



## **Phase 1**

# **Environmental Assessment Report**

**Land to the Rear of Wells Street**

**Bury**

**BL9 0TU**

**Date: 28th October 2022**

**Version 2**

**ENVIROSOLUTION LTD**

Suite 53

3a Bridgewater Street

Liverpool

L1 0AB



## EnviroSolution Ltd

### Document Verification

|                     |                                                |                       |                                                                                       |
|---------------------|------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|
| <b>Site Address</b> | Land to the Rear of Wells Street, Bury BL9 0TU |                       |                                                                                       |
| <b>Report Title</b> | Phase 1 Environmental Site Assessment Report   |                       |                                                                                       |
| <b>Job Number</b>   | CL101                                          | <b>Document Ref.</b>  | CL101                                                                                 |
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| <b>Prepared by</b>  | Angel Arantegui                                | <b>Signature</b>      |  |
| <b>Checked by</b>   | Tom Craig                                      | <b>Signature</b>      |  |



### Executive Summary

The preliminary environmental site assessment indicates that the site can be classified as moderate risk in terms of contamination and the risks to the identified receptors (e.g. human health and buildings) following any development is considered to be moderate.

This classification based on previous site use development as timber yards, housing and allotment gardens, and the potential for Made Ground to be present within the shallow soils at the site. Additionally, several off-site land uses have been identified in the area that have the potential to contaminate the shallow soils. These include disused railway tracks, garage, timber yard, plant nursery, allotment gardens, engineering works, coal sidings, tramway, electricity substation and depot. Associated contaminants could include, herbicides, heavy metals, sulphates, inorganic compounds, acids/alkalis, organic solvents, preservatives.

The site lies within a Development Area for previous coal mining, as defined by the Coal Authority.

## Disclaimer

This report has been prepared by EnviroSolution Ltd who has 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.

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# 1 Introduction

## 1.1 Background

EnviroSolution Ltd was commissioned to undertake a Phase 1 Environmental Site Assessment at a site located at Wells Street in Bury. This report was commissioned to provide information on the potential contamination status of the site.

## 1.2 Objectives

The objective of the preliminary environmental site assessment was:

1. To provide a summary of the environmental setting and historical land use of the site and immediate surrounding area.
2. To obtain information on the ground conditions present beneath the site.
3. To develop a conceptual site model and complete a generic quantitative risk assessment to identify any environmental risks and liabilities associated with ground conditions at the site.

## 1.3 Scope of Work

To achieve the objectives, the following scope of work was completed:

1. A desk-based study of the site comprising a review of available environmental information for the site such as geological and hydrogeological data and historical land use information.
2. A site walkover survey.
3. Assessment of potential hazards and constraints during construction and longer term.

This work has been devised to generally comply with the relevant principles and requirements of the following legalisation and guidance:

- Part IIA of the Environmental Protection Act, 1990 and Section 57 of the Environmental Act 1995;
- Contaminated Land (England) (Amendment) Regulations 2012 and Contaminated Land Statutory Guidance (DEFRA, April 2012);
- National Planning Policy Framework (Ministry of Housing, Communities and Local Government, February 2019);
- BS10175: 2011 +A2:2017 "Investigation of Potentially Contaminated Sites- Code of Practice"; and

- Environment Agency (2020) Land Contamination Risk Management Report LCRM “How to assess and manage the risks from land contamination”.

#### 1.4 Information Sources

Historical Ordnance Survey maps have been obtained from historical records, ranging from 1849 to 2022. These maps provide high quality information on historical site use.

The British Geological Survey Geoindex database has been used to provide information on geo-environmental aspects of the site and the immediate surrounding area such as geological, hydrogeological and hydrological data.

The Environment Agency website ([www.gov.uk/government/organisations/environment-agency](http://www.gov.uk/government/organisations/environment-agency)) and Magic website ([www.magic.gov.uk](http://www.magic.gov.uk)) was also used to obtain environmental information.

Industry Profiles produced by the Department of the Environment were utilised to obtain information on processes, materials and wastes associated with potential contaminative land uses near the site.

Readily available information sources have been used to produce this desk-based study. Additional information may be requested by the Local Planning Authority (e.g. local authority environmental information request).

## 2 The Site

### 2.1 Site Location

The site is located to the rear of Wells Street, Bury BL9 0TU. The British National Grid Reference for the approximate site centre is GR: 380039, 410082.

The site location is shown on **Figure 1** in **Appendix A**.

### 2.2 Site Description

The site description has been prepared following a walkover survey conducted by EnviroSolution Ltd on the 7<sup>th</sup> of October 2022. The site photographs are included in **Appendix B**.

The site is irregular in shape and covers an approximate area of 1,350 square metres.

The site is located in Bury and it is subdivided in 3 no. triangular shaped parcels having several access points from Wells Street, Black Wells Street, Barker Street and Back Manchester Old Road.

The site has been unused for a number of years, and it is mostly inaccessible due to dense vegetation. Only parcel 2 was partially accessible. There were rubbish bags, an old bench, and plant pots, and other equipment from old greenhouses that used to be on-site. There is a derelict garage at the end of Black Wells Street, which approximately marks the boundary between parcels 1 and 2.

Boundaries are made of a combination of chain link and mesh security fence, and wooden panels. The site is bounded by a tramway line along the northwest, and residential properties and streets to the south and east.

The site is gently sloping towards the southwest with an approximate mean elevation of 86m .

Land use in the surrounding area is mixed residential and light industrial.

No petrol filling stations have been identified within a 250m radius of the site.

The existing site plan is shown on **Figure 2** which is included in **Appendix A**.

### 2.3 Development Proposals

At this stage it is understood that future development plans could include the construction of 4. terraced dwellings.

A superseded proposed development plan is shown on **Figure 3** which is included in **Appendix A**.

## 2.4 Site History

The development site and surrounding area has been reviewed with reference to historical Ordnance Survey (OS) maps. The history of the site and immediate surrounding area is summarised in Table 1. Copies of the historical OS maps are included in **Appendix C**. A search buffer of 250m has been used.

*Table 1 - Historic Mapping Review*

| Date | Scale   | On Site                                                                                                                  | Off Site                                                                                                                                                                                                                                                                                 |
|------|---------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1849 | 1:1,056 | The site is an undeveloped parcel of land.                                                                               | <p>Surrounding land partially developed and occupied by residential properties to the north and east.</p> <p>Railway tracks 30m northwest.</p> <p>Locomotive depot 75m northwest.</p> <p>Engine House 115m northwest.</p> <p>Timber yard 30m east.</p> <p>Gravel pit 150m southeast.</p> |
| 1891 | 1:500   | <p>Undetermined buildings within the centre of the site.</p> <p>Timber yard occupying the south section of the site.</p> | <p>Moderate residential development directly east and south of the site.</p> <p>Timber yard directly south, 40m north of the site.</p> <p>Gravel pit no longer identified on map and replaced by plant nursery.</p> <p>Work 180m northwest.</p> <p>Coal sidings 130m northwest.</p>      |

| Date      | Scale    | On Site                                                                                                           | Off Site                                                                                                                                                                                     |
|-----------|----------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1910      | 1:2,500  | Old buildings demolished and replaced by residential house in the centre of the site.                             | Moderate residential development north and east of the site.<br><br>Railway cut directly along the north-western boundary of the site.<br><br>Timber yard 115m southeast and 215m northwest. |
| 1929-1930 | 1:2,500  | Undetermined buildings/sheds in the southern section of the site.<br><br>Timber yard no longer identified on map. | Tramway 115m northeast.                                                                                                                                                                      |
| 1957-1958 | 1:2,500  | No significant change.                                                                                            | Garage 80m southeast.<br><br>Allotment gardens 160m northwest.                                                                                                                               |
| 1965-1969 | 1:10,000 | No significant change.                                                                                            | No significant change.                                                                                                                                                                       |
| 1967-1984 | 1:1,250  | Buildings demolished.<br><br>Existing garage erected on site.<br><br>Small greenhouses on site.                   | Plant nursery no longer identified on map and replaced by Bury Catholic Preparatory School.<br><br>Electricity substation 475m northeast and 280m southwest.                                 |
| 1992      | 1:1,250  | No significant change.                                                                                            | Electricity substation 475m northeast.<br><br>Depot 280m southwest.                                                                                                                          |
| 1999      | 1:10,000 | No significant change.                                                                                            | No significant change.                                                                                                                                                                       |

| Date | Scale    | On Site                | Off Site               |
|------|----------|------------------------|------------------------|
| 2022 | 1:10,000 | No significant change. | No significant change. |



### 3 Environmental Setting

#### 3.1 Geology

Geological maps of the area indicate that the site is directly underlain by glaciofluvial deposits, deposited during the Pleistocene. They mainly consist of coarse-grained sediments (i.e. sand and gravel) with some finer-grained layers (i.e. clay and silt), locally with lenses of silt, clay or organic material.

The underlying bedrock is the Trencherbone Rock of the Pennine Lower Coal Measures Formation, deposited during the Carboniferous. The formation mainly consists of interbedded grey mudstone, siltstone and pale grey sandstone, commonly with mudstones containing marine fossils in the lower part, and more numerous and thicker coal seams in the upper part. A borehole (Ref: SD81SW502) was obtained from BGS online records 600m northeast. The borehole penetrates 7.43m bgl and shows 2.7m of Made Ground overlying sandy silty clay with intercalated gravelly sand and sandy gravel.

A copy of the geological maps is included in **Appendix D**. A copy of the BGS borehole records is included in **Appendix E**.

#### 3.2 Radon

The site lies within the lowest band of radon potential where it is estimated that less than 1% of the properties are above the action level (low probability). Radon protective measures are not deemed necessary for the development.

#### 3.3 Coal Mining Activity

The site falls within a coal mining reporting area described as having minimal coal deposits. The northern section of the site lies within a Development for coal mining, as defined by the Coal Authority. As such, it is considered that there may be coal mining related hazards.

A copy of the coal mining summary map is included in **Appendix F**.

#### 3.4 Hydrogeology

The glaciofluvial deposits, and the underlying Pennine Lower Coal Measures Formation are both designated as Secondary A Aquifers, defined as; permeable layers capable of supporting

water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

The site is not located within a Source Protection Zone.

There is a single record of groundwater abstraction licence located within a 1km radius of the site. It is located 690m northwest of the site and is used in a concrete plant.

A copy of the hydrogeological maps is included in **Appendix G**.

### 3.5 Hydrology

The River Irwell is located approximately 490m northwest of the site.

There are no minor surface water features located within a 250m radius of the site.

### 3.6 Flood Risk

The site lies within a Flood Zone 1 (low probability), land assessed as having less than a 1 in 1,000 annual probability of river flooding (0.01%) in any year (low risk). The completion of a detailed Flood Risk Assessment is not deemed necessary for this site.

A copy of the flood risk map is included in **Appendix H**.

### 3.7 Waste Management Facilities

There are 11 no. records of historic landfill sites located within a 1km radius of the site. The landfill information is summarised in Table 2 below:

*Table 2 – Historic Landfill Summary*

| Landfill Site                                           | Operation Dates | Waste Type     | Distance from Site |
|---------------------------------------------------------|-----------------|----------------|--------------------|
| Railway Cuttings<br>East and West of<br>Manchester Road | 1988-1988       | Inert          | 570m N             |
| Railway Cuttings<br>East and West of<br>Manchester Road | 1988-1988       | Inert          | 575m NE            |
| Railway Cutting                                         | 1991-1992       | Inert          | 810m N             |
| Peel College                                            | Unknown         | No information | 900m NE            |
| Wellington Street                                       | Unknown         | No information | 830m NW            |

| Landfill Site                | Operation Dates | Waste Type                             | Distance from Site |
|------------------------------|-----------------|----------------------------------------|--------------------|
| Wellington Road              | 1971-1971       | Industrial, commercial, household      | 645m E             |
| Land at Hinds Lane           | 1942-1992       | Inert, industrial, commercial, special | 650m SW            |
| Elton Works                  | 1984-1985       | Inert                                  | 1.5m NW            |
| Woodfields                   | 1971-Unknown    | Industrial, commercial, household      | 955m NE            |
| Ainsworth Road               | 1976-1990       | Inert                                  | 1.9m NW            |
| King George V Playing Fields | 1967-1974       | Inert, commercial, household           | 970m NW            |

A copy of the historic landfill map is included in **Appendix I**.

There are no records of currently authorised landfill sites located within a 1km radius of the site.

There are 2 no. records of sites operating under an environmental permit for waste operations within a 1km radius of the site. The nearest permit is held by R T K Grab Hire Ltd 850m west of the site for treatment of waste to produce soil.

### 3.8 Environmental Permits, Incidents and Registers

There are 4 no. records of sites located within a 1km radius of the development site operating under an environmental permit for discharges to water and groundwater. The nearest is held by Mr JC Lees 820m north of the site.

There are 2 no. records of sites located within a 1km radius of the development site operating under an environmental installation permit. The nearest permit is held by Milliken industrials Ltd 750m northwest of the site for coating, printing and textiles.

### 3.9 Designated Environmentally Sensitive Sites

There is a single record of designated environmentally sensitive site located within a 1km radius of the site.

The environmental designations are summarised in Table 3 below:

*Table 3 - Environmental Designations Summary*

| Designation | Distance | Details                                                                                        |
|-------------|----------|------------------------------------------------------------------------------------------------|
| Green Belt  | 860m     | The Liverpool, Manchester and West Yorkshire Green Belt is located 960m southwest of the site. |

A copy of the environmental designations map is included in **Appendix J**.

## 4 Preliminary Conceptual Site Model

### 4.1 Introduction

In order to assess the environmental risks present, a preliminary conceptual model has been developed for the site. This model has been developed using best practice guidelines in conjunction with the current assessment framework taking into account the development proposals. This preliminary conceptual model is based on the gathered desk-based information (e.g. historical OS data and data sourced from the EA, Geoindex and Magic databases).

The conceptual site model is a representation of the hypothesised relationships between sources, pathways and receptors which allows the identification of potential pollutant linkages and whether these linkages have the potential to comprise significant harm and/or pollution of controlled waters in relation to the site. This model comprises three elements:

Source – the key pollutant hazards associated with the site

Receptor – the key targets at risk from the sources

Pathway – the means by which the contaminant can cause harm to the receptor

If all three elements are present, then a potential pollutant linkage exists, and this may require further assessment.

