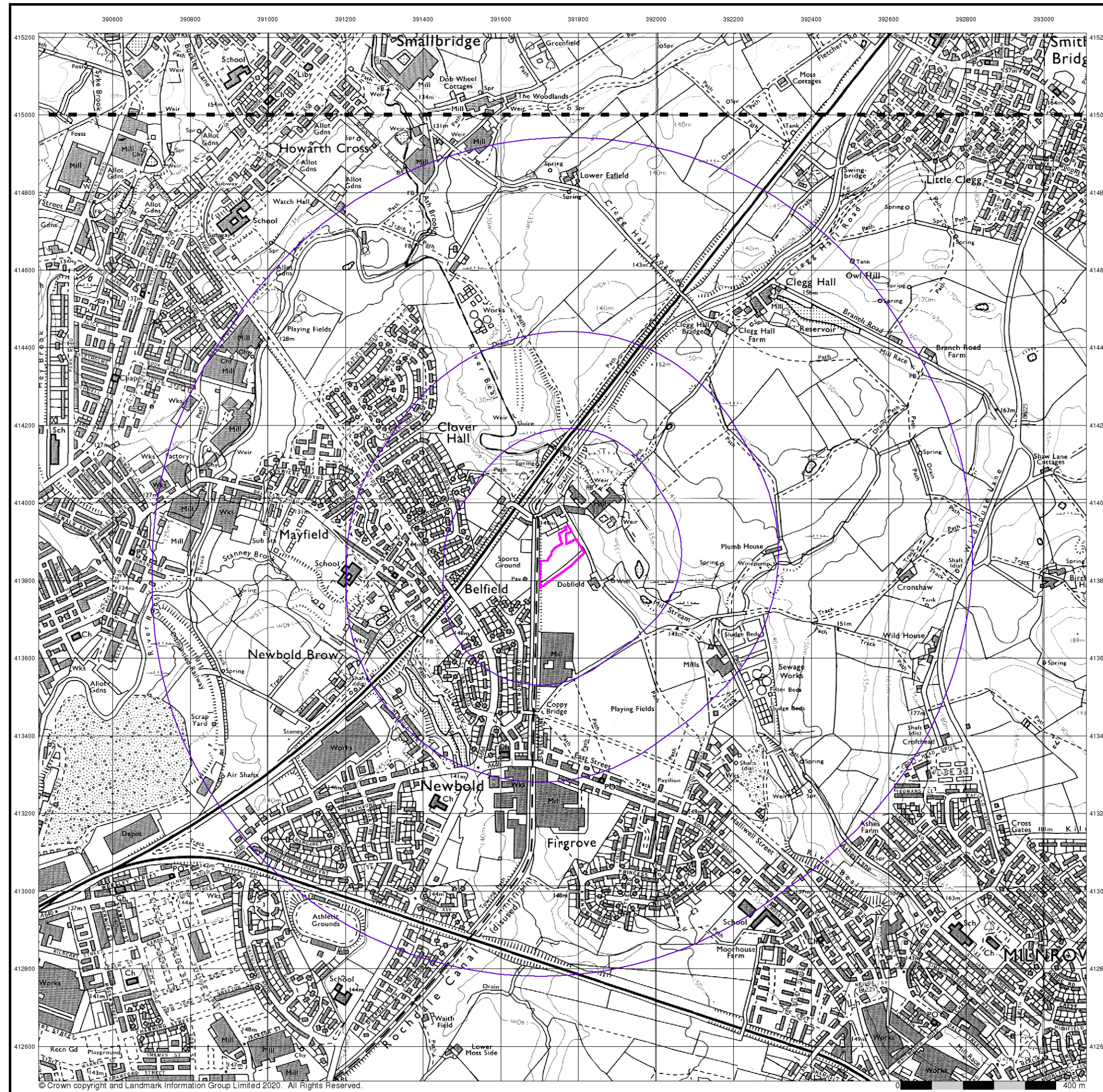
Order Number:	230105286_1_1
Customer Ref:	LKC 20 1164
National Grid Reference:	391750, 413860
Slice:	A
Site Area (Ha):	0.75
Search Buffer (m):	1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.



Ordnance Survey Plan

Published 1978 - 1979

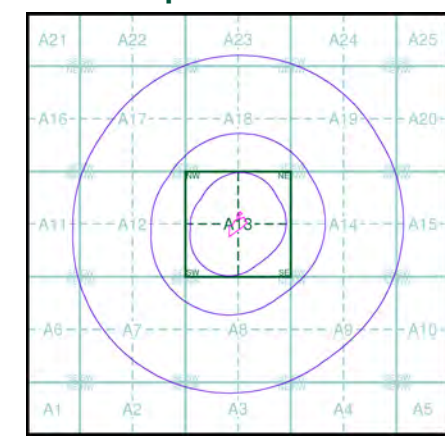
Source map scale - 1:10,000

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)

SD91NW	1978	1:10,000
SD91SW	1979	1:10,000

Historical Map - Slice A



Order Details

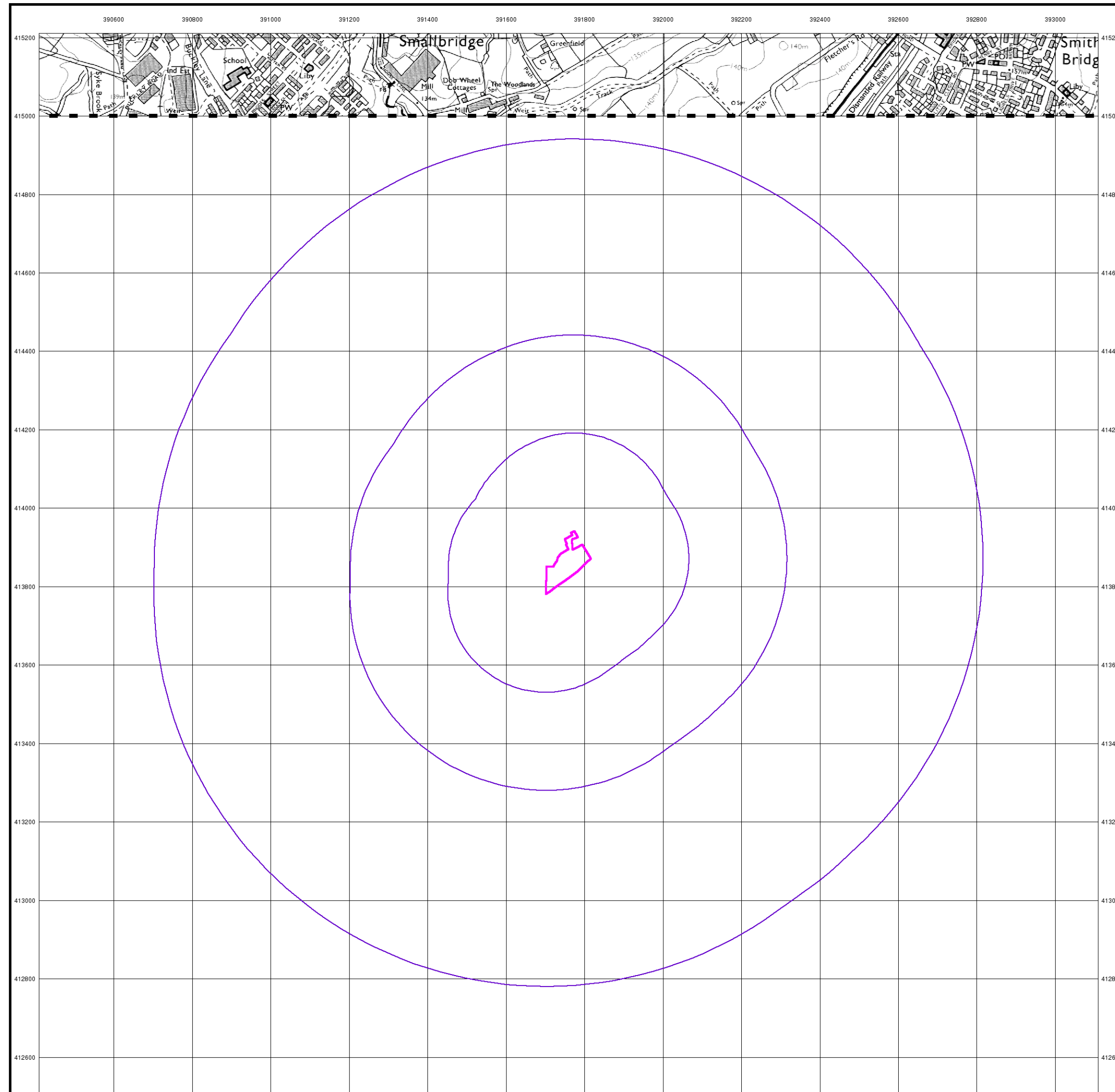
Order Number:	230105286_1_1
Customer Ref:	LKC 20 1164
National Grid Reference:	391750, 413860
Slice:	A
Site Area (Ha):	0.75
Search Buffer (m):	1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.



Ordinance Survey Plan

Published 1990

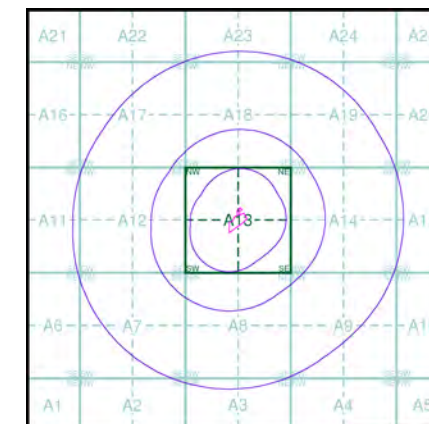
Source map scale - 1:10,000

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)

SD91NW
1990
1:10,000

Historical Map - Slice A



Order Details

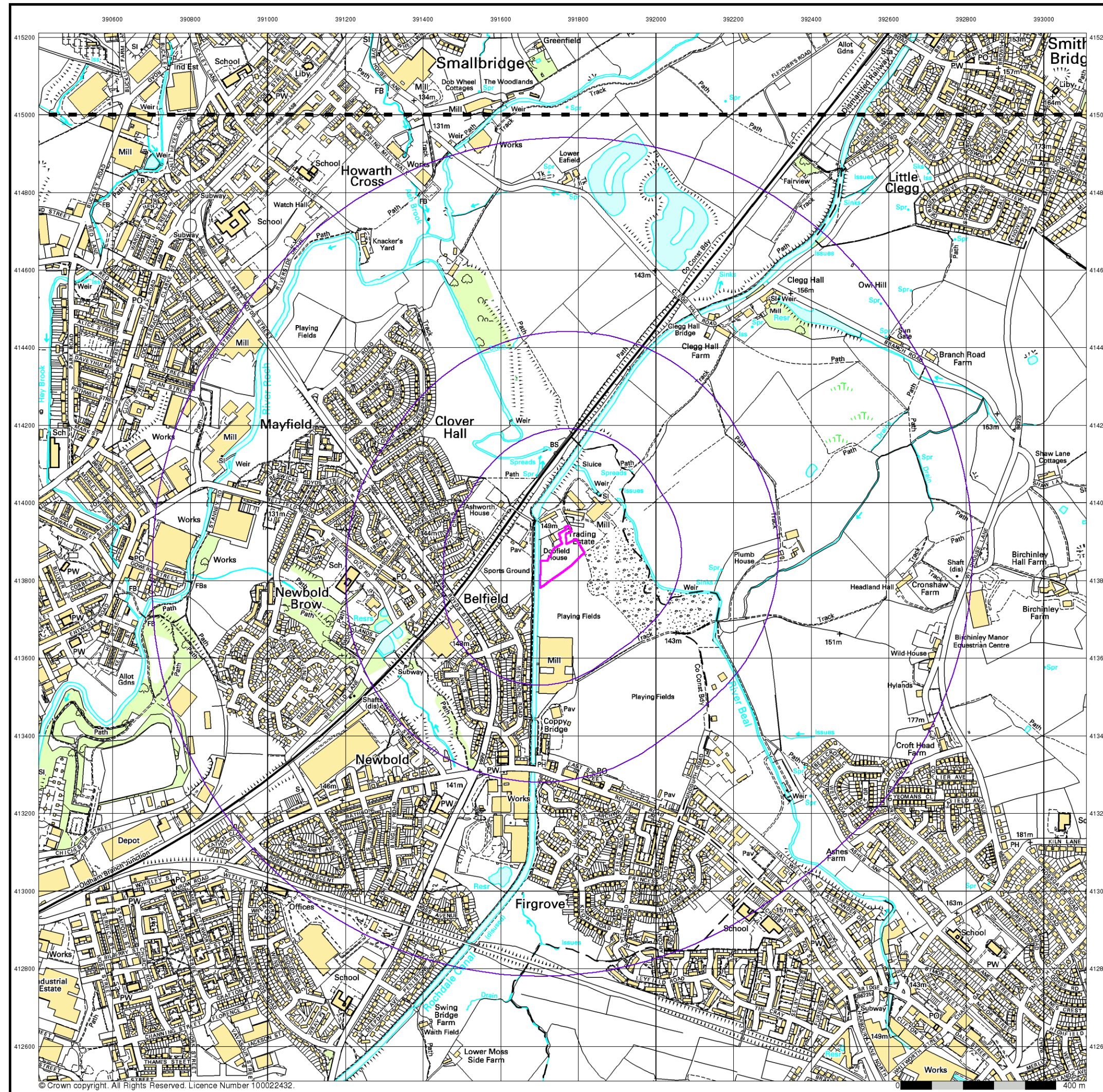
Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



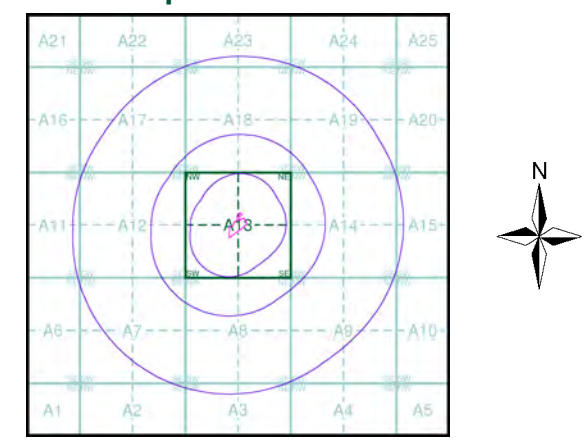
LK GROUP
10k Raster Mapping
Published 1999
Source map scale - 1:10,000

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)

SD91NW	1999	1:10,000
SD91SW	1999	1:10,000

Historical Map - Slice A



Order Details
Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details
Land at Dobfield House, Rochdale, OL16 3AW



© Crown copyright. All Rights Reserved. Licence Number 100022432.

LK GROUP

10k Raster Mapping

Published 2006

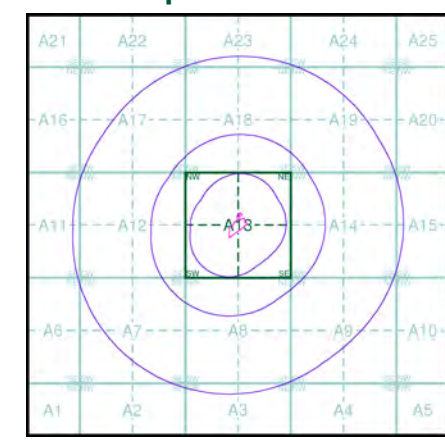
Source map scale - 1:10,000

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)

SD91NW	2006	1:10,000
SD91SW	2006	1:10,000

Historical Map - Slice A



Order Details

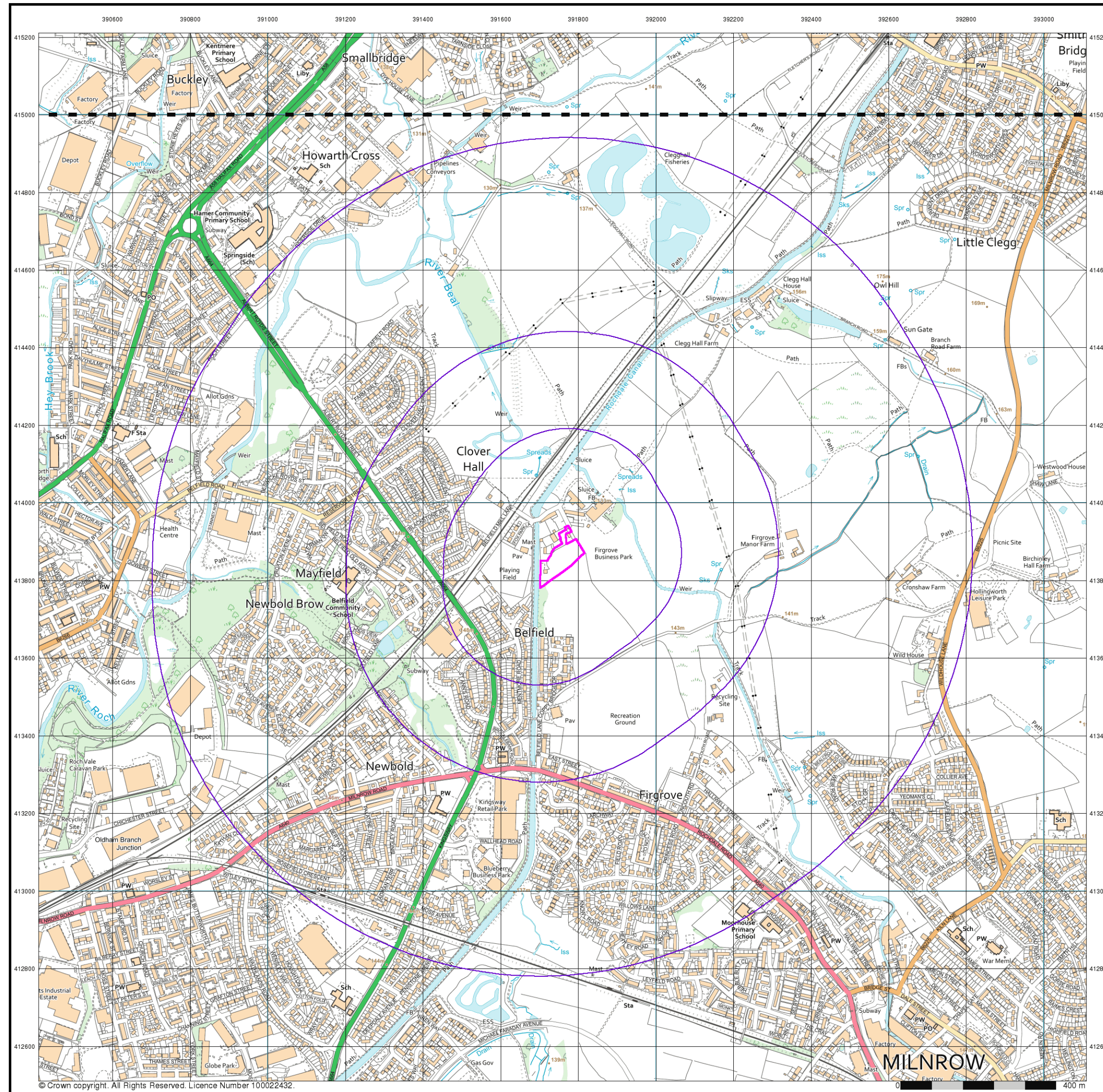
Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW

Landmark
INFORMATION GROUP

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



© Crown copyright. All Rights Reserved. Licence Number 100022432.



Published 2019
Source map scale - 1:10,000

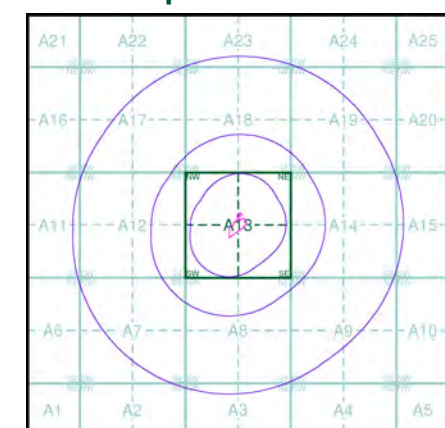
VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

SD91NW
2019
Variable

SD91SW
2019
Variable

Historical Map - Slice A



Order Details

Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 1000

Site Details

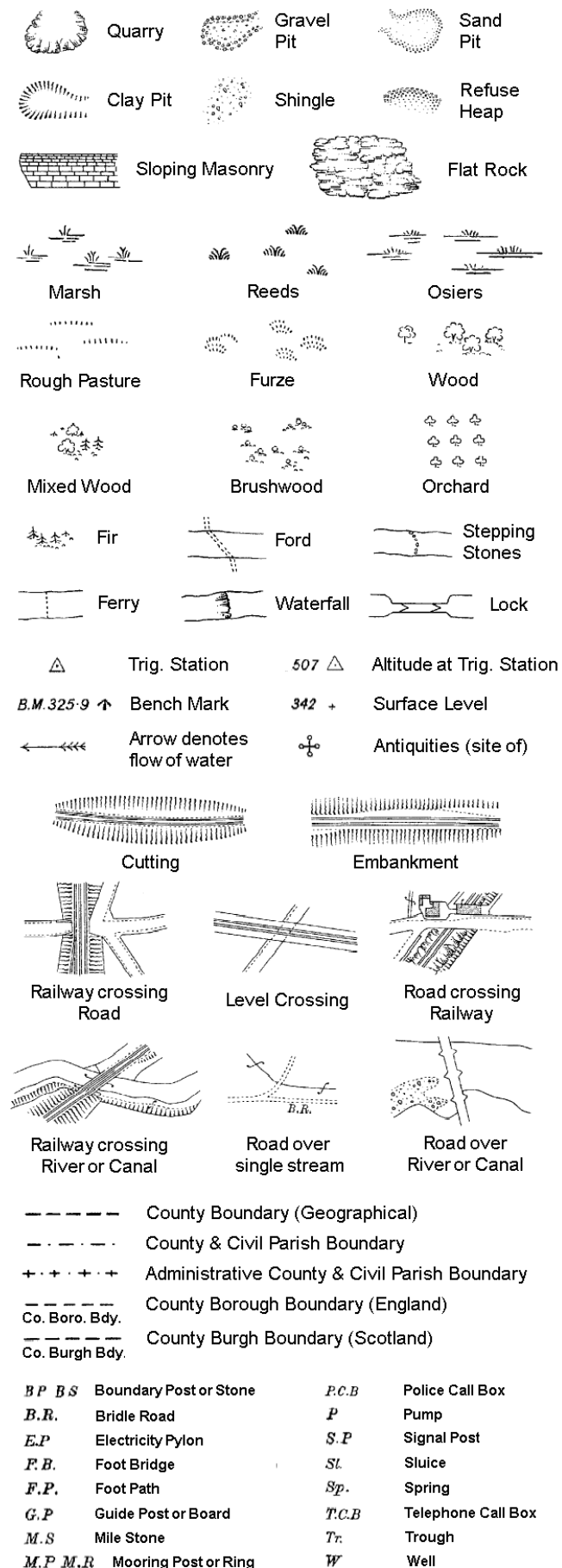
Land at Dobfield House, Rochdale, OL16 3AW



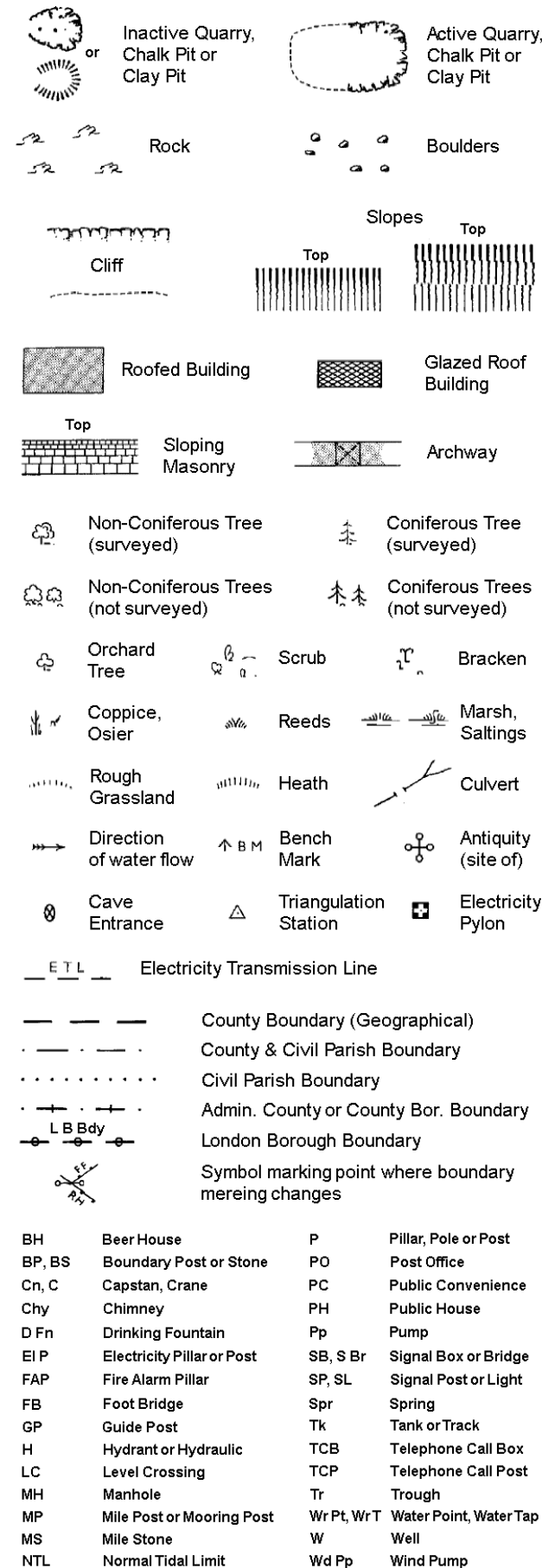
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Historical Mapping Legends