### 4.2 Potential Contamination Sources

Historically, the site remained vacant until the second half of the 19<sup>th</sup> century, when undetermined buildings were erected in the centre of the site and the southern section was used by a timber yard. During the 1900s the old buildings were demolished and replaced by a residential house. Additional buildings/sheds were erected in the southern section of the site during the 1910s to 1920s. Most of the structures on-site were demolished around the 1970s, and the existing garage and some small greenhouses were built. The presence of Made Ground is possible as a result of historic demolition and redevelopment works. Potential contaminants associated with these land uses include heavy metals, polycyclic aromatic hydrocarbons (PAHs), inorganic compounds, acids/alkalis, organic solvents and preservatives,

### 4.3 Receptors

The potential receptors considered to be at risk from soil and groundwater contamination associated with the site are summarised in Table 5 below:

*Table 5 - Receptor Description*

| Receptor                         | Details                                                                                                                        |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Human (On Site)                  | <ul style="list-style-type: none"> <li>- Construction workers</li> <li>- Future site users</li> <li>- Site visitors</li> </ul> |
| Human (Off Site)                 | <ul style="list-style-type: none"> <li>- Adjacent site users</li> </ul>                                                        |
| Controlled Waters                | <ul style="list-style-type: none"> <li>- Secondary A Aquifer</li> <li>- River Irwell</li> </ul>                                |
| Building/ construction materials | <ul style="list-style-type: none"> <li>- Foundations</li> <li>- Buried services</li> </ul>                                     |
| Environmental Receptors          | <ul style="list-style-type: none"> <li>- Green Belt</li> </ul>                                                                 |

### 4.4 Pathways

The potential exposure pathways linking contamination with the receptors identified above are summarised in Table 6 below:

*Table 6 - Exposure Pathways Summary*

| Receptor        | Details of Exposure Pathway                                                                                                                                                 |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Human (on-site) | <ul style="list-style-type: none"> <li>- Direct ingestion of contaminated soil/groundwater</li> <li>- Dermal contact with soil/groundwater</li> <li>- Ground gas</li> </ul> |

| Receptor              | Details of Exposure Pathway                                                                                                                                                                                                         |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Human (off-site)      | <ul style="list-style-type: none"><li>- Inhalation of fibres and particulates</li></ul>                                                                                                                                             |
| Controlled waters     | <ul style="list-style-type: none"><li>- Vertical and lateral migration of dissolved phase contaminants via preferential pathways to groundwater aquifers</li><li>- Direct surface water run-off to surface water features</li></ul> |
| Building/construction | <ul style="list-style-type: none"><li>- Buried materials/services - Contact with contaminated soil and/or groundwater</li></ul>                                                                                                     |

## 4.5 Potential Pollution Linkages

### 4.5.1 Human Health

At this stage it is understood that future development plans could include the construction of 4 no. terraced dwellings. This is considered to be a sensitive end use.

The presence of buildings and hardstanding would eliminate the risk of exposure, via the dermal contact and ingestion pathways to future site users to any ground contamination that may remain following development.

There could be a potential risk of exposure to any ground contamination that remains following redevelopment in any areas of soft landscaping (i.e. gardens), to future site users, via all possible exposure pathways.

There is the potential for construction workers and adjacent land users to be exposed to soil and groundwater contamination during any future site redevelopment. However, the use of appropriate PPE and the adoption of suitable Health and Safety methods will help to reduce the risks posed to human health during this work.

#### 4.5.2 Controlled Waters

The site is immediately underlain by glaciofluvial deposits which are designated as a Secondary A Aquifer. It is considered that if Made Ground or any contamination are present at the surface, it would be in direct contact with the underlying aquifer and could allow the migration of contaminants to the groundwater.

The site does not lie within a Source Protection Zone.

There is a single groundwater abstraction licence held 690m northwest of the site and is used for industrial purposes for a concrete plant. This is not considered to be a sensitive end use.

The River Irwell is located 490m northwest of the site. This is considered to be a high sensitivity receptor. However, migration of contaminants via direct surface water run-off is deemed unlikely due to the distance from the site.

Overall, the risk to controlled waters is deemed to be low.

#### 4.5.3 Building/Construction Materials/Buried Services

The presence of any soil and groundwater contaminants beneath the site could potentially impact on construction materials for future new developments, such as below ground structures and services. Concrete foundations are particularly sensitive to aggressive ground conditions, i.e. sulphate attack.

#### 4.6 Environmental Designations

The proposed development is not considered to pose a risk to the identified environmental receptors.

#### 4.7 Preliminary Hazard Assessment

A preliminary hazard assessment is presented in Table 7. The preliminary hazard assessment is a qualitative assessment of the risks posed by each potential pollutant linkage described above and is used to identify the requirement for additional work.



Table 7 – Preliminary Hazard Assessment

| Source 1                      | Pathway                                                                                                                              | Receptor                                                         | Likelihood | Effect | Risk     | Assessment                                                                                                                                                                                                                                                    |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contaminated soil             | Ingestion (via soil dust), inhalation (via soil dust and vapours),<br>ingestion through dirty hands, dermal contact with soil/water. | Future site users<br>Adjacent site users<br>Construction workers | 3          | 3      | Moderate | Contamination source potential identified.<br>Potential areas of soft landscaping provide exposure pathway.<br>Risk of exposure via inhalation of vapours.                                                                                                    |
| Contaminated soil groundwater | Direct contact                                                                                                                       | Buildings/ services                                              | 2          | 3      | Moderate | Contamination source potential identified.<br>New buildings/underground services in direct contact with potentially contaminated soils.                                                                                                                       |
| Contaminated groundwater      | Downward or lateral migration<br>Surface water run-off                                                                               | Secondary A Aquifer<br>River Irwell                              | 1          | 3      | Low      | Contamination source potential identified.<br>The site does not lie within a Source Protection Zone.<br>Groundwater abstraction licence within a 1km radius of the site for low sensitivity end use.<br>River Irwell located at a distance greater than 250m. |

| Source 1                             | Pathway                               | Receptor                                                                                    | Likelihood | Effect | Risk | Assessment                                                                                                                                                                                                              |
|--------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------------|------------|--------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ground gas /<br>vapours<br><br>Radon | Inhalation, ingress<br>into buildings | Buildings / services<br>Future site users<br>Adjacent site users<br>Construction<br>workers | 4          | 4      | High | gas source from previous on-site coal mine<br>shaft.<br>Site located within a low probability area for<br>radon.<br>Vapour source identified from historic on-site<br>timber yard and nearby petroleum spirit<br>store. |

Using Risk Matrix (Table 8) Degree of Risk (R) = Likelihood (L) x Effect (E)

Table 8 - Risk Matrix, Degree of Risk (R) = Likelihood (L) x Effect (E)

| Likelihood | Description    | Probability                                                    | Effect (E) | Description |
|------------|----------------|----------------------------------------------------------------|------------|-------------|
| 5          | Almost certain | >70%                                                           |            |             |
| 4          | Probable       | 50-70%                                                         | 4          | Severe      |
| 3          | Likely         | 30-50%                                                         | 3          | Medium      |
| 2          | Unlikely       | 10-30%                                                         | 2          | Mild        |
| 1          | Negligible     | <10%                                                           | 1          | Minor       |
| Risk (R)   | Risk Level     | Action                                                         |            |             |
| 1-5        | Low            | None required                                                  |            |             |
| 6-10       | Moderate       | Further assessment via Phase 2 intrusive ground investigation. |            |             |
| >10        | High           | Further assessment via Phase 2 intrusive ground investigation. |            |             |

## 5 Conclusions and Recommendations

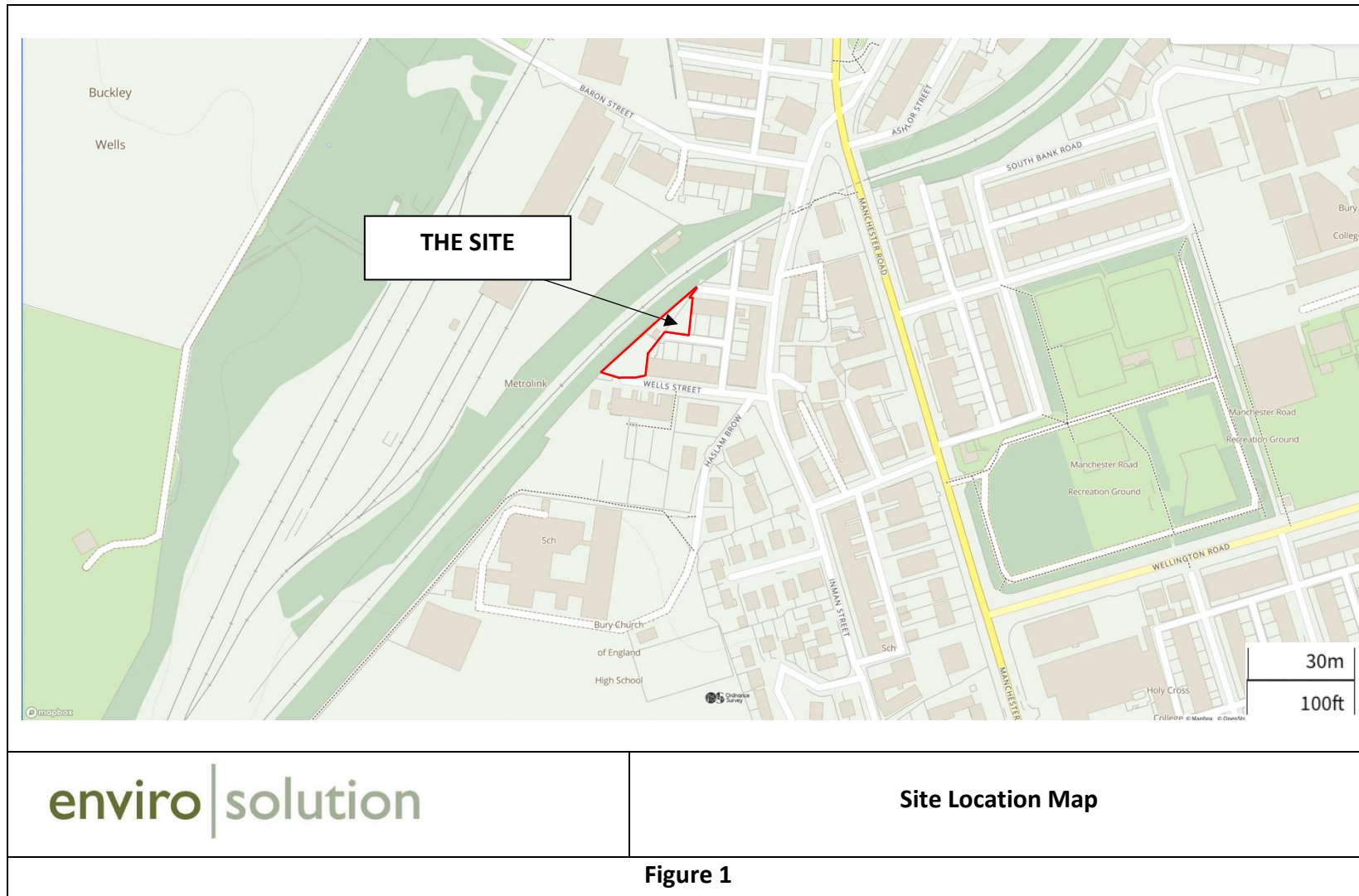
The preliminary environmental site assessment indicates that the site can be classified as moderate risk in terms of contamination and the risks to the identified receptors (e.g. human health and buildings) following any development is considered to be moderate.

This classification is due to previous site use development as timber yards, housing and allotment gardens, and the potential for Made Ground to be present within the shallow soils at the site. Coal Authority mapping also shows records of a previous mine shaft within the site boundary. Additionally, several off-site land uses have been identified in the area that have the potential to contaminate the shallow soils.

It is recommended a Phase 2 ground investigation is undertaken prior to site development to obtain additional information on the ground conditions and the contamination status.