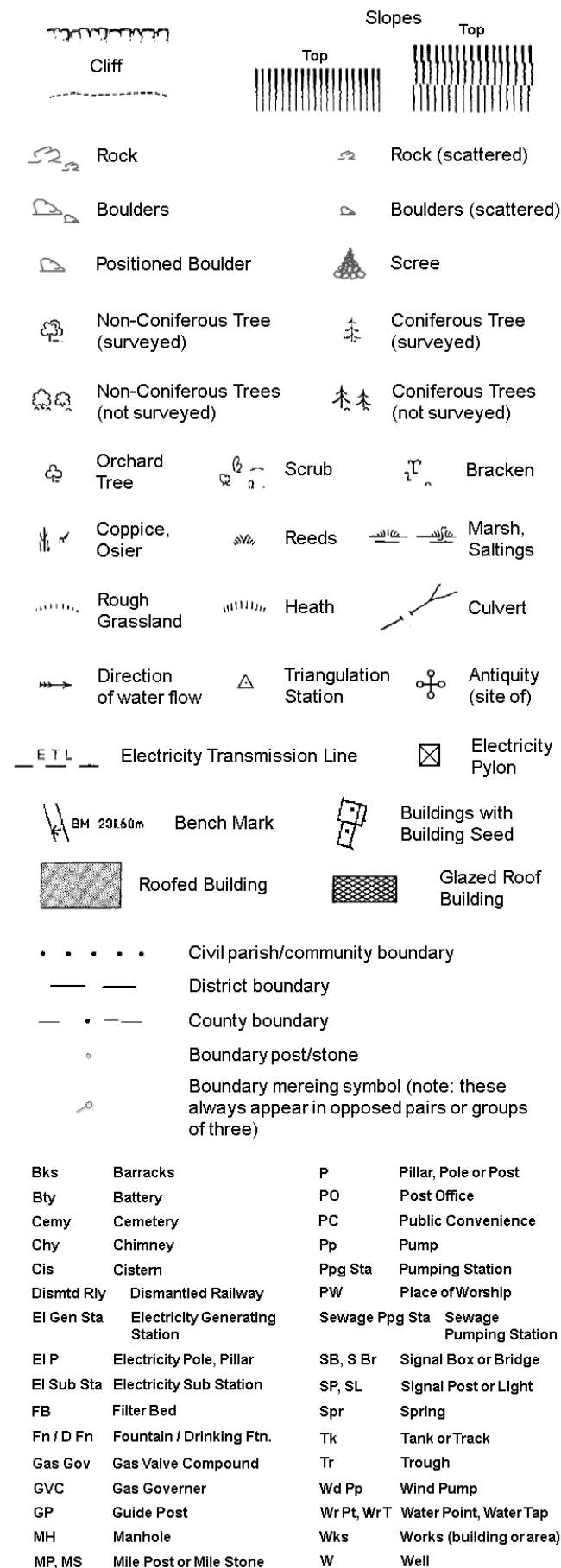
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



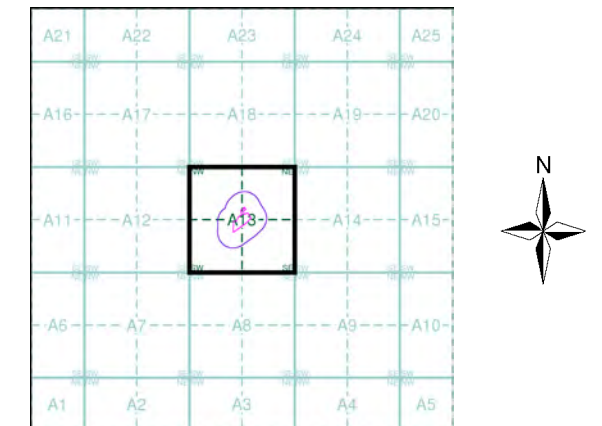
Large-Scale National Grid Data 1:2,500 and 1:1,250



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1910	3
Lancashire And Furness	1:2,500	1930	4
Ordnance Survey Plan	1:1,250	1955 - 1958	5
Ordnance Survey Plan	1:2,500	1956 - 1959	6
Additional SIMs	1:1,250	1958 - 1988	7
Ordnance Survey Plan	1:1,250	1971 - 1989	8
Supply of Unpublished Survey Information	1:1,250	1974 - 1975	9
Supply of Unpublished Survey Information	1:1,250	1975	10
Additional SIMs	1:1,250	1984	11
Additional SIMs	1:1,250	1985	12
Large-Scale National Grid Data	1:1,250	1992	13
Historical Aerial Photography	1:2,500	2000	14

Historical Map - Segment A13



Order Details

Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



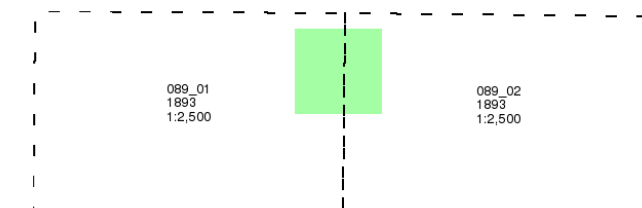
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Published 1893

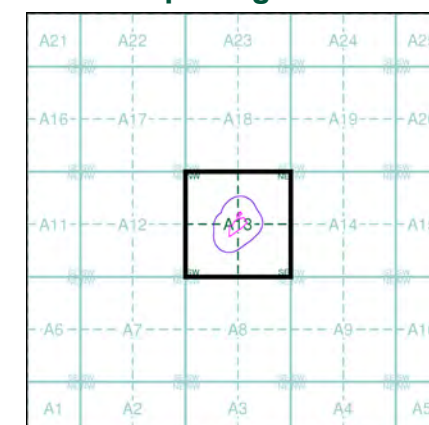
Source map scale - 1:2,500

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 1896 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 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.

Map Name(s) and Date(s)



Historical Map - Segment A13

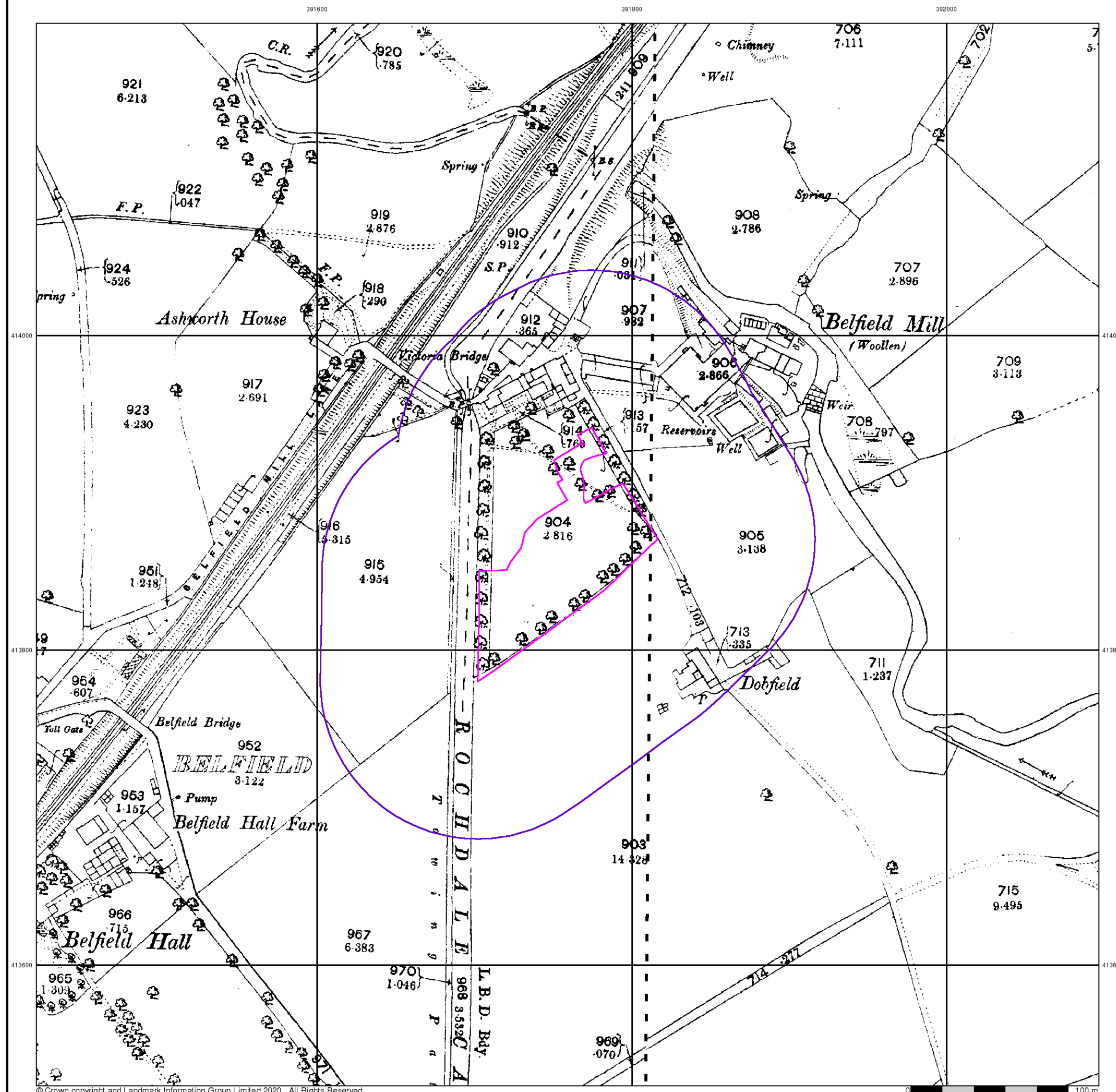


Order Details

Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Land at Dobfield House, Rochdale, OL16 3AW

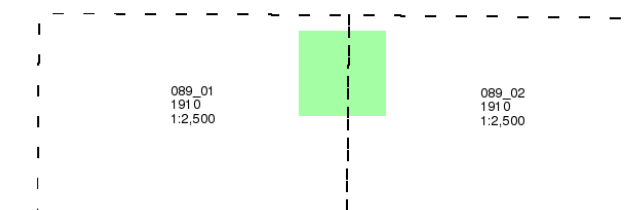


Published 1910

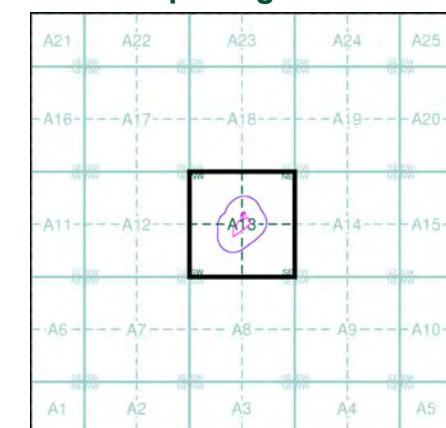
Source map scale - 1:2,500

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 1896 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 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.

Map Name(s) and Date(s)



Historical Map - Segment A13

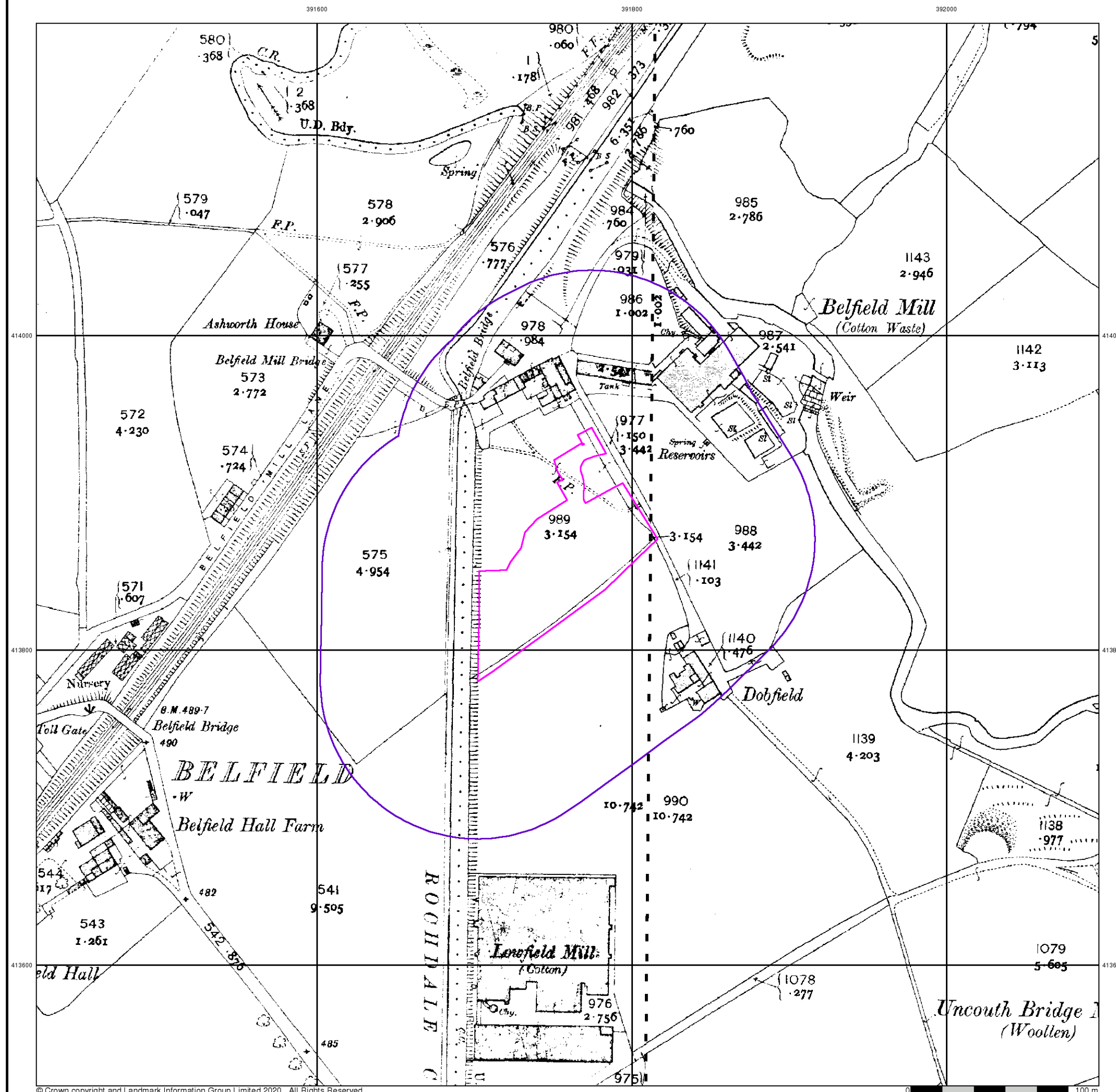


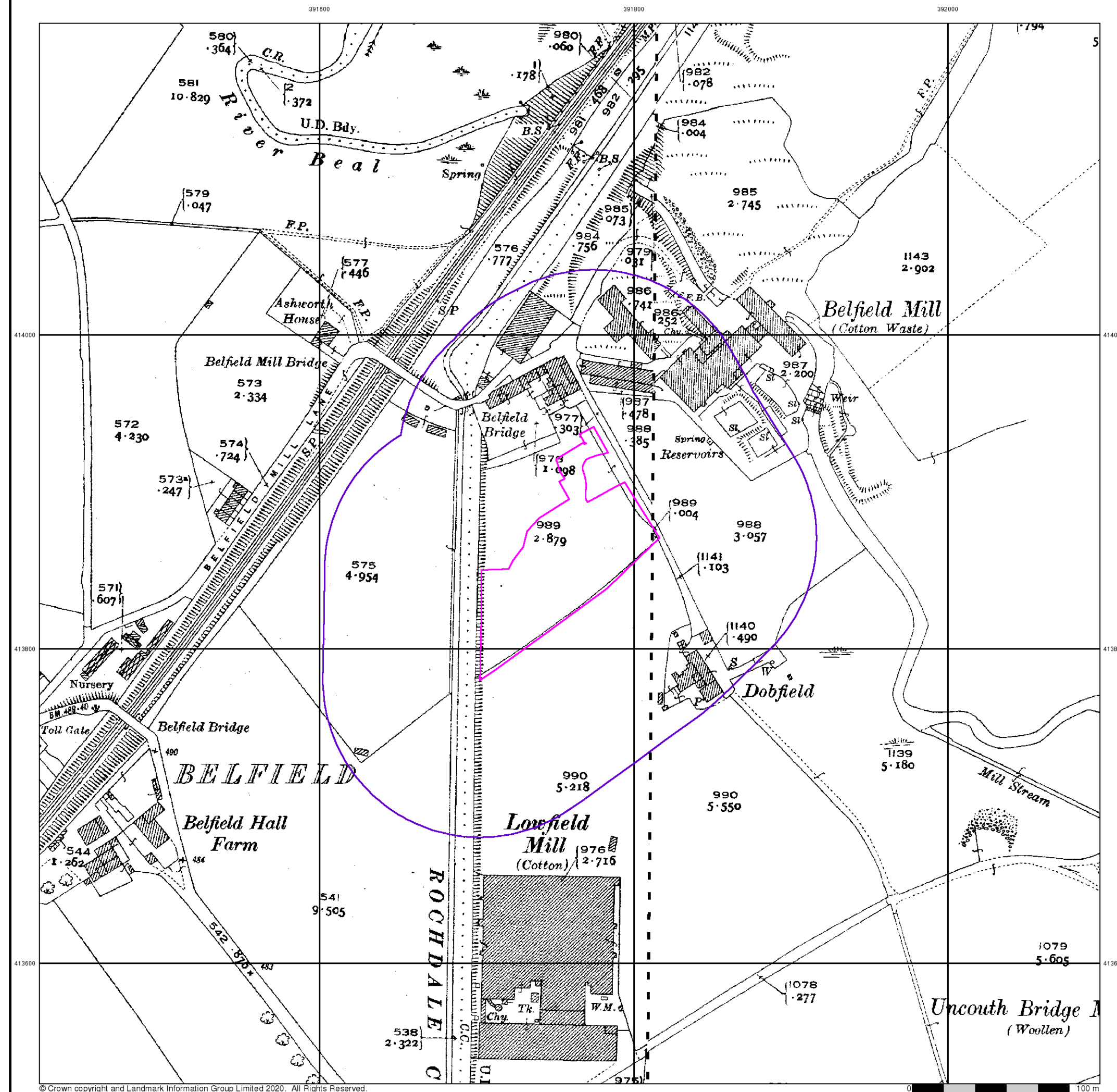
Order Details

Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



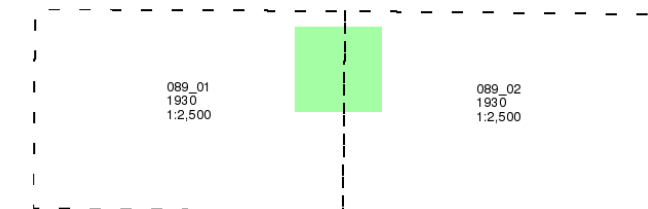


Published 1930

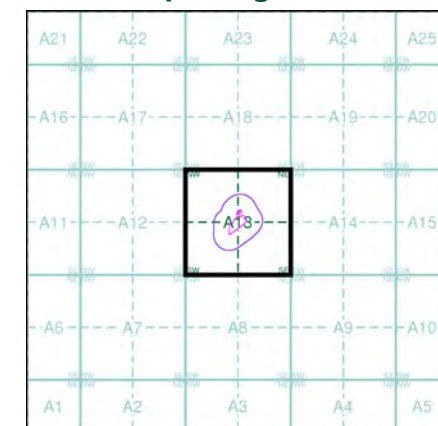
Source map scale - 1:2,500

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 1896 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 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.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

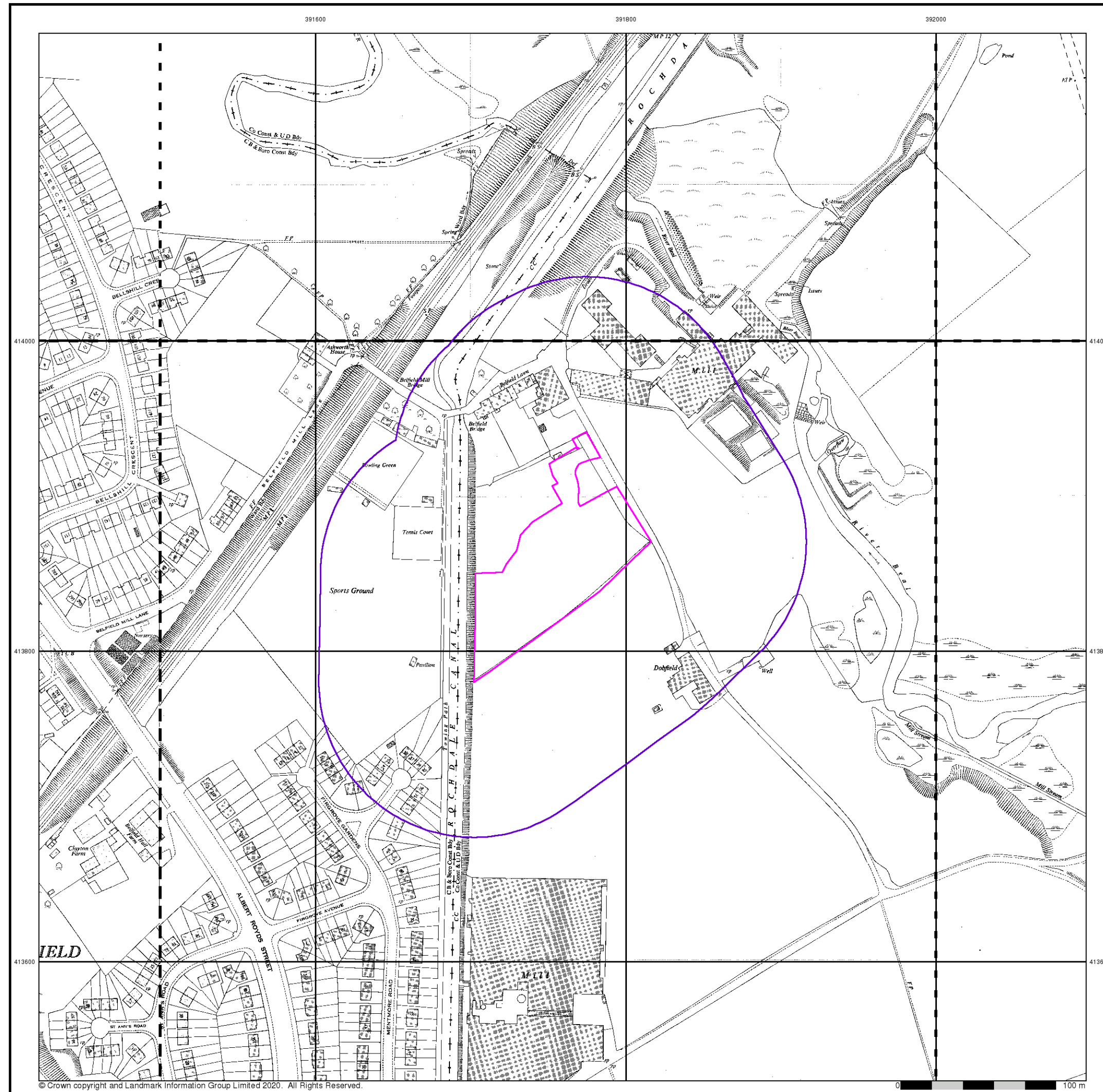
Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Land at Dobfield House, Rochdale, OL16 3AW

Landmark
INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.



Ordnance Survey Plan

Published 1955 - 1958

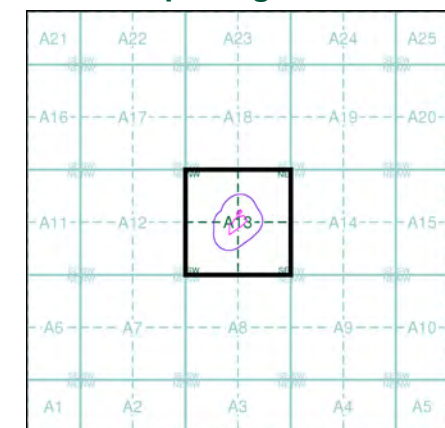
Source map scale - 1:1,250

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 1896 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 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.