## APPENDICES

## Appendix A – Site Location and Site Plan







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Existing Site Plan

Figure 2





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Southern boundary of site (Parcel 1)



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View of old garage (Parcel 2) from Black Wells  
Street looking west





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Inside of old garage



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View of Parcel 2 looking southwest showing  
overgrown vegetation and old garage





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View of tram tracks from site looking northwest



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View of Parcel 2 looking northeast





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**Rubbish bags on-site**

## Appendix C – Historic 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 Boundary Post or Stone                                         |  | Police Station                                          |
|  | Church                                                                |  | Post Office                                             |
|  | Club House                                                            |  | Public Convenience                                      |
|  | Fire Engine Station                                                   |  | Public House                                            |
|  | Foot Bridge                                                           |  | Signal Box                                              |
|  | Fountain                                                              |  | Spring                                                  |
|  | Guide Post                                                            |  | Telephone Call Box                                      |
|  | Mile Post                                                             |  | Telephone Call Post                                     |
|  | Mile Stone                                                            |  | 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                         |

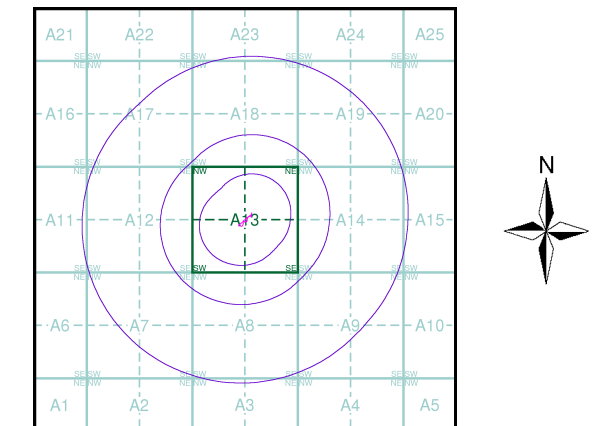
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## Historical Mapping & Photography included:

| Mapping Type           | Scale    | Date        | Pg |
|------------------------|----------|-------------|----|
| Lancashire And Furness | 1:10,560 | 1850 - 1851 | 2  |
| Lancashire And Furness | 1:10,560 | 1894        | 3  |
| Lancashire And Furness | 1:10,560 | 1910 - 1911 | 4  |
| Lancashire And Furness | 1:10,560 | 1931        | 5  |
| Lancashire And Furness | 1:10,560 | 1938 - 1939 | 6  |
| Ordnance Survey Plan   | 1:10,000 | 1955 - 1956 | 7  |
| Ordnance Survey Plan   | 1:10,000 | 1965 - 1969 | 8  |
| Ordnance Survey Plan   | 1:10,000 | 1974        | 9  |
| Ordnance Survey Plan   | 1:10,000 | 1980 - 1984 | 10 |
| Ordnance Survey Plan   | 1:10,000 | 1989        | 11 |
| Ordnance Survey Plan   | 1:10,000 | 1992        | 12 |
| 10K Raster Mapping     | 1:10,000 | 1999        | 13 |
| Street View            | Variable |             | 14 |

## Historical Map - Slice A



## Order Details

Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 1000

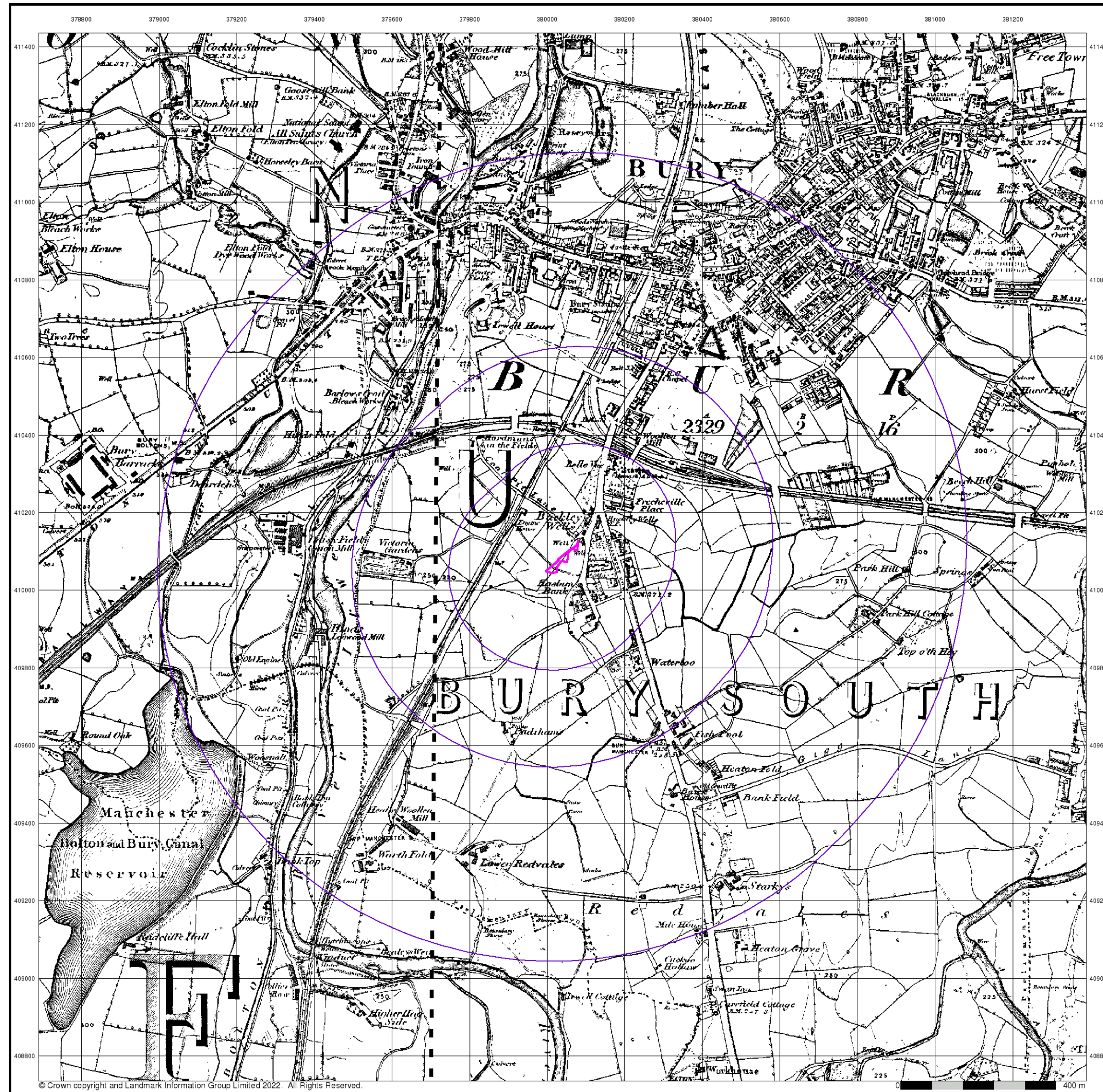
## Site Details

, 9, Barker Street, Bury, BL9 0TX

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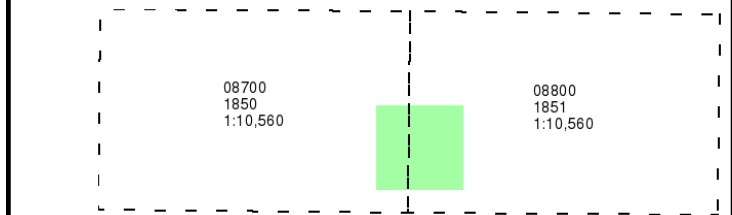
## Lancashire And Furness

Published 1850 - 1851

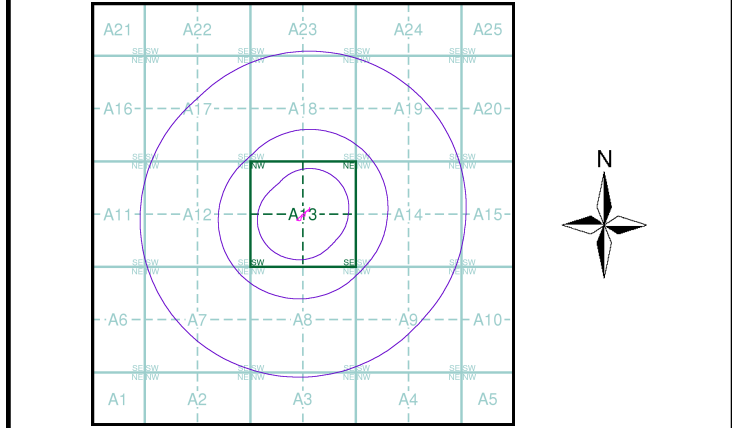
Source map scale - 1:10,560

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)



### Historical Map - Slice A

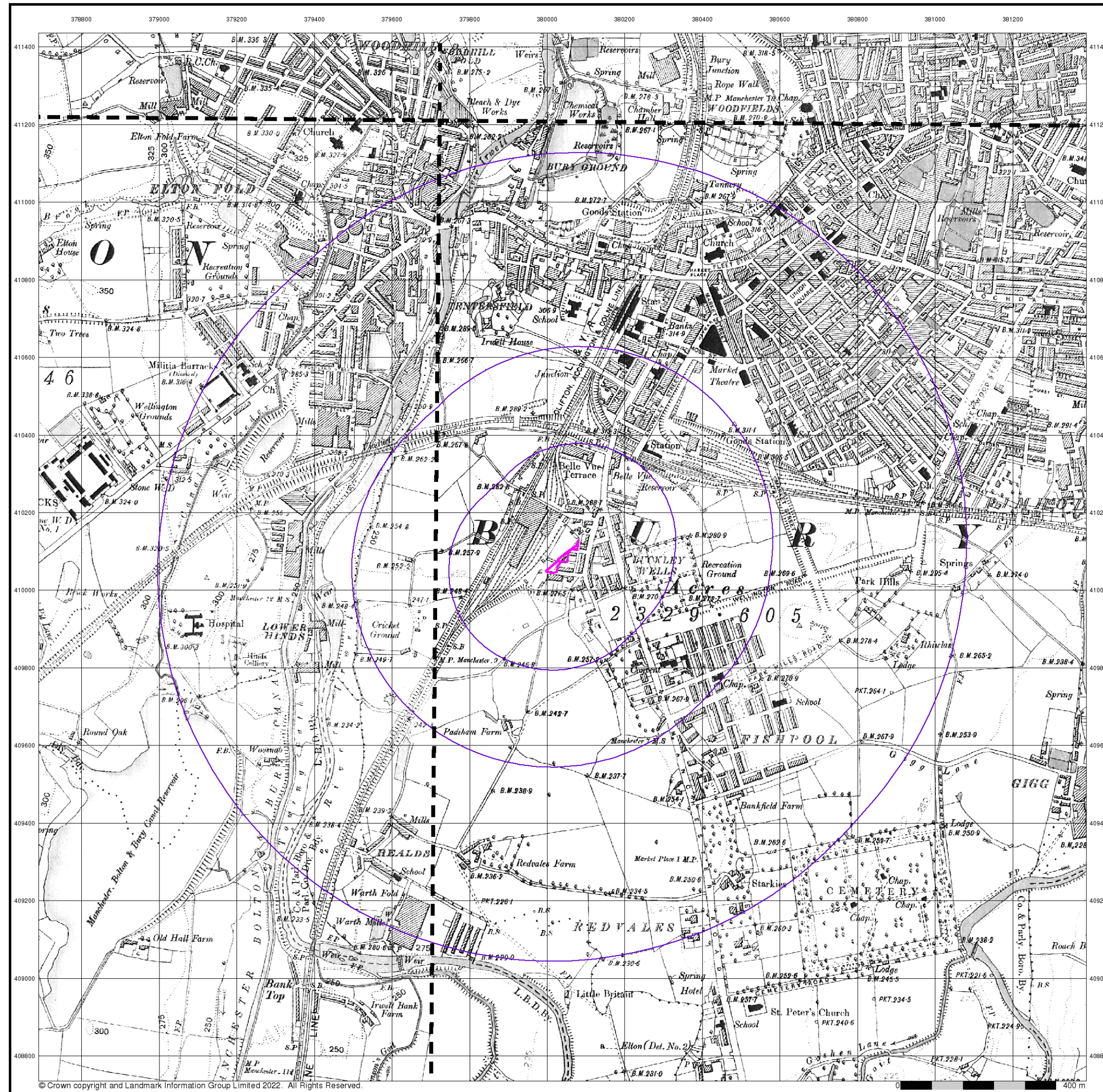


**Order Details**  
Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 1000

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## Lancashire And Furness

Published 1894

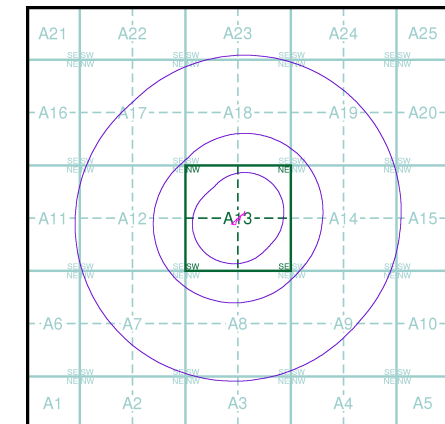
Source map scale - 1:10,560

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)

|                           |                           |
|---------------------------|---------------------------|
| 087NE<br>1894<br>1:10,560 | 088NW<br>1894<br>1:10,560 |
| 087SE<br>1894<br>1:10,560 | 088SW<br>1894<br>1:10,560 |

### Historical Map - Slice A



### Order Details

Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 1000

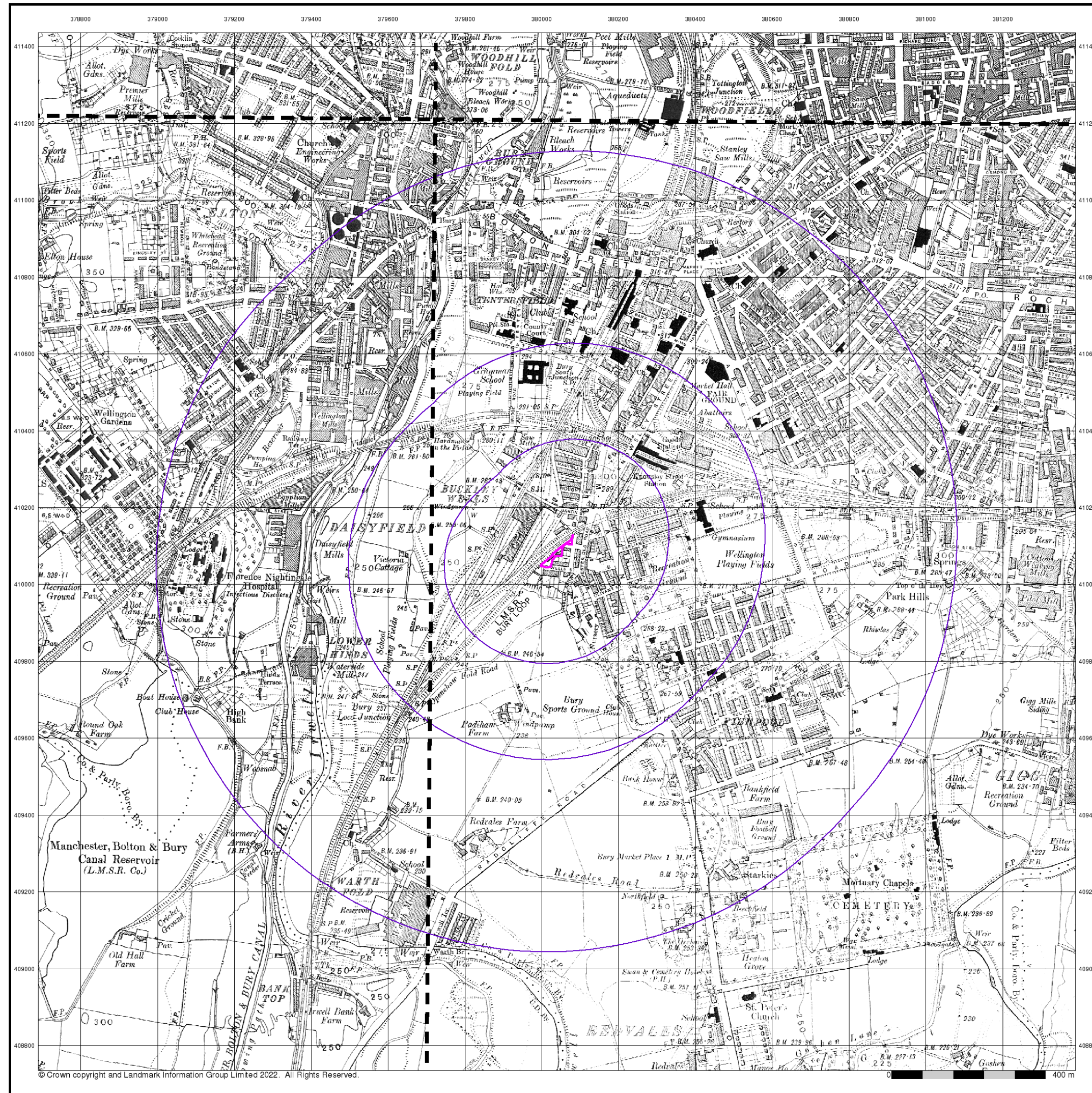
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## Lancashire And Furness