Map Name(s) and Date(s)

SD9114SW 1958 1:1,250	SD9114SE 1958 1:1,250	SD9214SW 1956 1:1,250
SD9113NW 1958 1:1,250	SD9113NE 1958 1:1,250	SD9213NW 1955 1:1,250

Historical Map - Segment A13



Order Details

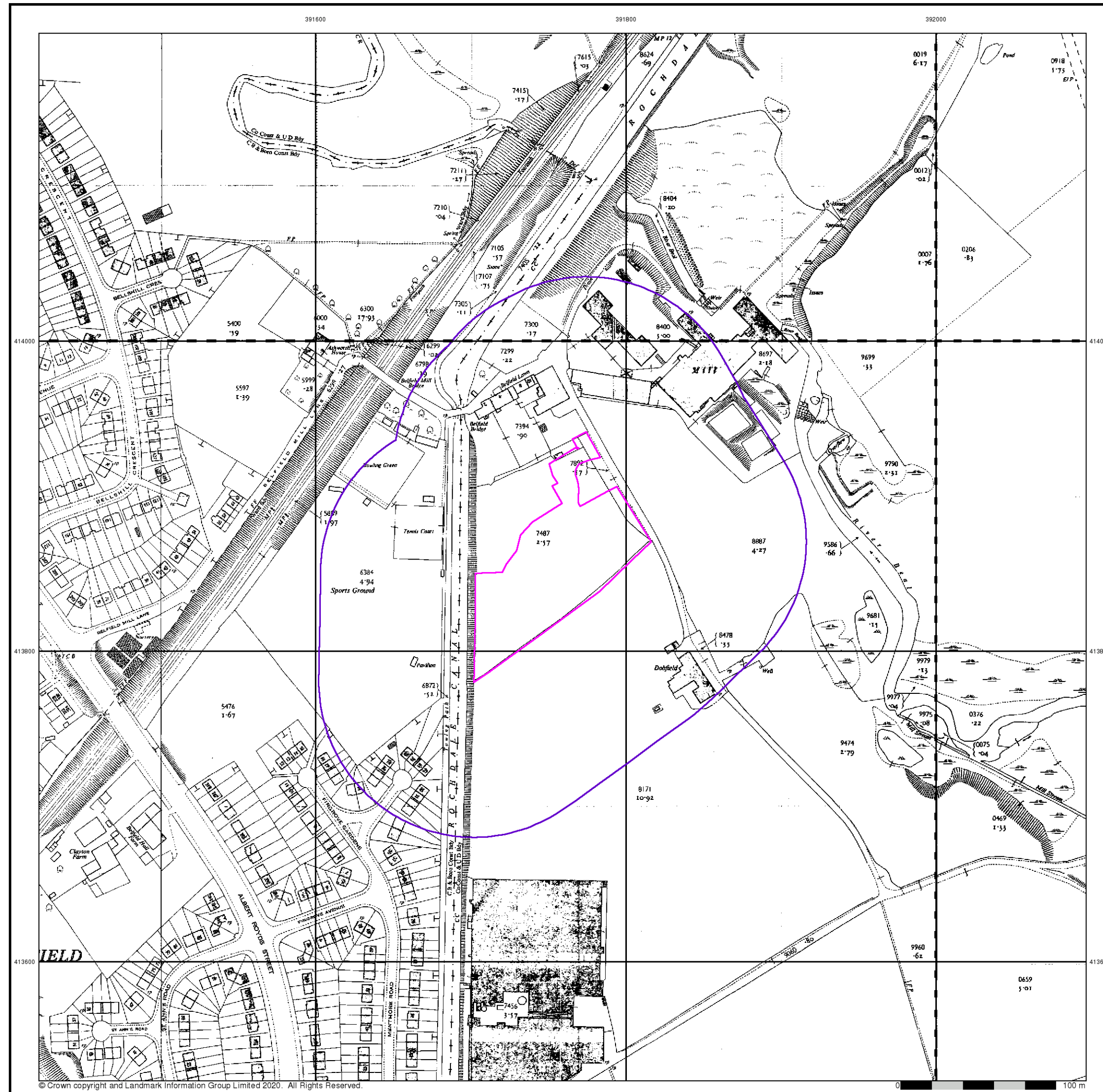
Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



Ordnance Survey Plan

Published 1956 - 1959

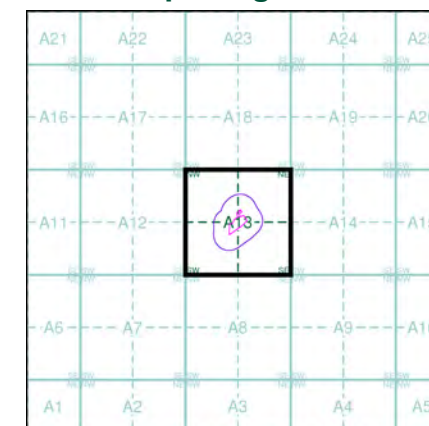
Source map scale - 1:2,500

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 1896 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 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.

Map Name(s) and Date(s)

SD9114 1959 1:2,500	SD9214 1956 1:2,500
SD9113 1959 1:2,500	SD9213 1956 1:2,500

Historical Map - Segment A13



Order Details

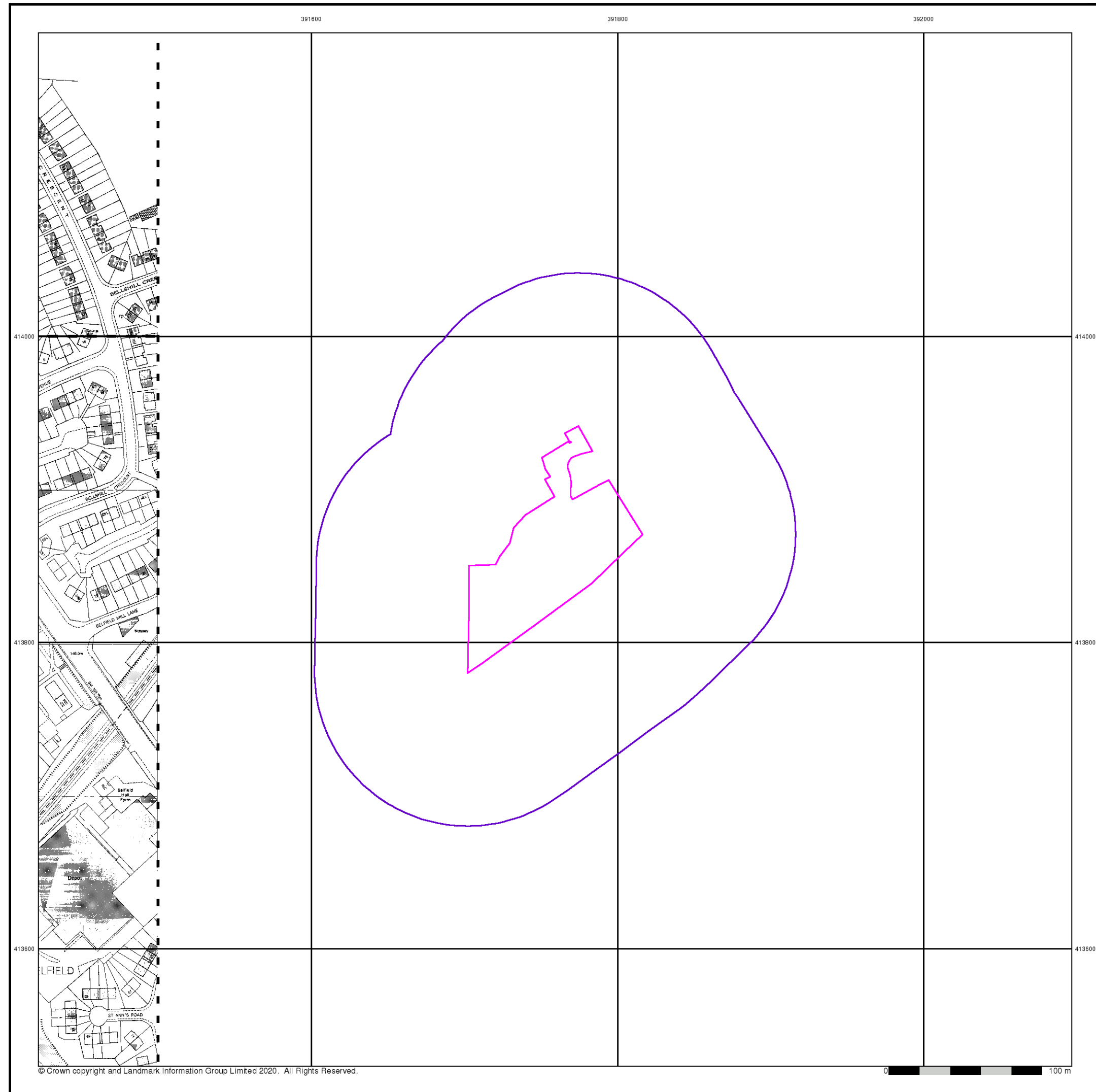
Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



Ordinance Survey Plan

Published 1971 - 1989

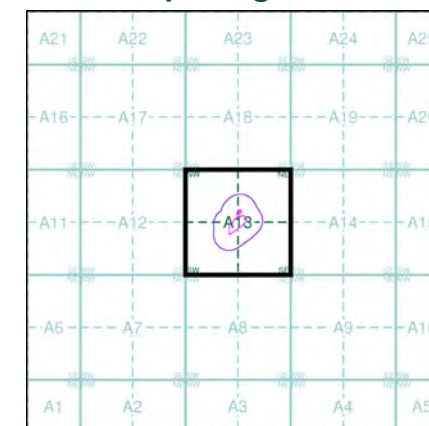
Source map scale - 1:1,250

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 1896 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 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.

Map Name(s) and Date(s)

SD9114SW	
1971	
1:1,250	
SD9113NW	
1989	
1:1,250	

Historical Map - Segment A13



Order Details

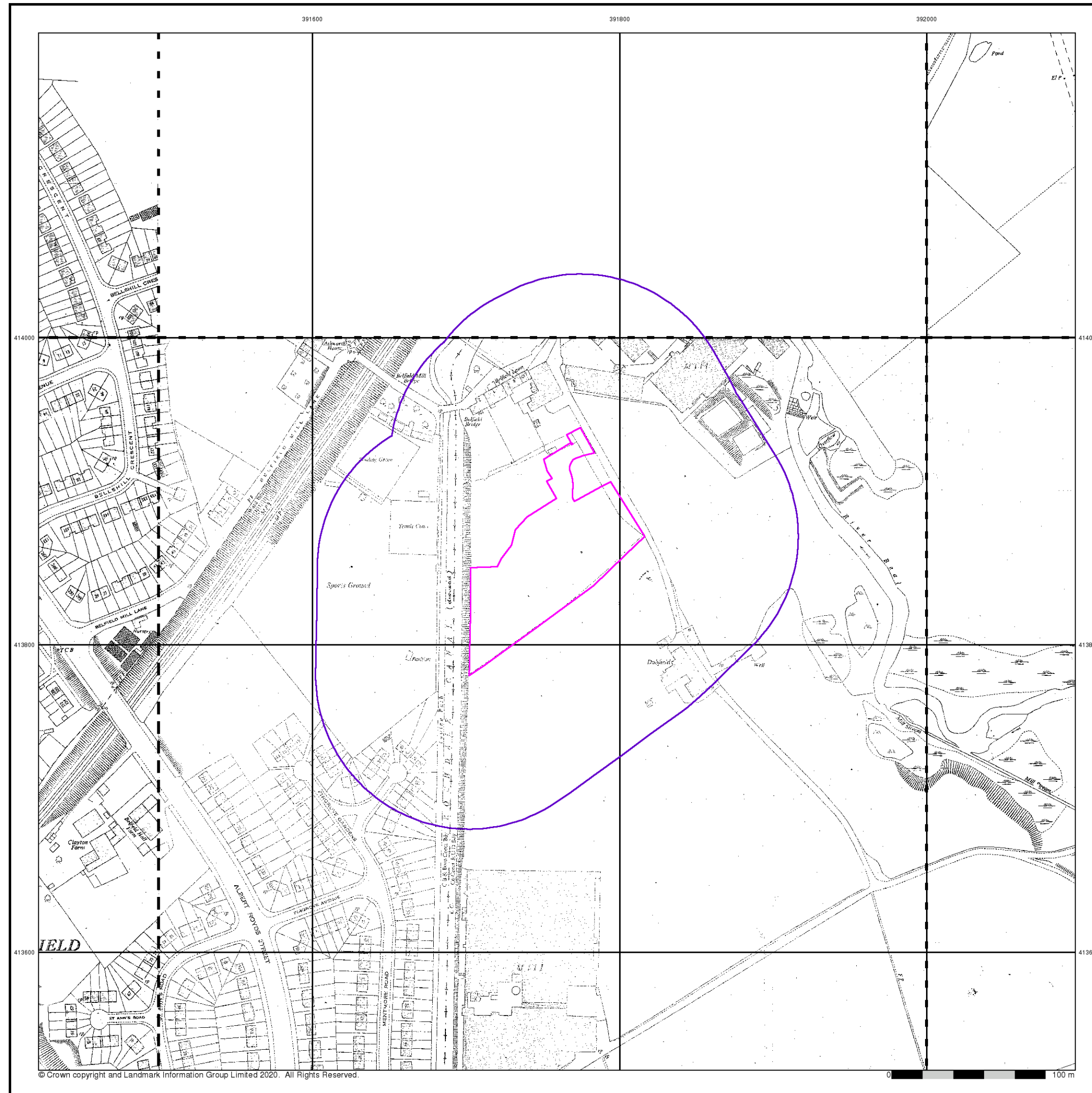
Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

0 100 m

LK GROUP

Supply of Unpublished Survey Information

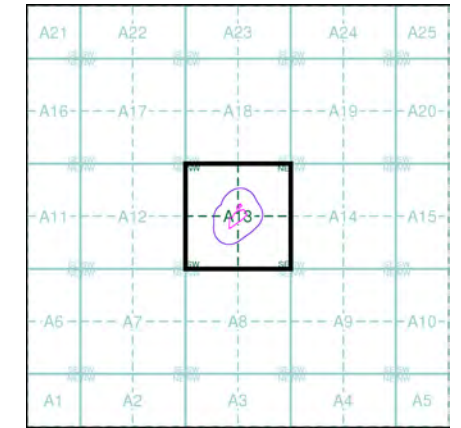
Published 1974 - 1975
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SD9114SW 1975 1:1,250	SD9214SW 1975 1:1,250
SD9113NW 1974 1:1,250	SD9113NE 1975 1:1,250
	SD9213NW 1975 1:1,250