Published 1931

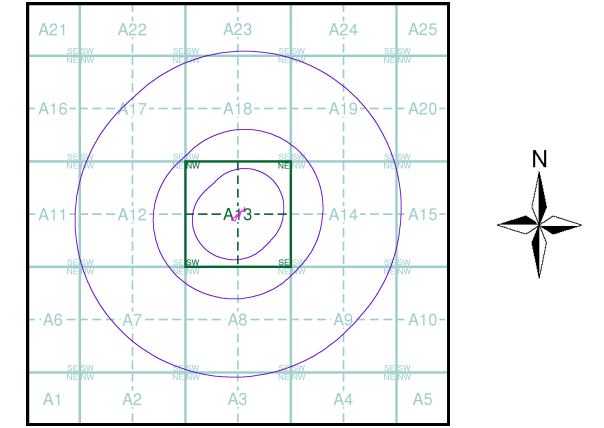
Source map scale - 1:10,560

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)

|                           |                           |
|---------------------------|---------------------------|
| 087NE<br>1931<br>1:10,560 | 088NW<br>1931<br>1:10,560 |
| 087SE<br>1931<br>1:10,560 | 088SW<br>1931<br>1:10,560 |

### Historical Map - Slice A



### Order Details

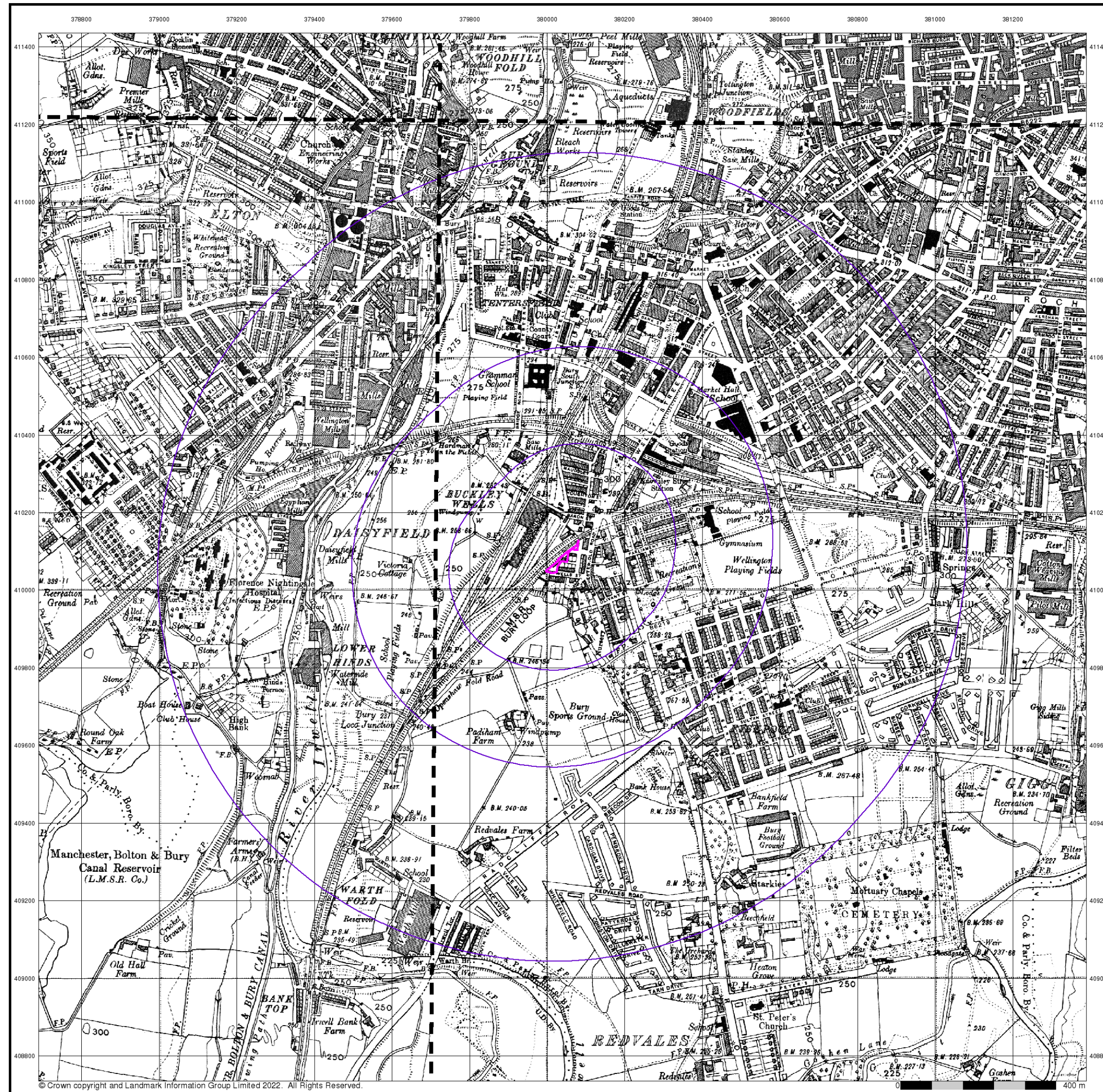
Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 1000

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## Lancashire And Furness

Published 1938 - 1939

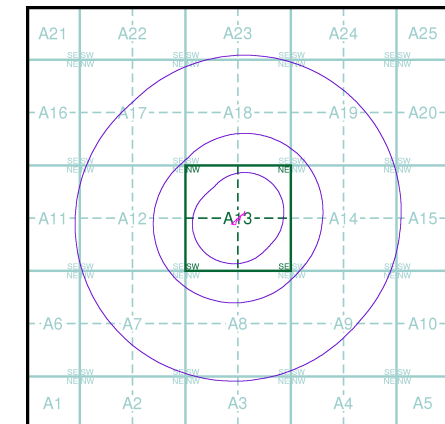
Source map scale - 1:10,560

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)

|                           |                           |
|---------------------------|---------------------------|
| 087NE<br>1938<br>1:10,560 | 088NW<br>1939<br>1:10,560 |
| 087SE<br>1938<br>1:10,560 | 088SW<br>1938<br>1:10,560 |

### Historical Map - Slice A



### Order Details

Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 1000

### Site Details

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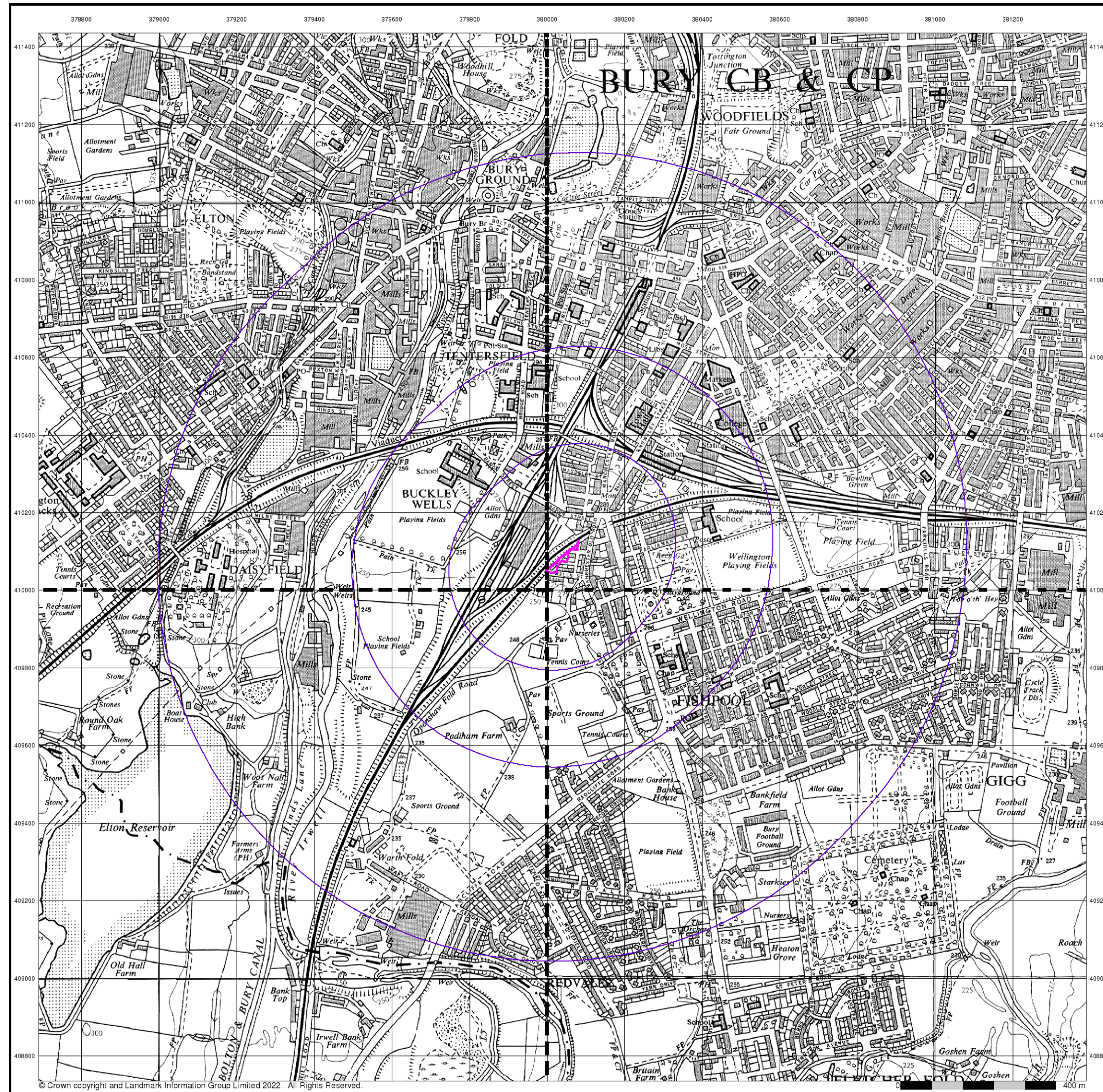
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Ordnance Survey Plan

Published 1965 - 1969

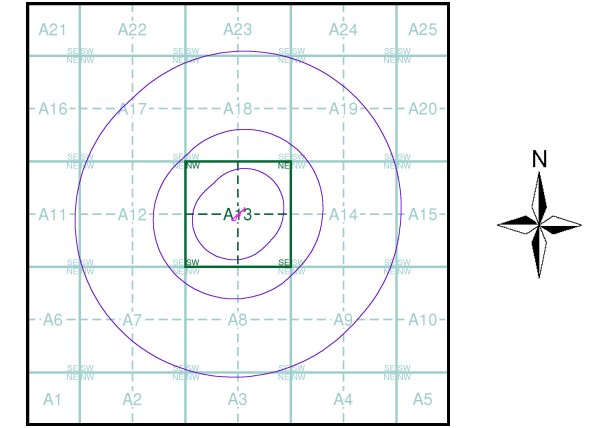
Source map scale - 1:10,000

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)

|          |          |
|----------|----------|
| SD71SE   | SD81SW   |
| 1969     | 1967     |
| 1:10,560 | 1:10,560 |
| SD70NE   | SD80NW   |
| 1965     | 1965     |
| 1:10,560 | 1:10,560 |

Historical Map - Slice A



Order Details

Order Number: 302209573\_1\_1

Customer Ref: ES051022c

National Grid Reference: 380040, 410080

Slice: A

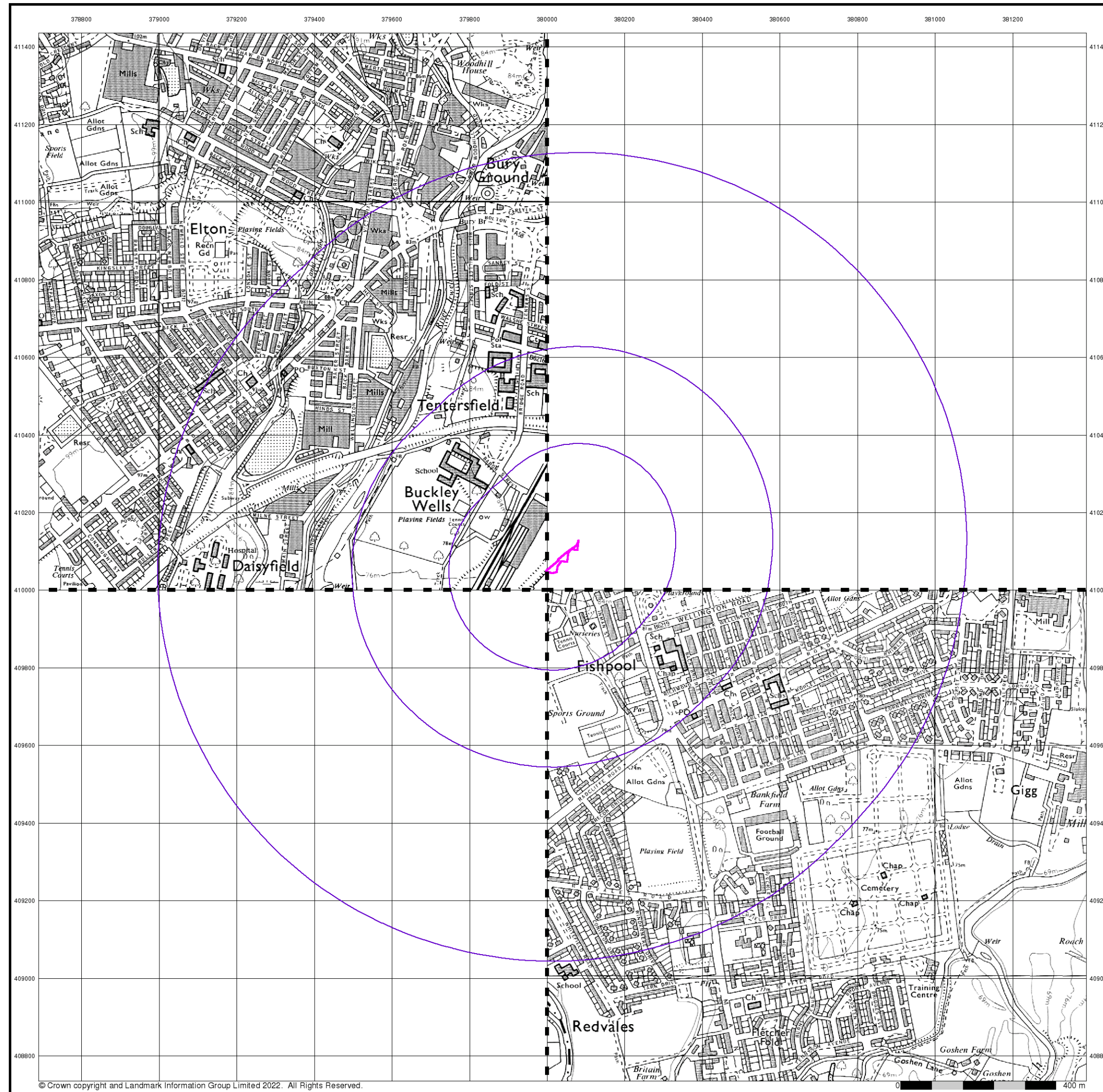
Site Area (Ha): 0.11

Search Buffer (m): 1000

Site Details

, 9, Barker Street, Bury, BL9 0TX





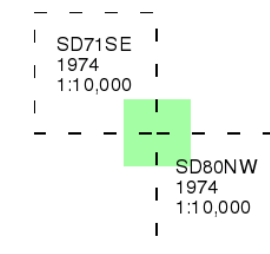
## Ordnance Survey Plan

Published 1974

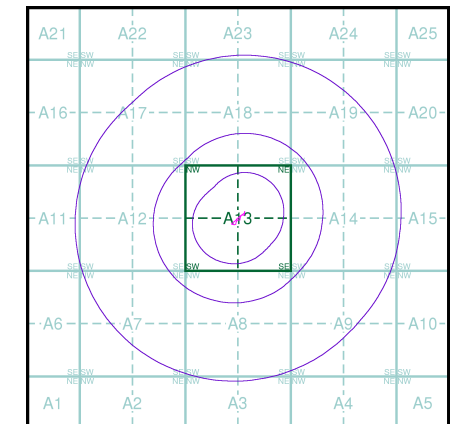
Source map scale - 1:10,000

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)



## Historical Map - Slice A



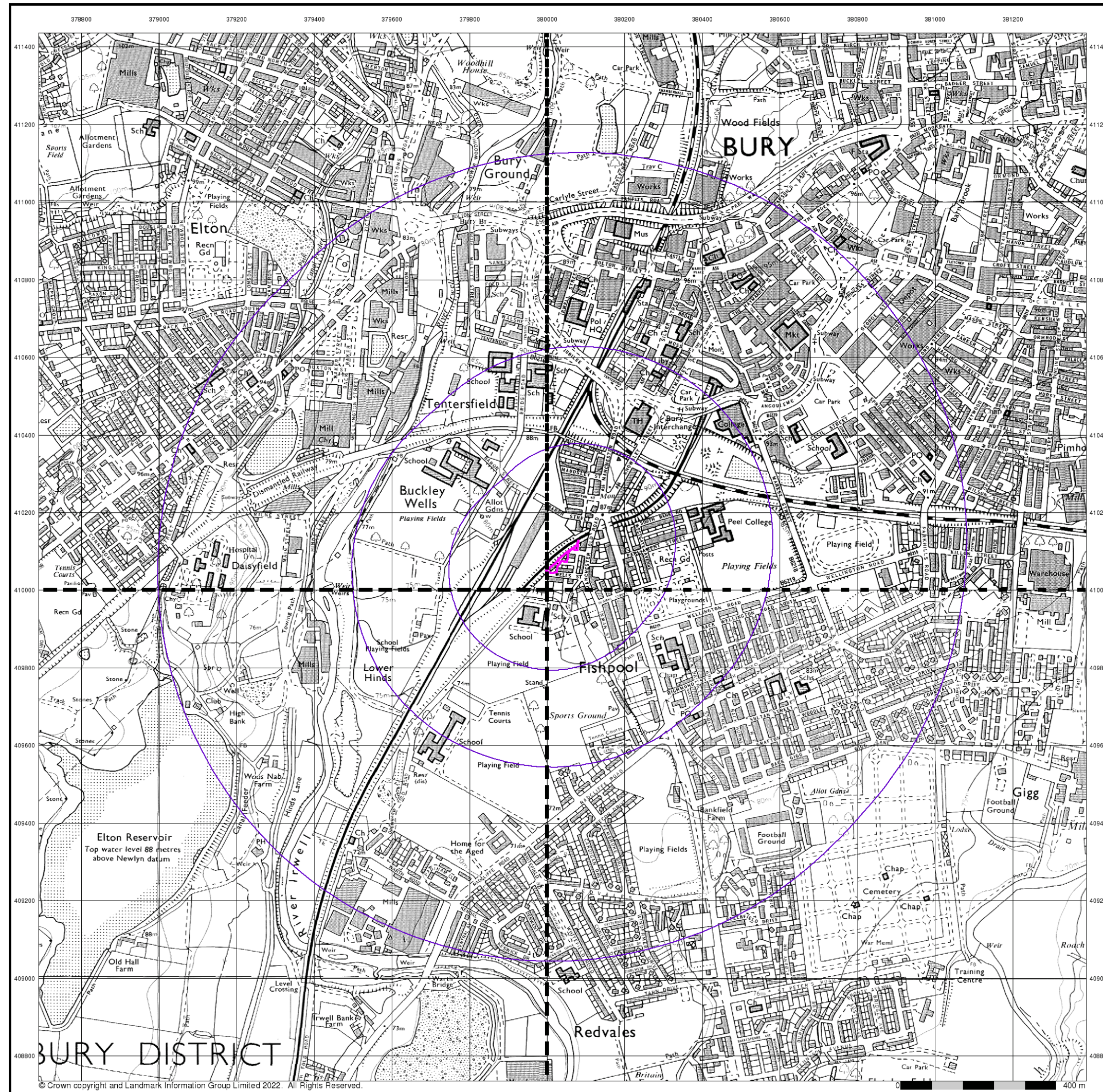
## Order Details

Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 1000

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## Ordnance Survey Plan

Published 1980 - 1984

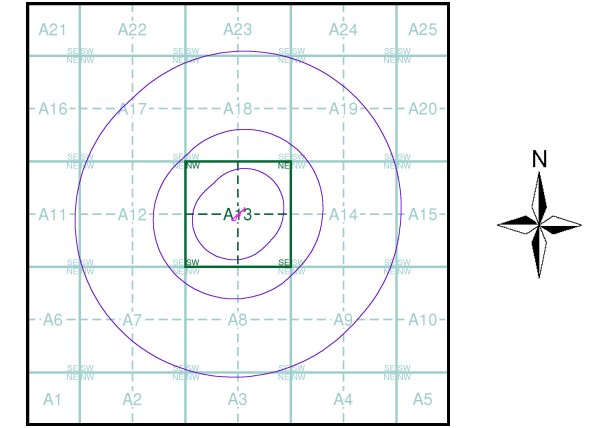
Source map scale - 1:10,000

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)

|          |          |
|----------|----------|
| SD71SE   | SD81SW   |
| 1982     | 1984     |
| 1:10,000 | 1:10,000 |
| SD70NE   | SD80NW   |
| 1980     | 1983     |
| 1:10,000 | 1:10,000 |

### Historical Map - Slice A



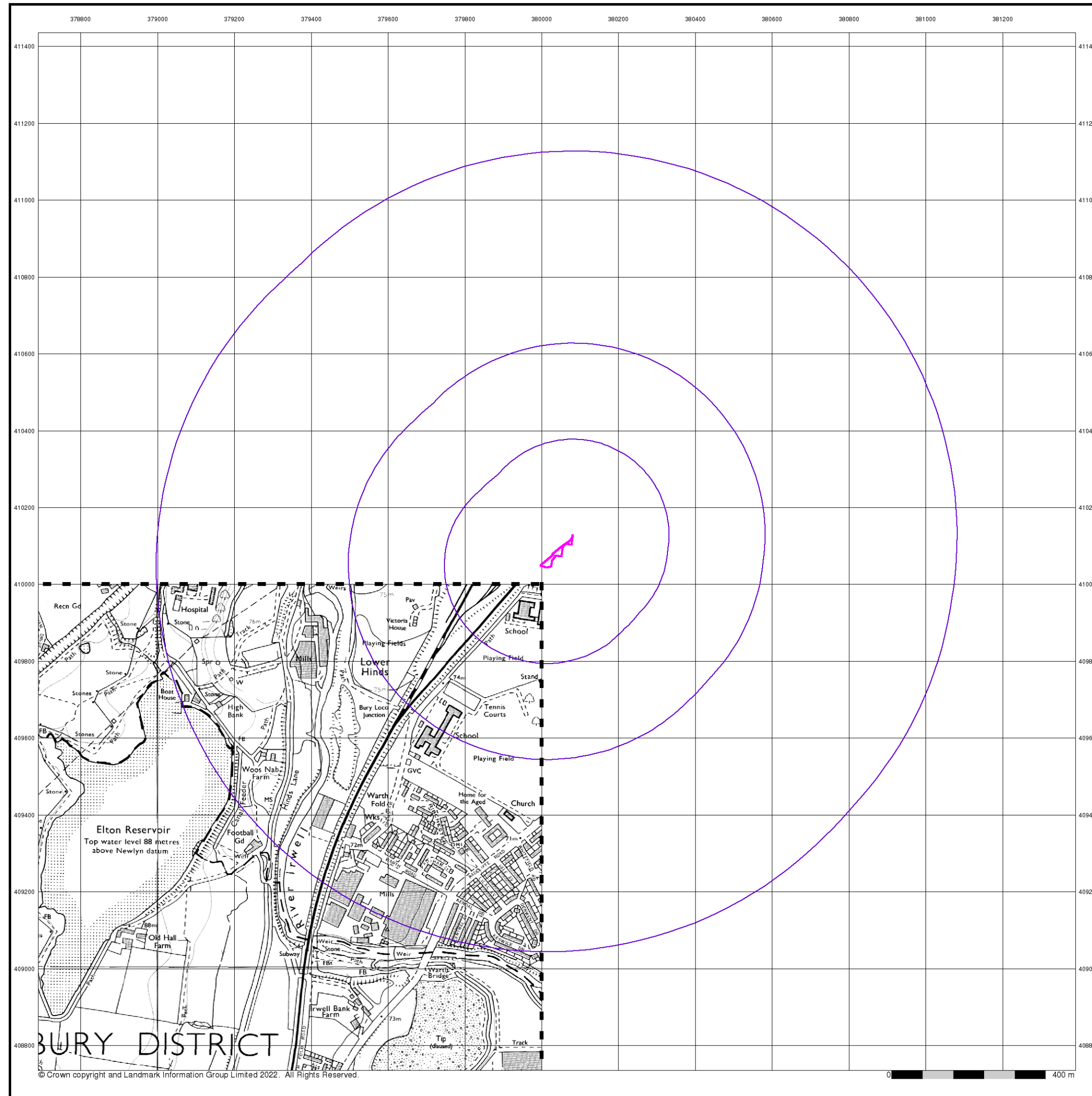
**Order Details**

Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 1000

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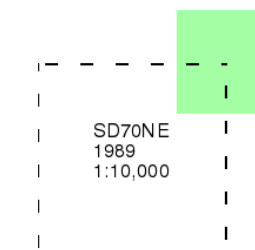
## Ordnance Survey Plan

Published 1989

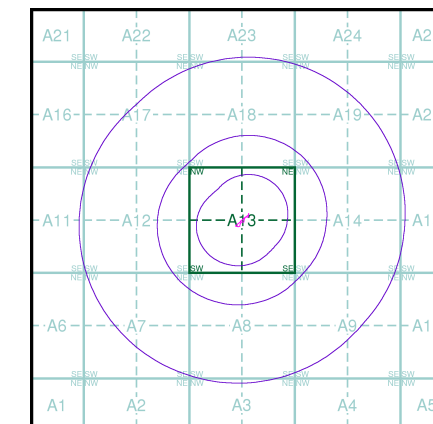
Source map scale - 1:10,000

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)