Historical Map - Segment A13



Order Details

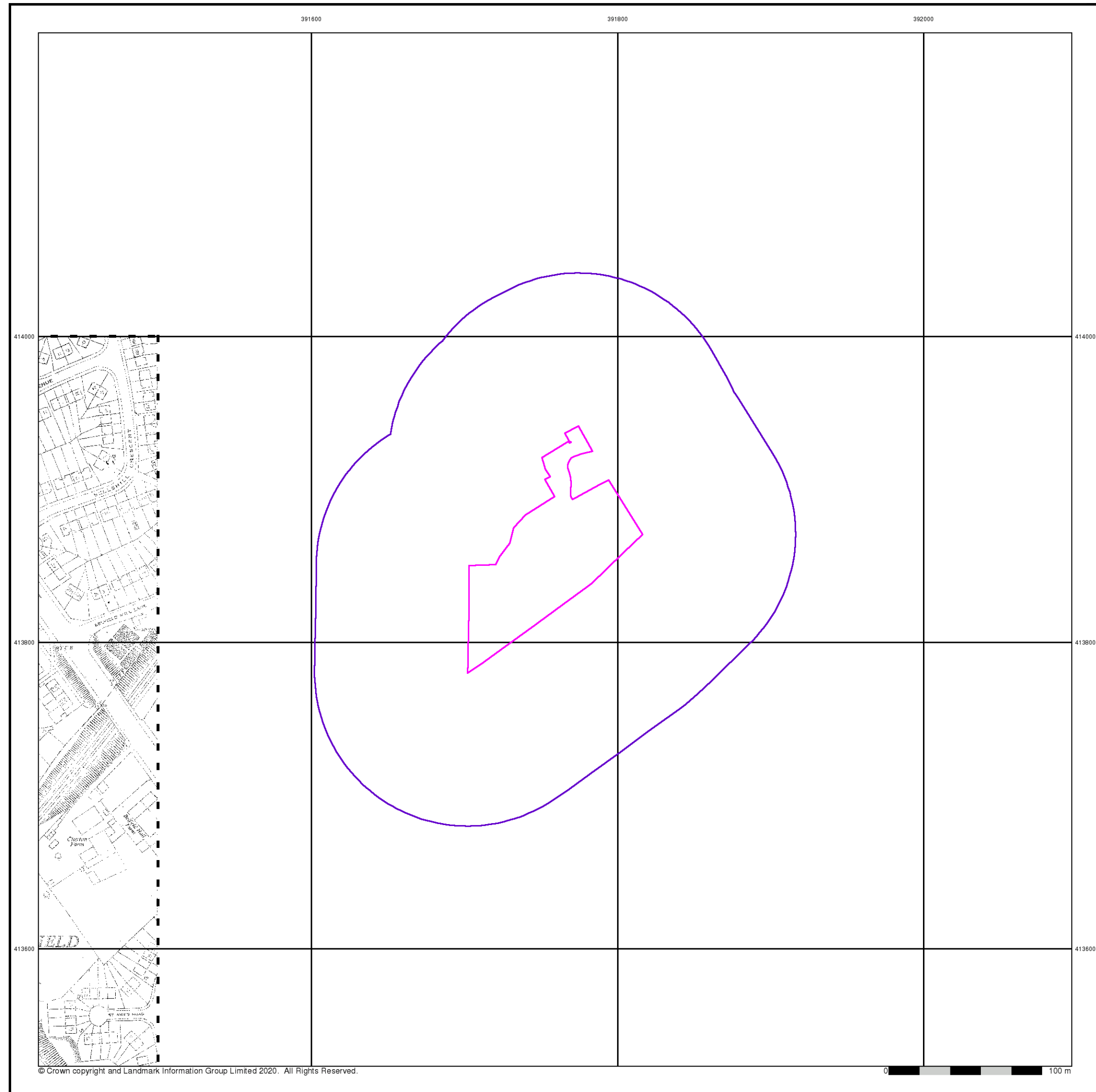
Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



LK

GROUP

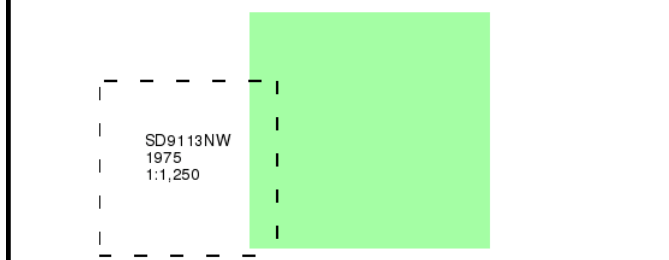
Supply of Unpublished Survey Information

Published 1975

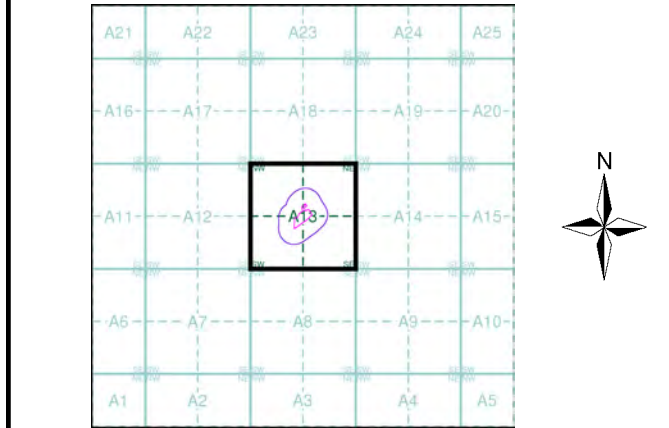
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They 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:

230105286_1_1

Customer Ref:

LKC 20 1164

National Grid Reference:

391750, 413860

Slice:

A

Site Area (Ha):

0.75

Search Buffer (m):

100

Site Details

Land at Dobfield House, Rochdale, OL16 3AW

Landmark

INFORMATION GROUP

Tel:

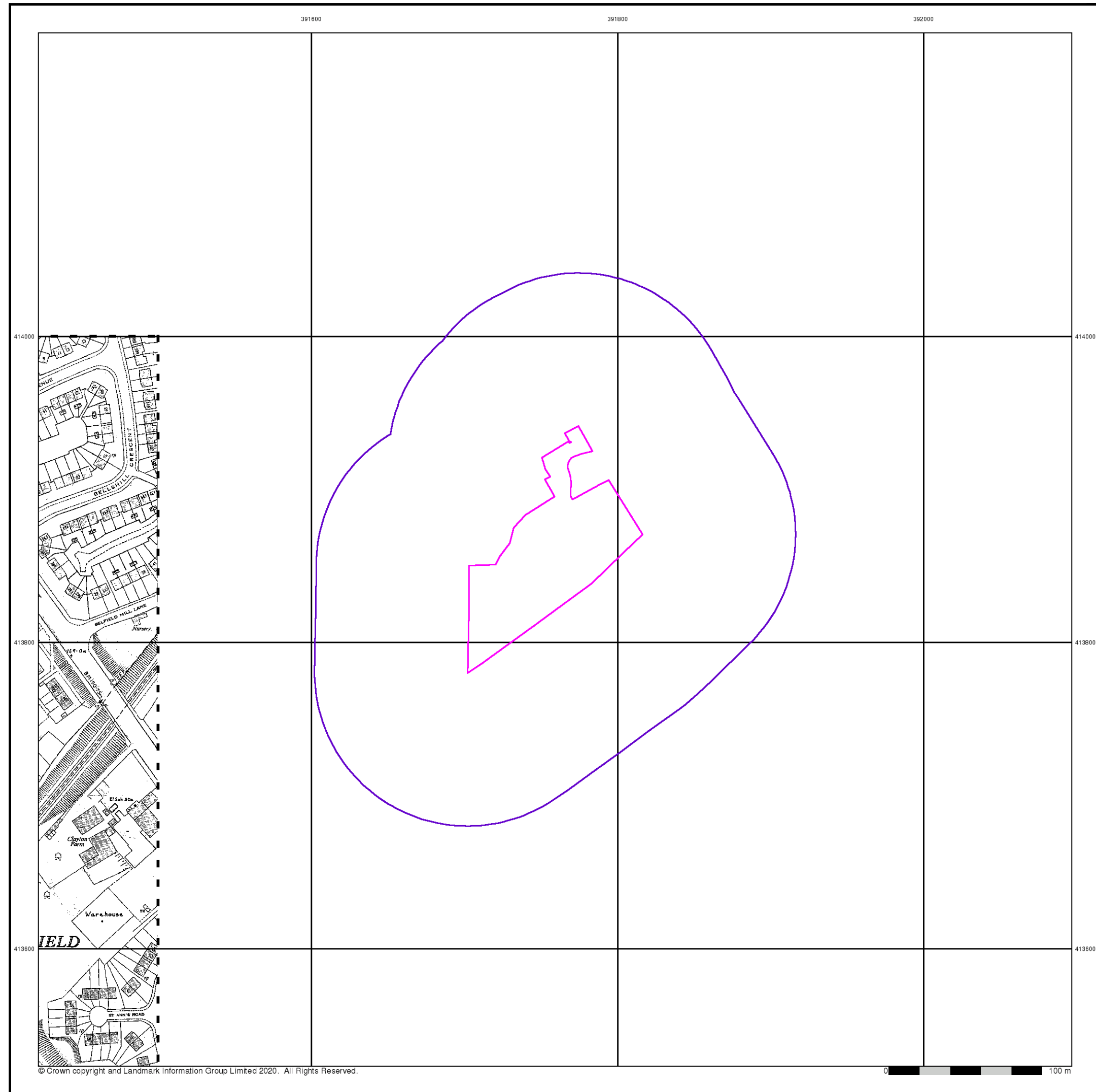
0844 844 9952

Fax:

0844 844 9951

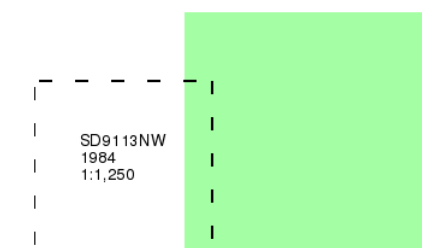
Web:

www.envirocheck.co.uk

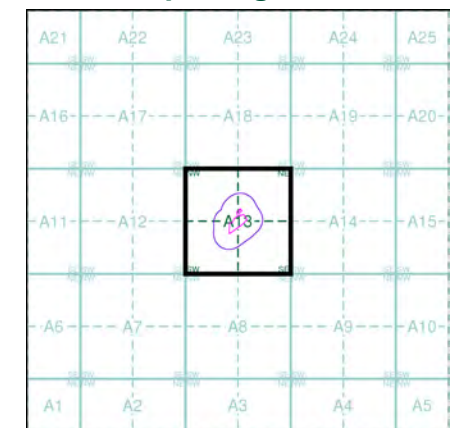


The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps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

Map Name(s) and Date(s)