## Historical Map - Slice A



## Order Details

Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
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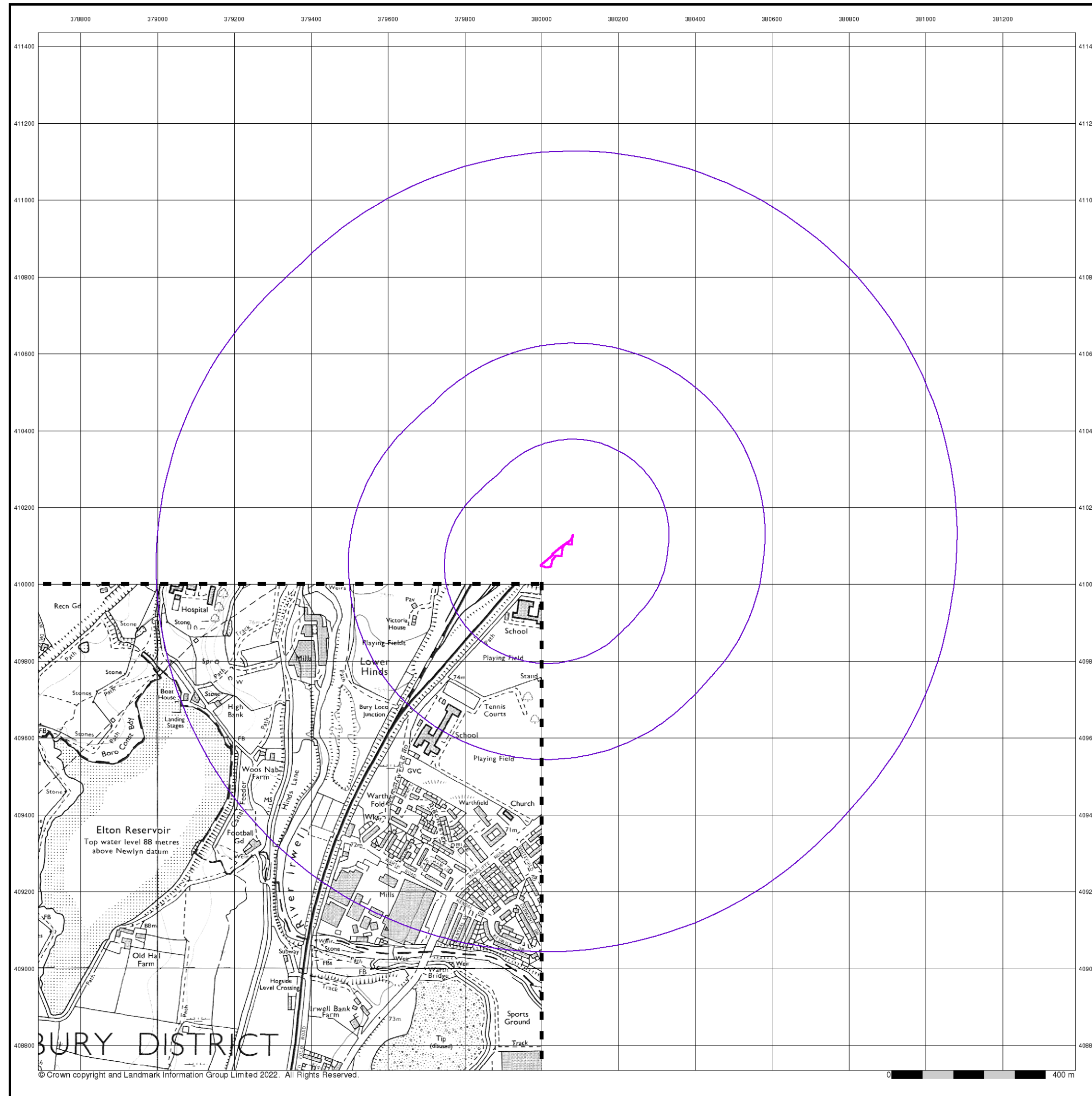
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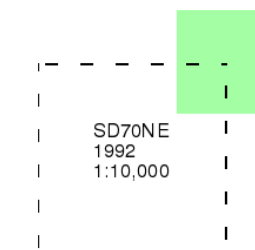
## Ordnance Survey Plan

Published 1992

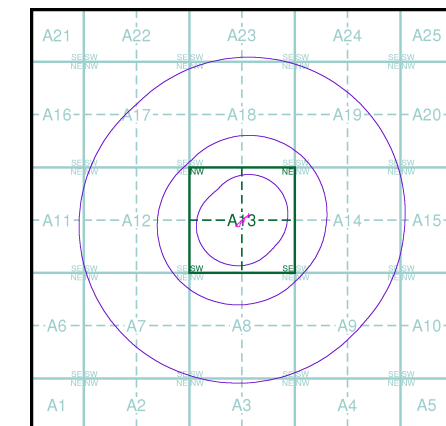
Source map scale - 1:10,000

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)



### Historical Map - Slice A



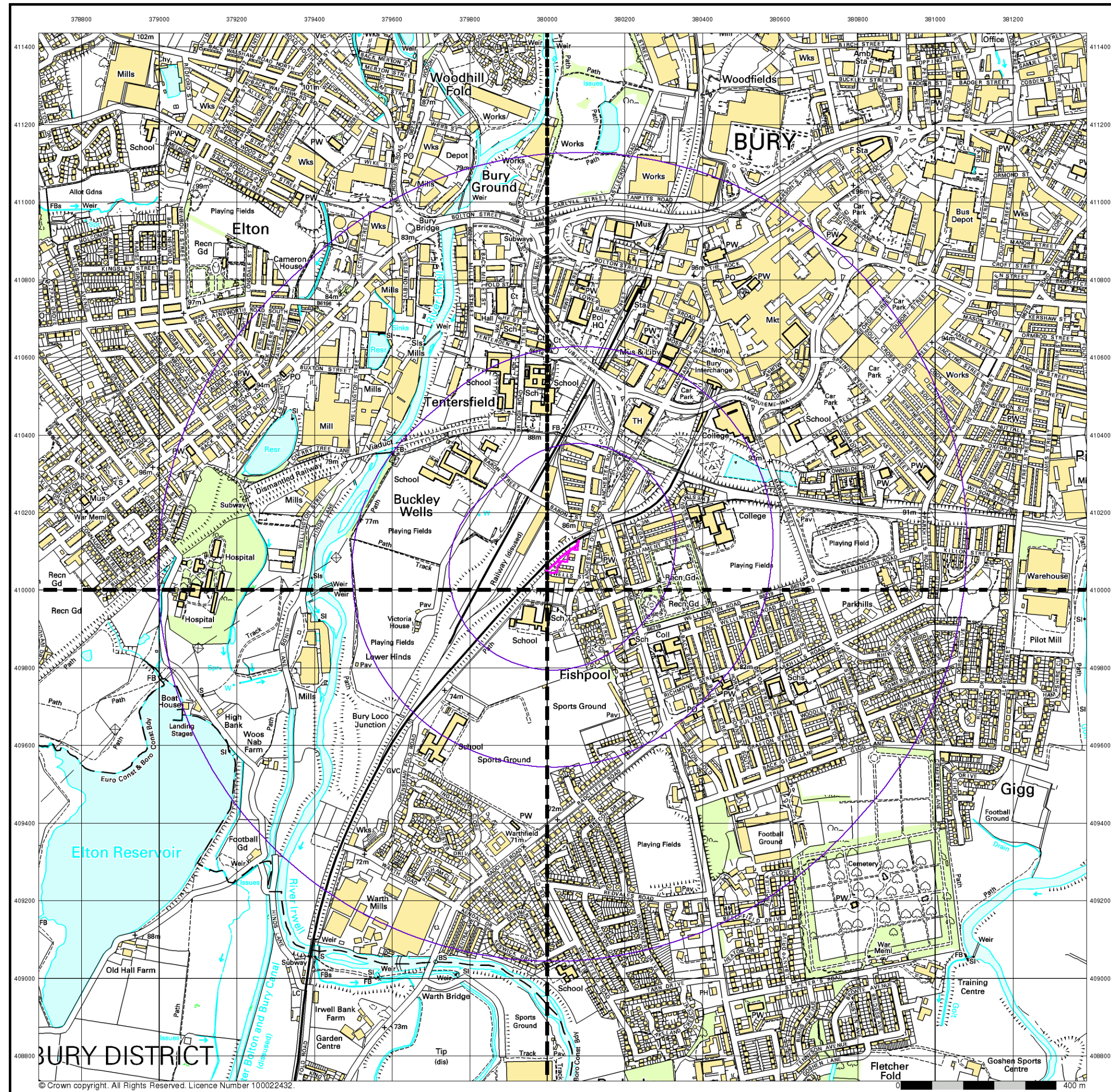
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Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 1000

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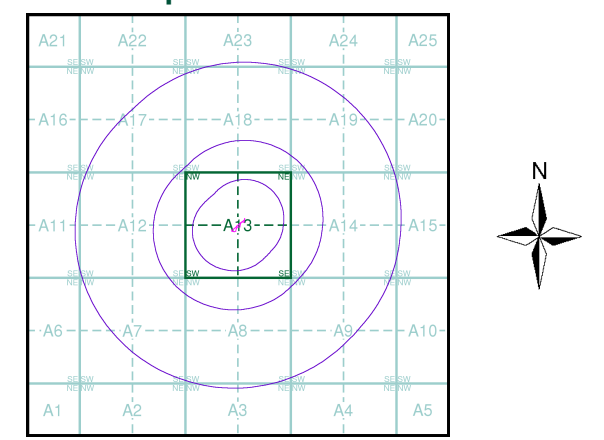
**10k Raster Mapping**  
**Published 1999**  
**Source map scale - 1:10,000**

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)

|          |          |
|----------|----------|
| SD71SE   | SD81SW   |
| 1999     | 1999     |
| 1:10,000 | 1:10,000 |
| +        |          |
| SD70NE   | SD80NW   |
| 1999     | 1999     |
| 1:10,000 | 1:10,000 |

## Historical Map - Slice A

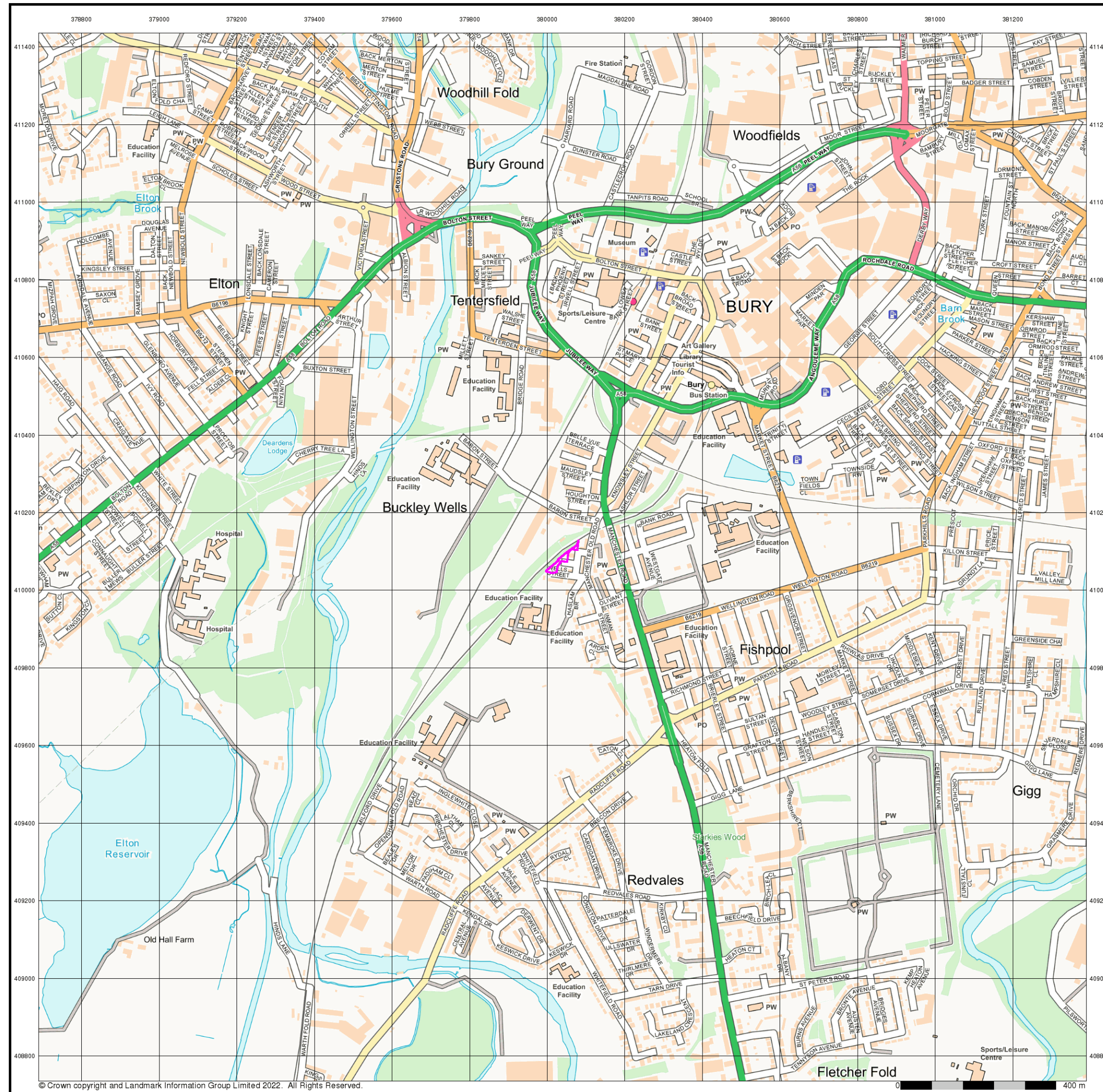


**Order Details**  
Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 1000

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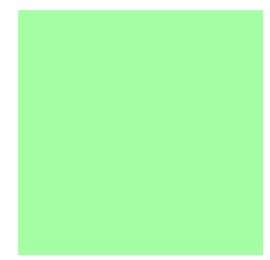
## Street View

Published 2022

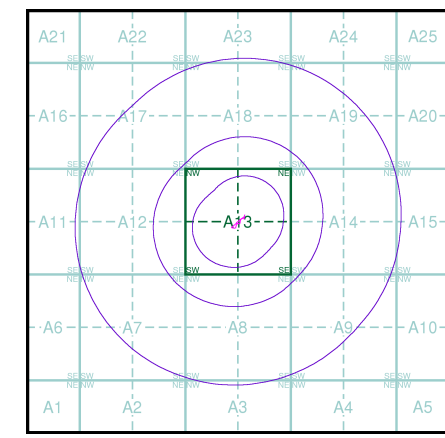
Source map scale - 1:10,000

Street View is a street-level map for the whole of Great Britain produced by the Ordnance Survey. These maps are provided at a nominal scale of 1:10,000

## Map Name(s) and Date(s)



## Street View Map - Slice A



## Order Details

Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 1000

## Site Details

, 9, Barker Street, Bury, BL9 0TX

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# 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



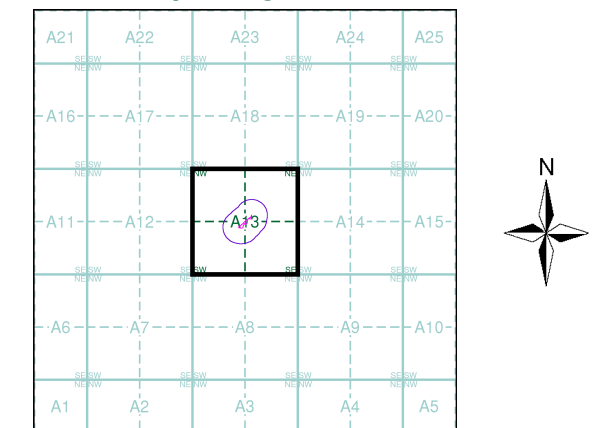
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## Historical Mapping & Photography included:

| 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 | 1929 - 1930 | 4  |
| Lancashire And Furness         | 1:2,500 | 1937 - 1939 | 5  |
| Ordnance Survey Plan           | 1:1,250 | 1957 - 1958 | 6  |
| Ordnance Survey Plan           | 1:2,500 | 1958 - 1959 | 7  |
| Additional SIMs                | 1:1,250 | 1958 - 1987 | 8  |
| Ordnance Survey Plan           | 1:1,250 | 1967 - 1984 | 9  |
| Ordnance Survey Plan           | 1:2,500 | 1970        | 10 |
| Additional SIMs                | 1:1,250 | 1982        | 11 |
| Large-Scale National Grid Data | 1:1,250 | 1992        | 12 |
| Large-Scale National Grid Data | 1:1,250 | 1994        | 13 |
| Large-Scale National Grid Data | 1:1,250 | 1996        | 14 |

## Historical Map - Segment A13



## Order Details

Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 100

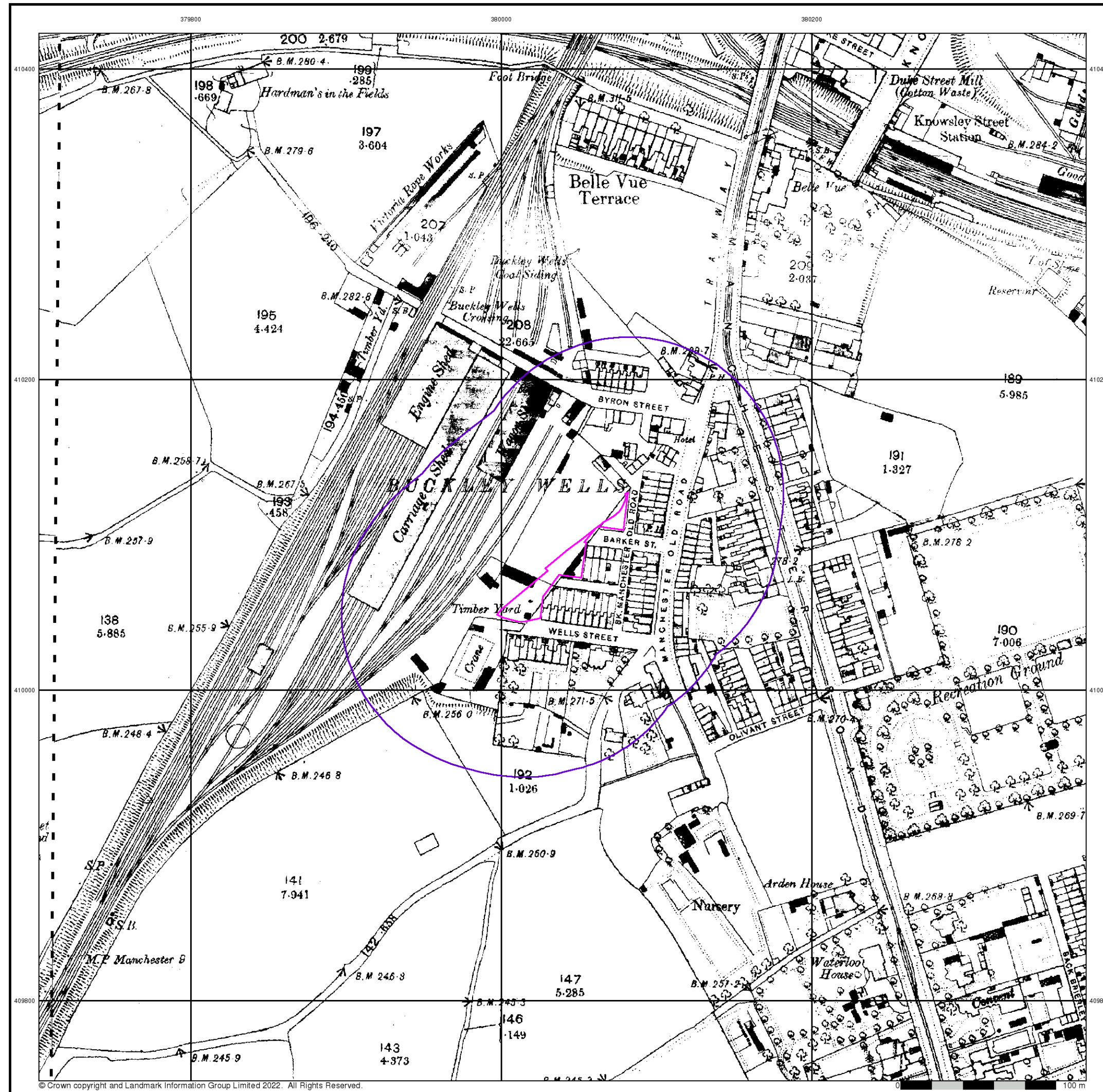
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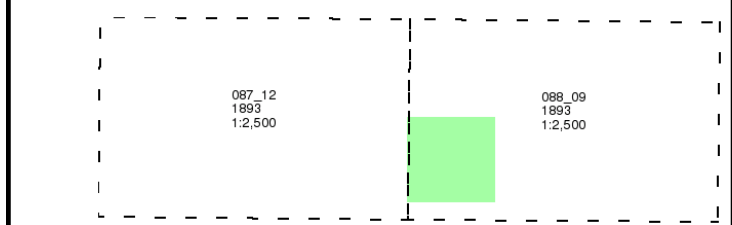
## Lancashire And Furness

Published 1893

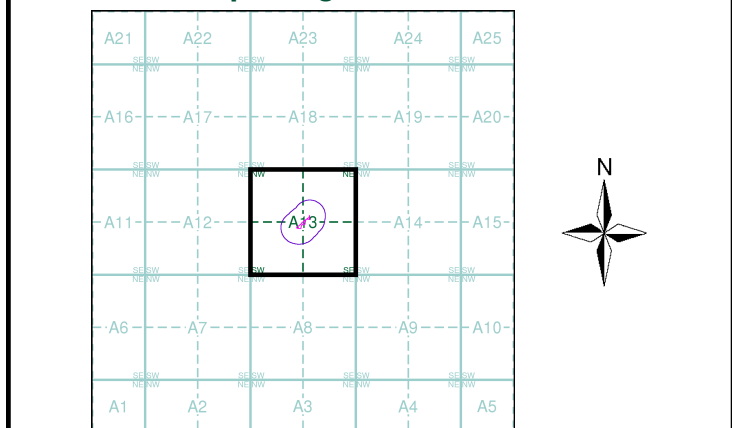
Source map scale - 1:2,500

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

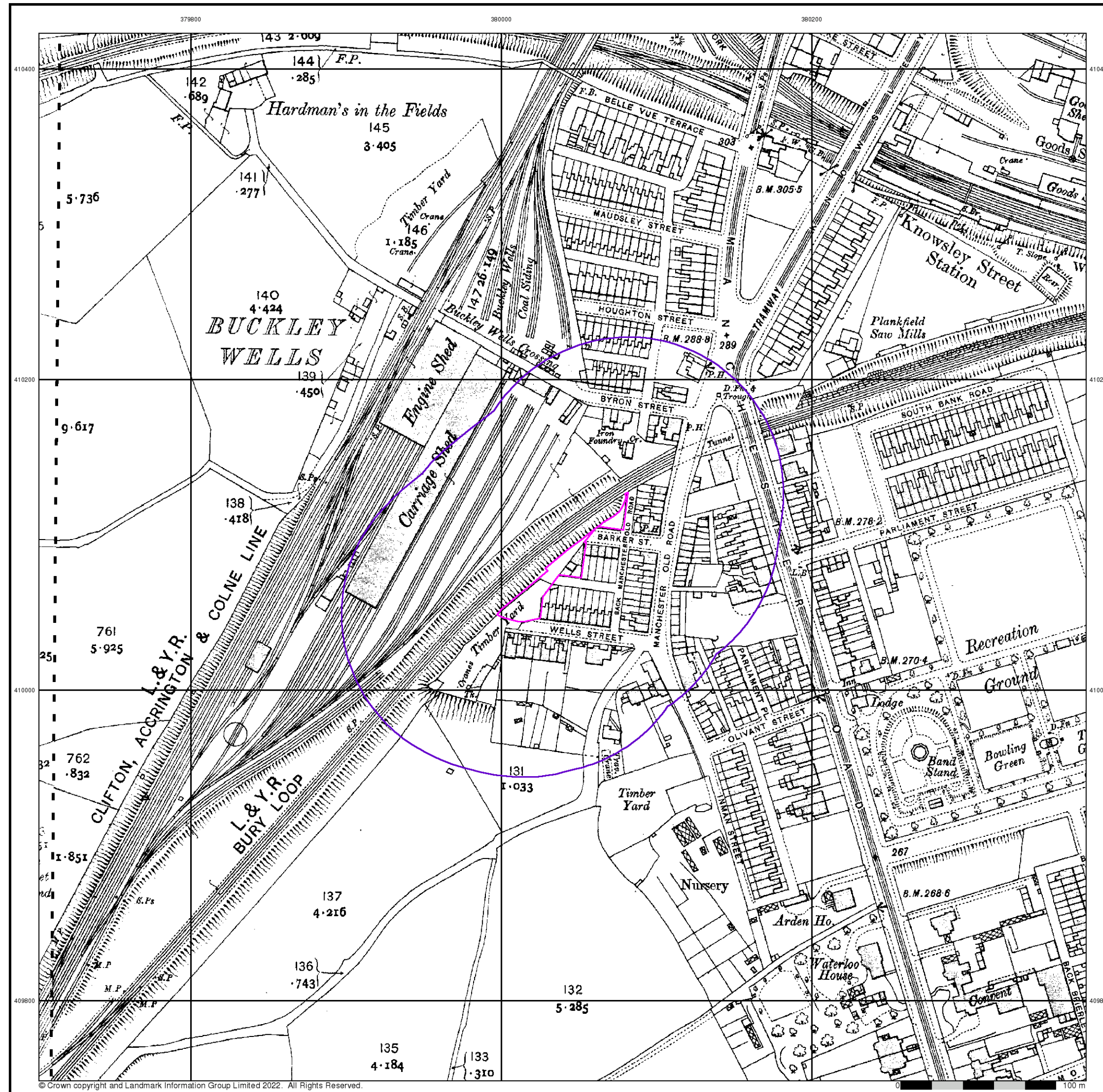


**Order Details**  
Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
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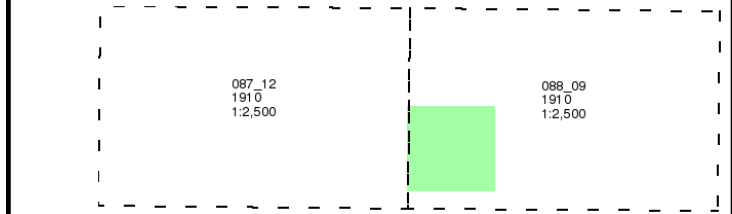




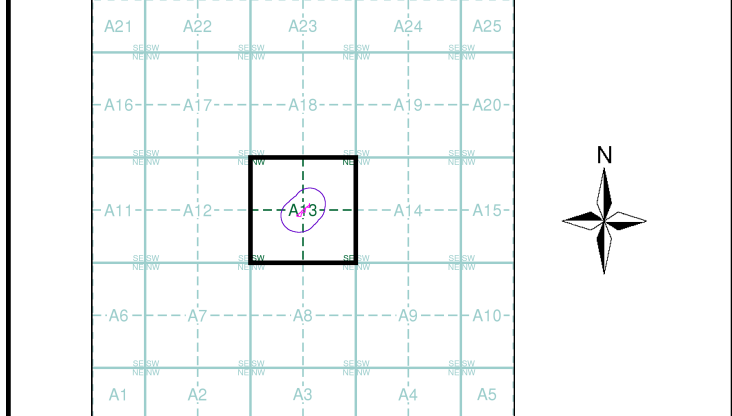
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered 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



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National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
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**Site Details**  
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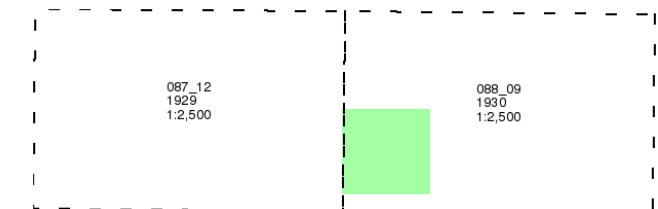
## Lancashire And Furness