Historical Map - Segment A13

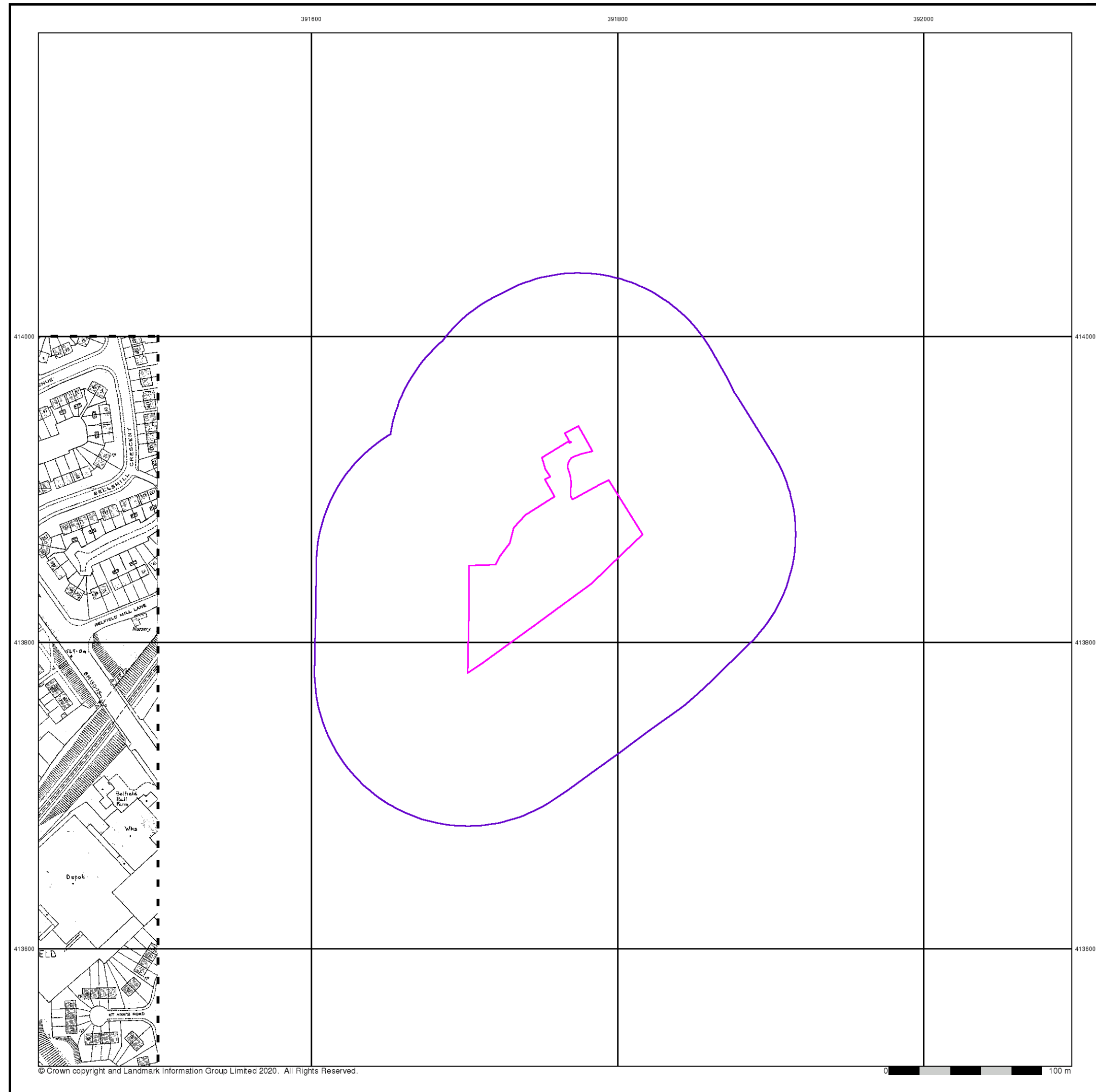


Order Details

Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

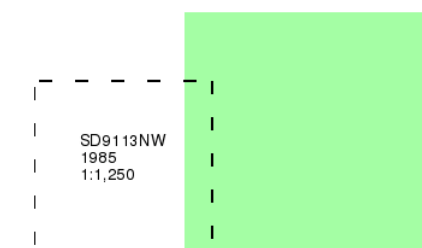
Site Details

Land at Dobfield House, Rochdale, OL16 3AW

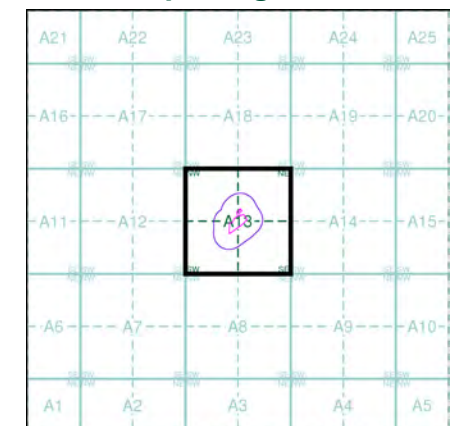


The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps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

Map Name(s) and Date(s)



Historical Map - Segment A13

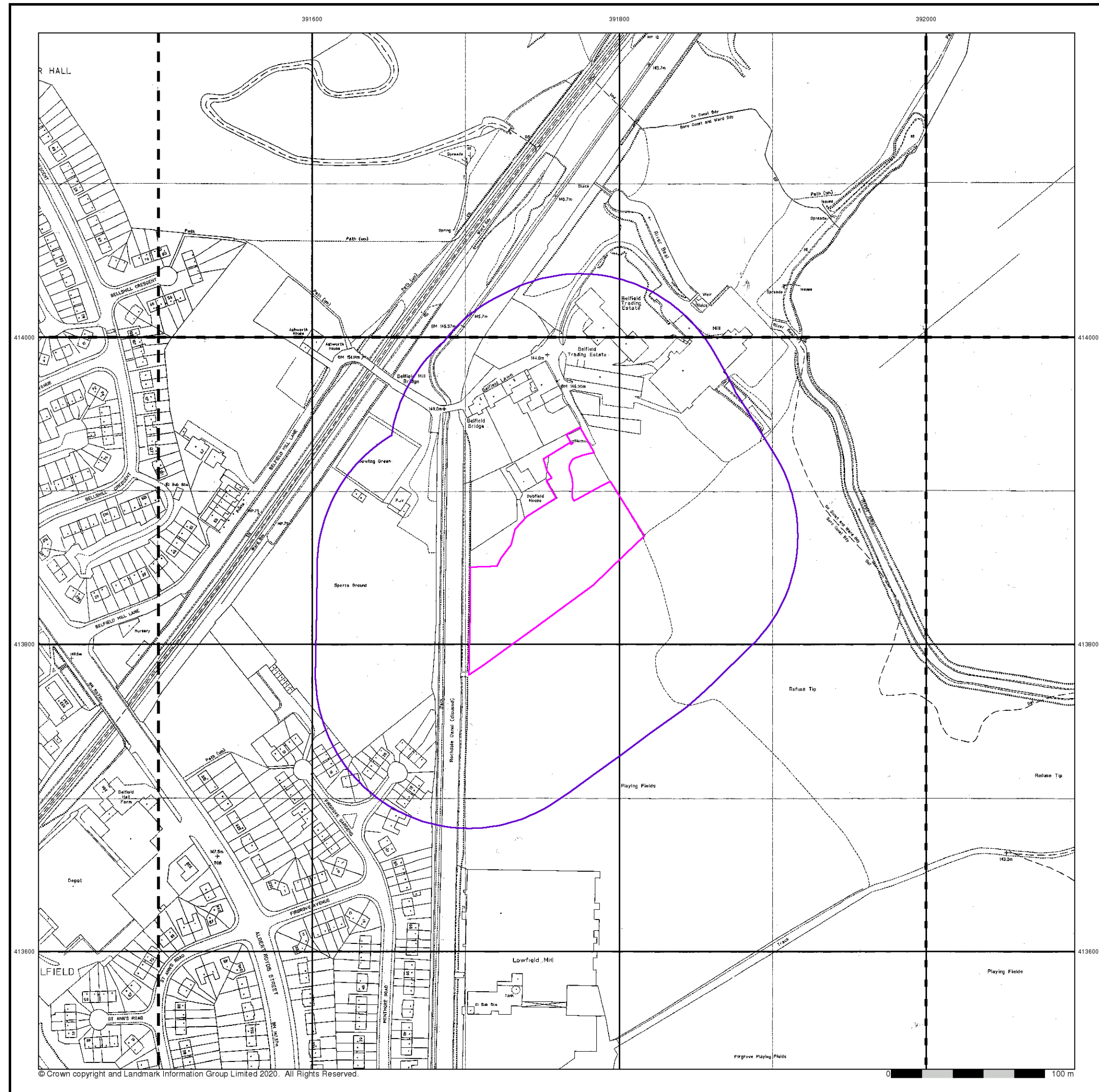


Order Details

Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



LK

GROUP

Large-Scale National Grid Data

Published 1992

Source map scale - 1:1,250

'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)

SD9114SW	SD9114SE	SD9214SW
1992	1992	1992
1:1,250	1:1,250	1:1,250
SD9113NW	SD9113NE	SD9213NW
1992	1992	1992
1:1,250	1:1,250	1:1,250

Historical Map - Segment A13

Order Details

Order Number:

230105286_1_1

Customer Ref:

LKC 20 1164

National Grid Reference:

391750, 413860

Slice:

A

Site Area (Ha):

0.75

Search Buffer (m):

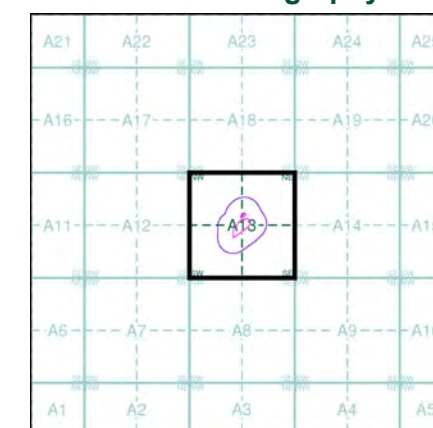
100

Site Details

Land at Dobfield House, Rochdale, OL16 3AW

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

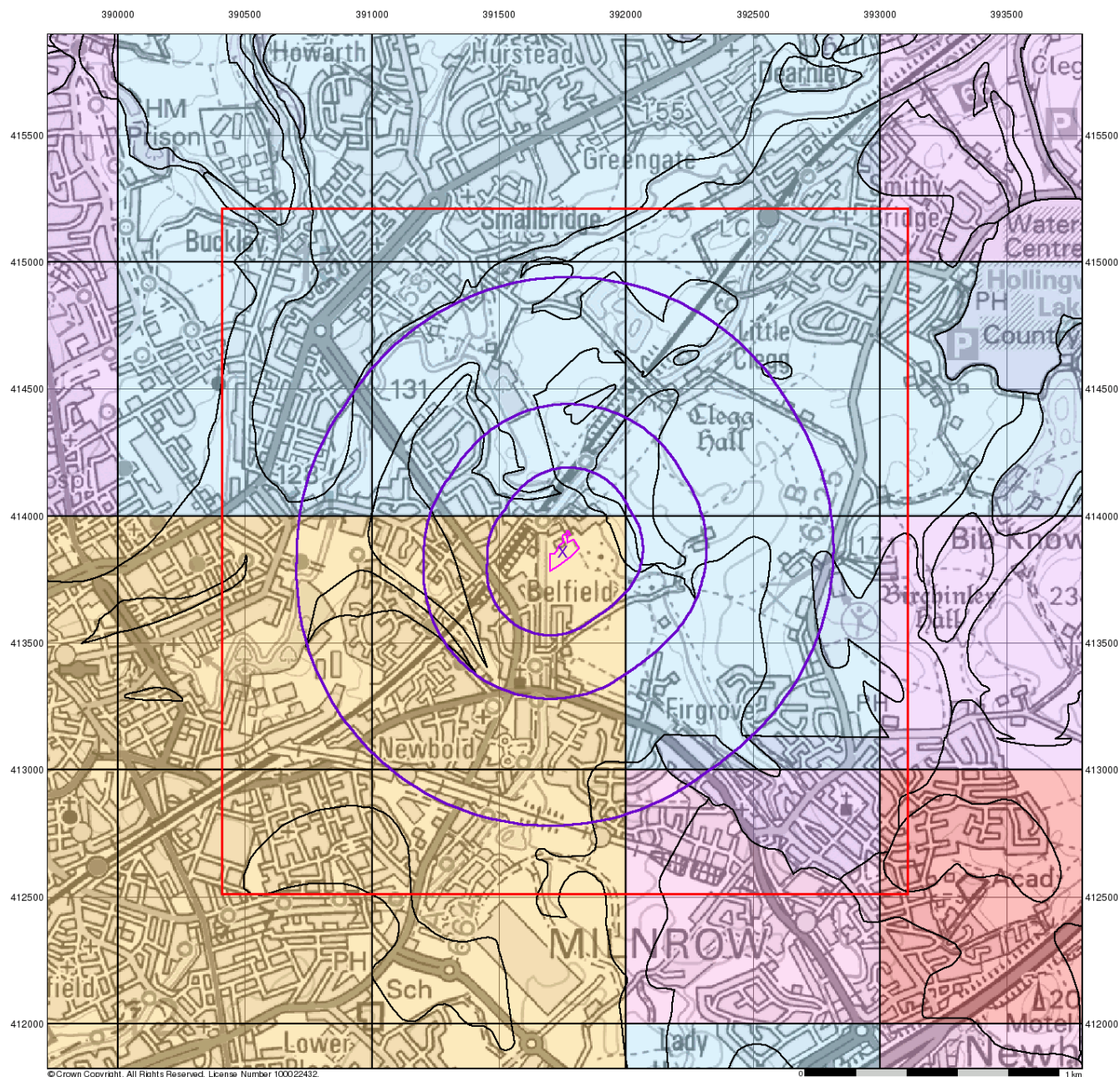
Order Number: 230105286_1_1
Customer Ref: LKC 20 1164
National Grid Reference: 391750, 413860
Slice: A
Site Area (Ha): 0.75
Search Buffer (m): 100

Site Details

Land at Dobfield House, Rochdale, OL16 3AW

Appendix B

Envirocheck Report



© Crown Copyright. All Rights Reserved. License Number 100022432.



GROUP

Groundwater Vulnerability

General

- ✱ Specified Site ○ Specified Buffer(s) X Bearing Reference Point
- Slice 8 Map ID

Agency and Hydrological

Bedrock Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

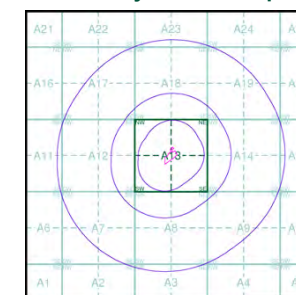
Superficial Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

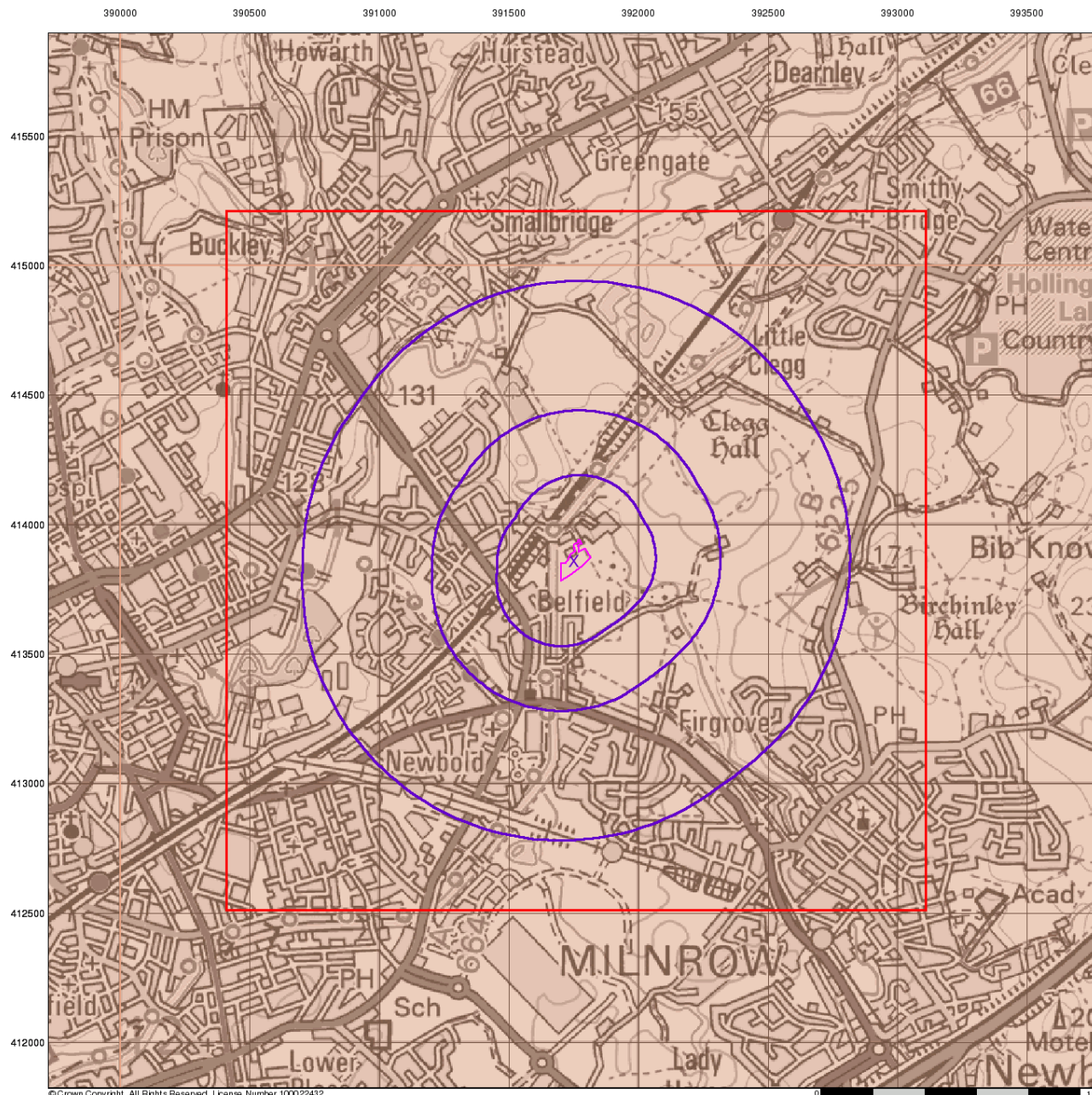
Order Number: 230105286_1_1
 Customer Ref: LKC 20 1164
 National Grid Reference: 391750, 413860
 Slice: A
 Site Area (Ha): 0.75
 Search Buffer (m): 1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW

Landmark
 INFORMATION GROUP

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



© Crown Copyright. All Rights Reserved. License Number 100022432.



GROUP

Bedrock Aquifer Designation

General

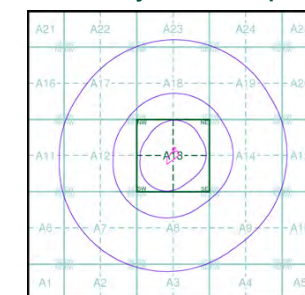
- Specified Site ○ Specified Buffer(s) X Bearing Reference Point
- Slice B Map ID

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

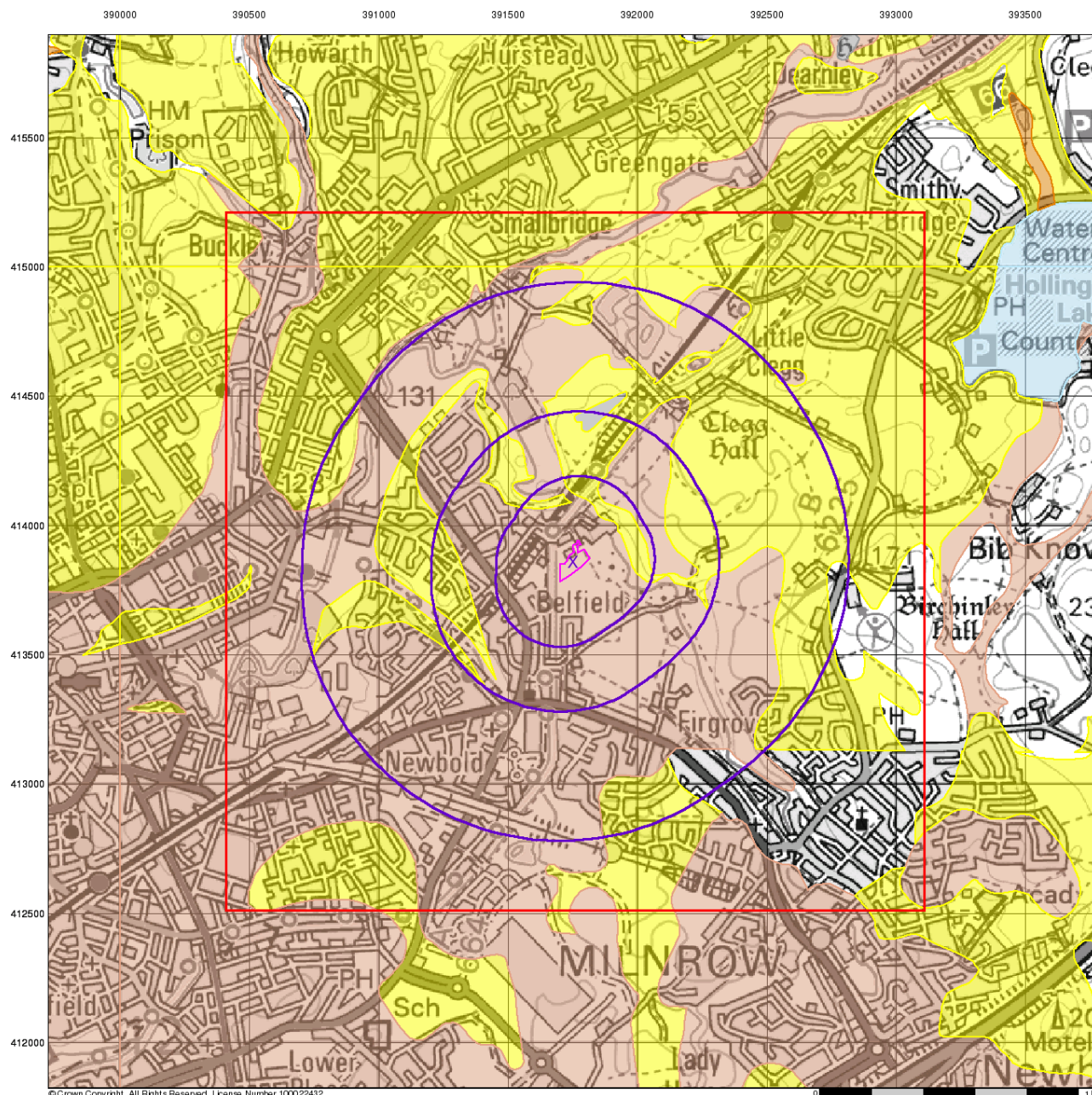
Order Number: 230105286_1_1
 Customer Ref: LKC 20 1164
 National Grid Reference: 391750, 413860
 Slice: A
 Site Area (Ha): 0.75
 Search Buffer (m): 1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



© Crown Copyright. All Rights Reserved. License Number 100022432.

0 1 km



GROUP

Superficial Aquifer Designation

General

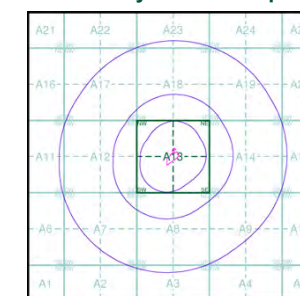
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

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

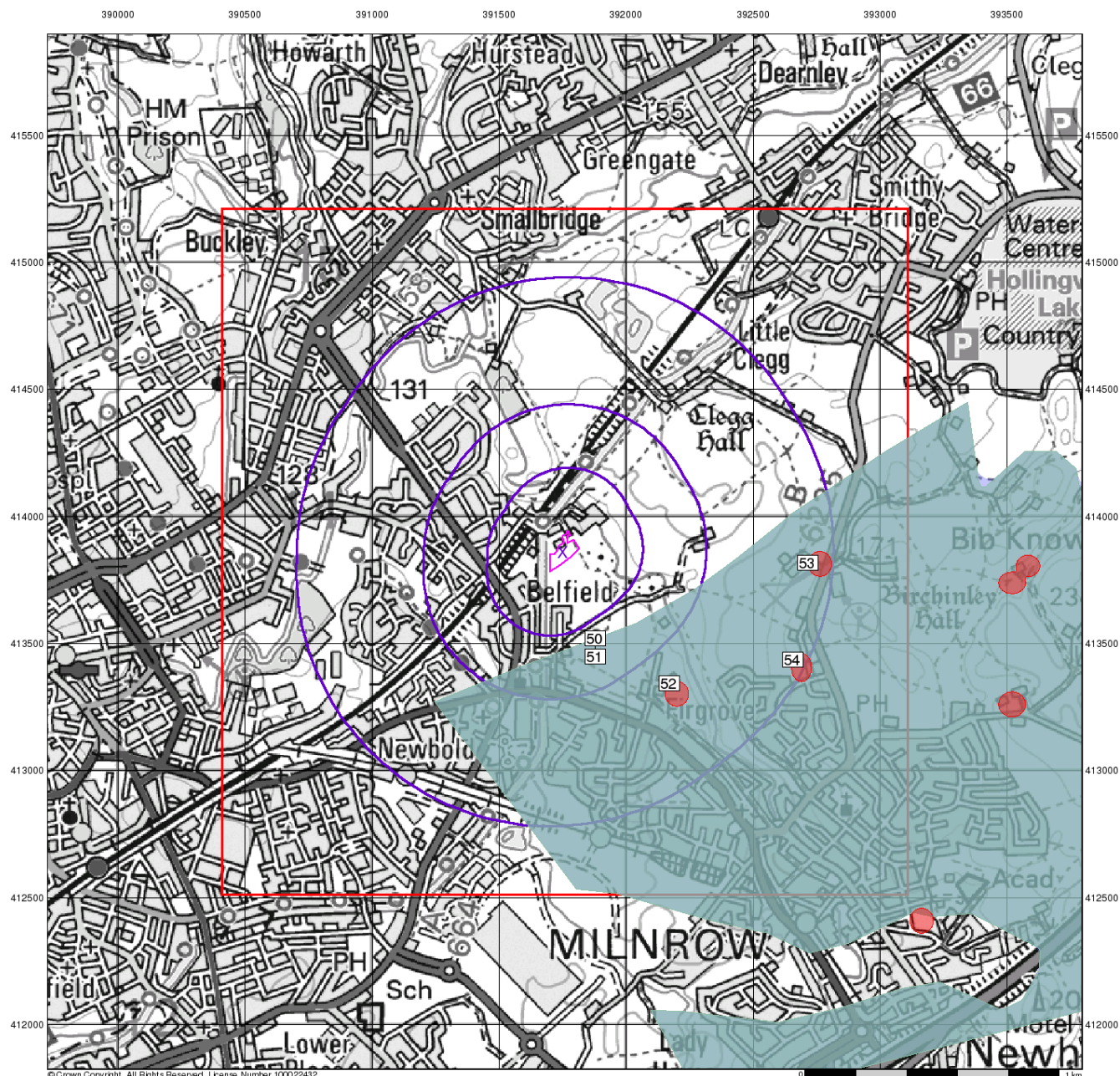
Order Number: 230105286_1_1
 Customer Ref: LKC 20 1164
 National Grid Reference: 391750, 413860
 Slice: A
 Site Area (Ha): 0.75
 Search Buffer (m): 1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW



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



© Crown Copyright. All Rights Reserved. License Number 100022432.



GROUP

Source Protection Zones

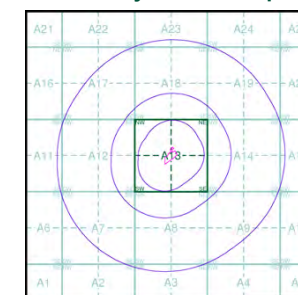
General

- 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



Order Details

Order Number: 230105286_1_1
 Customer Ref: LKC 20 1164
 National Grid Reference: 391750, 413860
 Slice: A
 Site Area (Ha): 0.75
 Search Buffer (m): 1000

Site Details

Land at Dobfield House, Rochdale, OL16 3AW

Landmark
 INFORMATION GROUP

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