Published 1929 - 1930

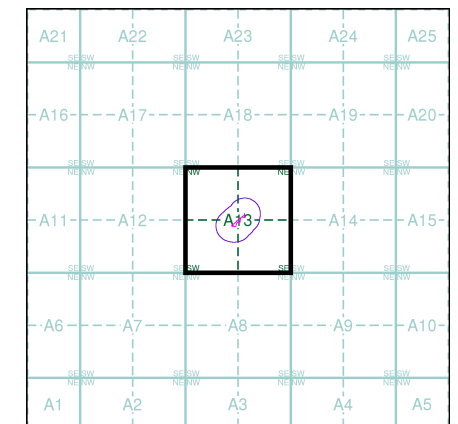
Source map scale - 1:2,500

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

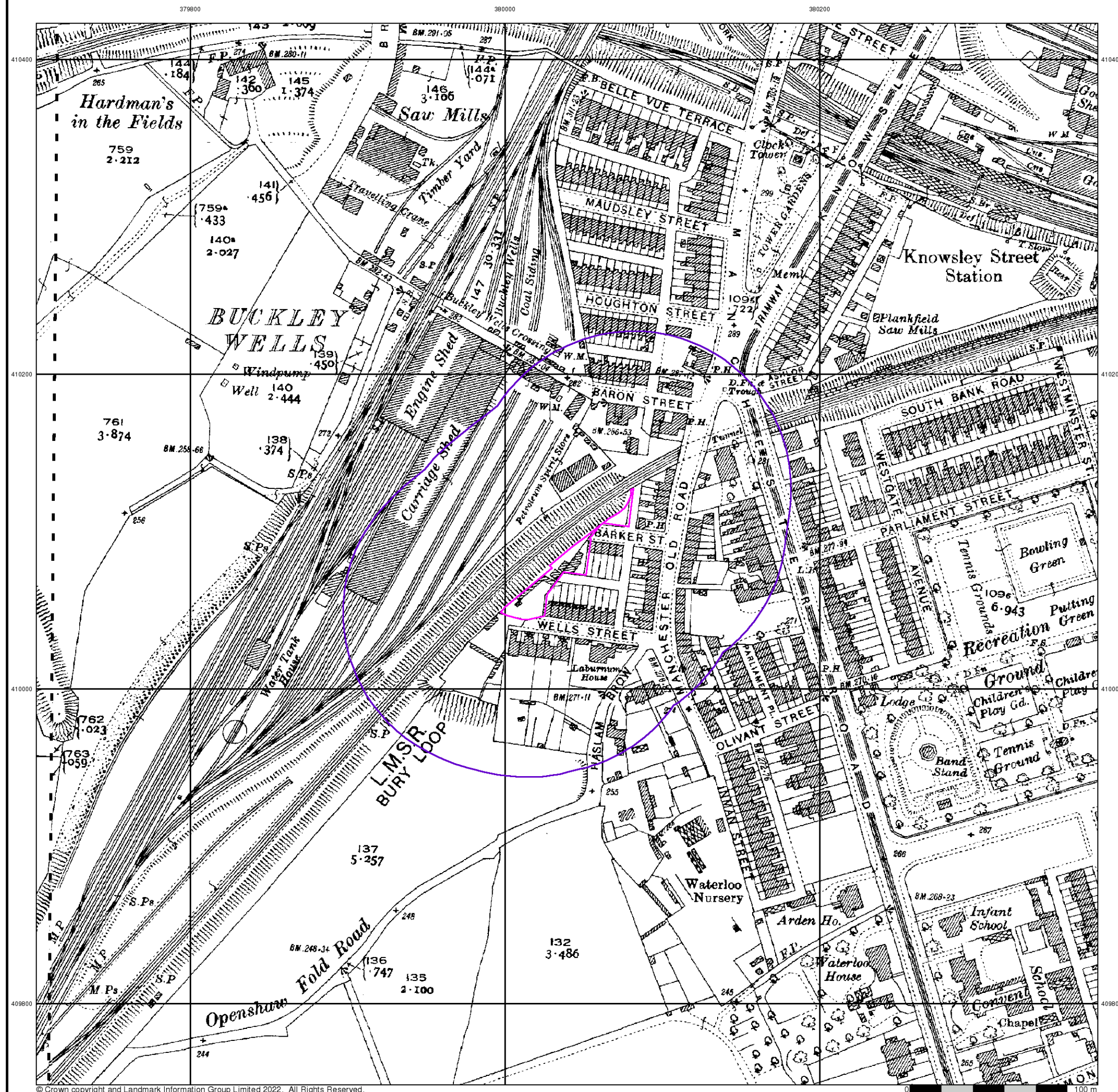


### Order Details

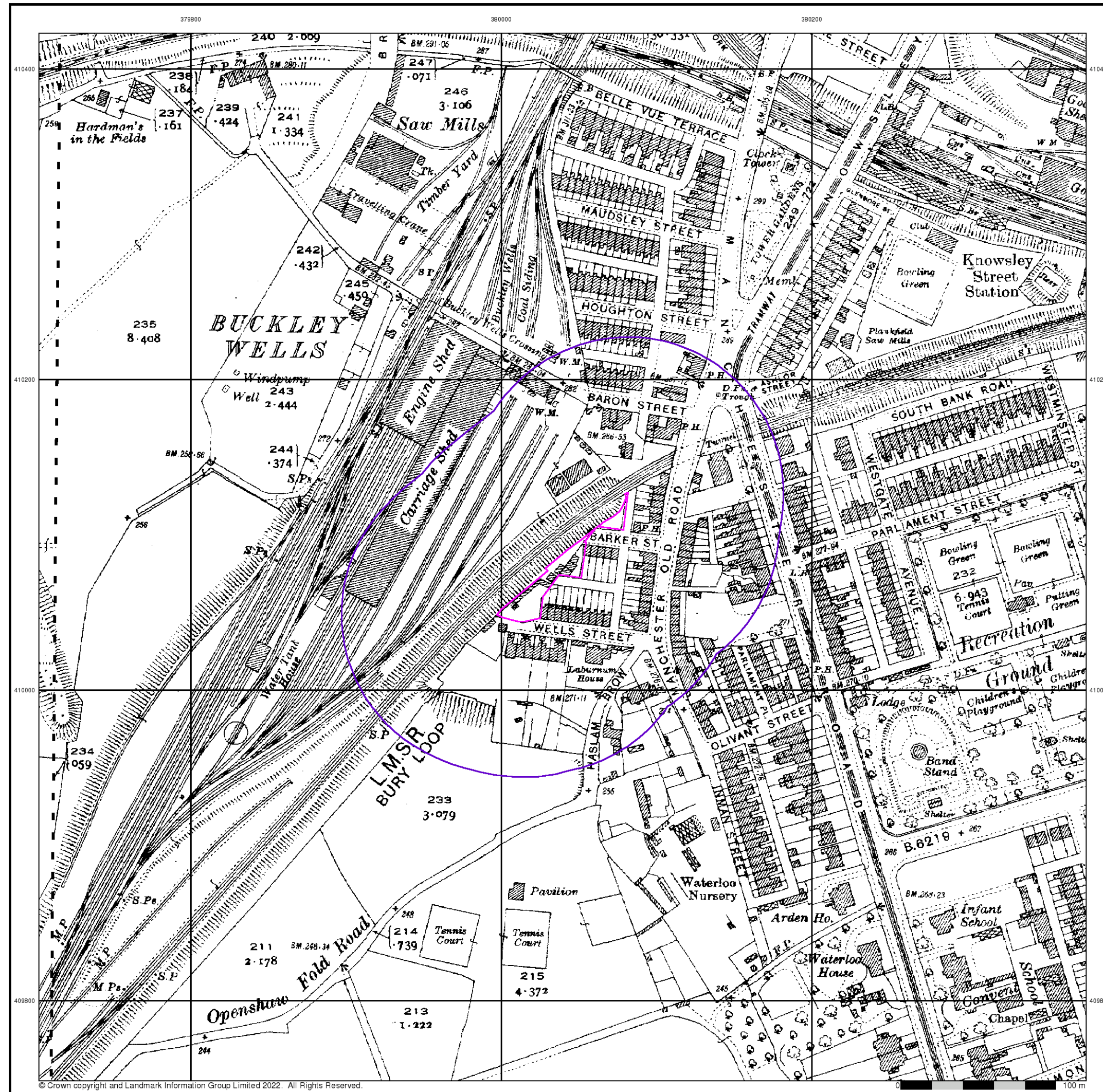
Order Number: 302209573\_1\_1  
 Customer Ref: ES051022c  
 National Grid Reference: 380040, 410080  
 Slice: A  
 Site Area (Ha): 0.11  
 Search Buffer (m): 100

### Site Details

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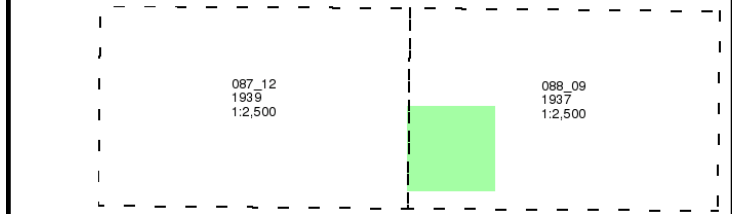
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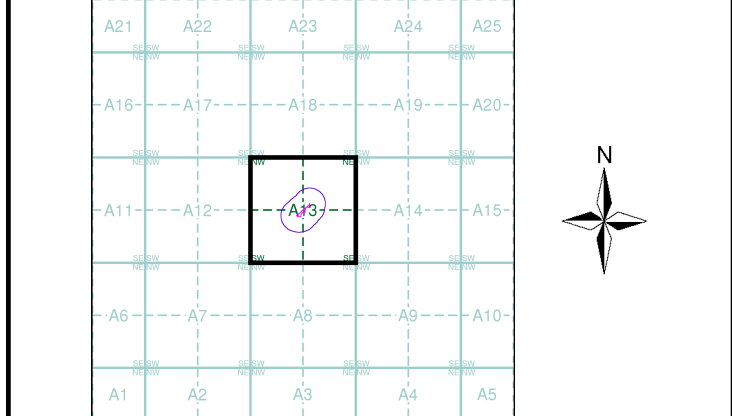
**Lancashire And Furness**  
**Published 1937 - 1939**  
**Source map scale - 1:2,500**

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

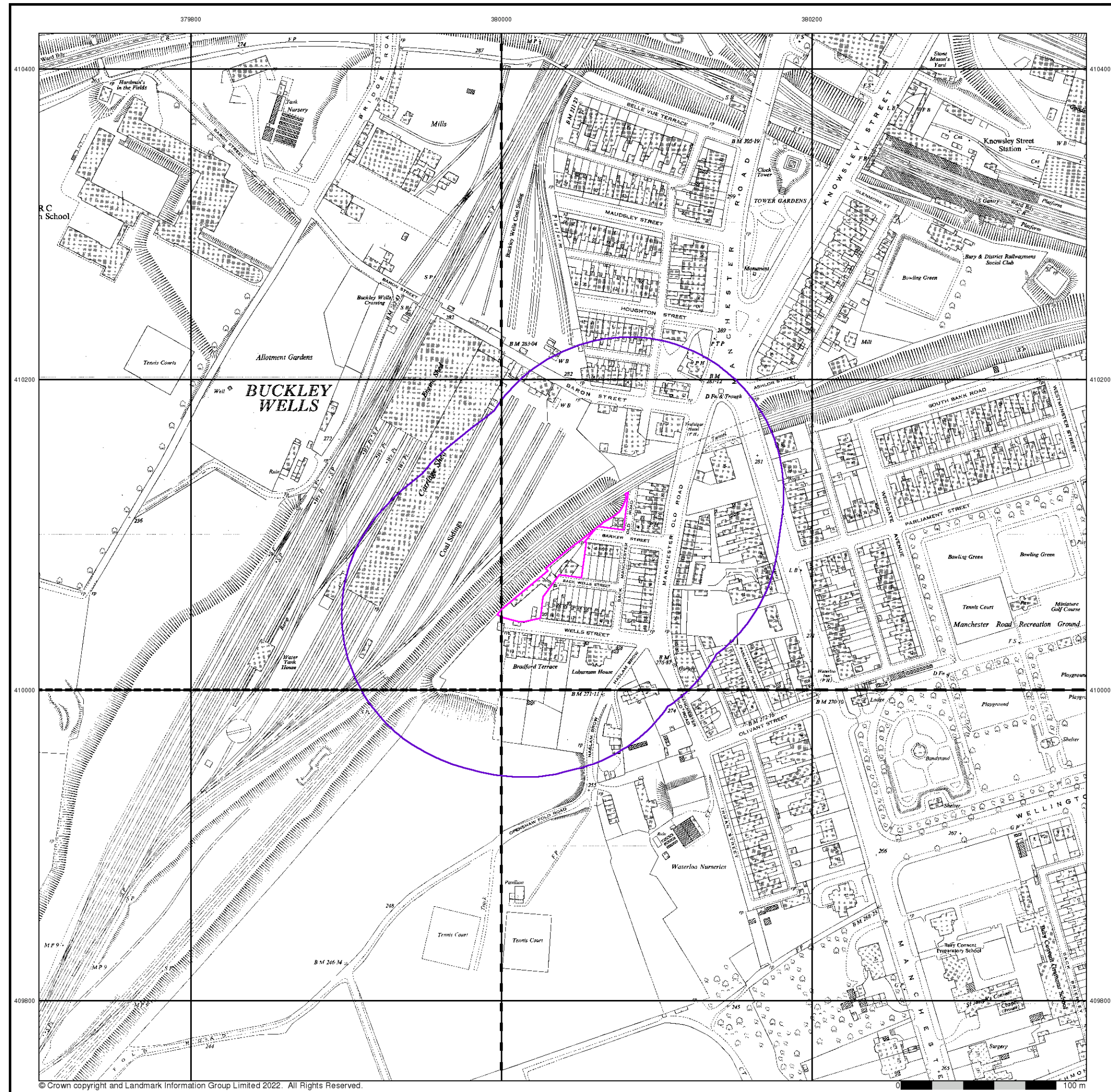


**Order Details**  
Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 100

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## Ordnance Survey Plan

**Published 1957 - 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)

|                             |                             |
|-----------------------------|-----------------------------|
| SD7910SE<br>1958<br>1:1,250 | SD8010SW<br>1958<br>1:1,250 |
| SD7909NE<br>1957<br>1:1,250 | SD8009NW<br>1958<br>1:1,250 |

### Historical Map - Segment A13

A grid map showing the location of Segment A13 within a larger grid. The grid is labeled with letters A1 to A25 horizontally and A1 to A20 vertically. Segment A13 is highlighted with a black border. A north arrow is located to the right of the grid.

### Order Details

Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 100

### Site Details

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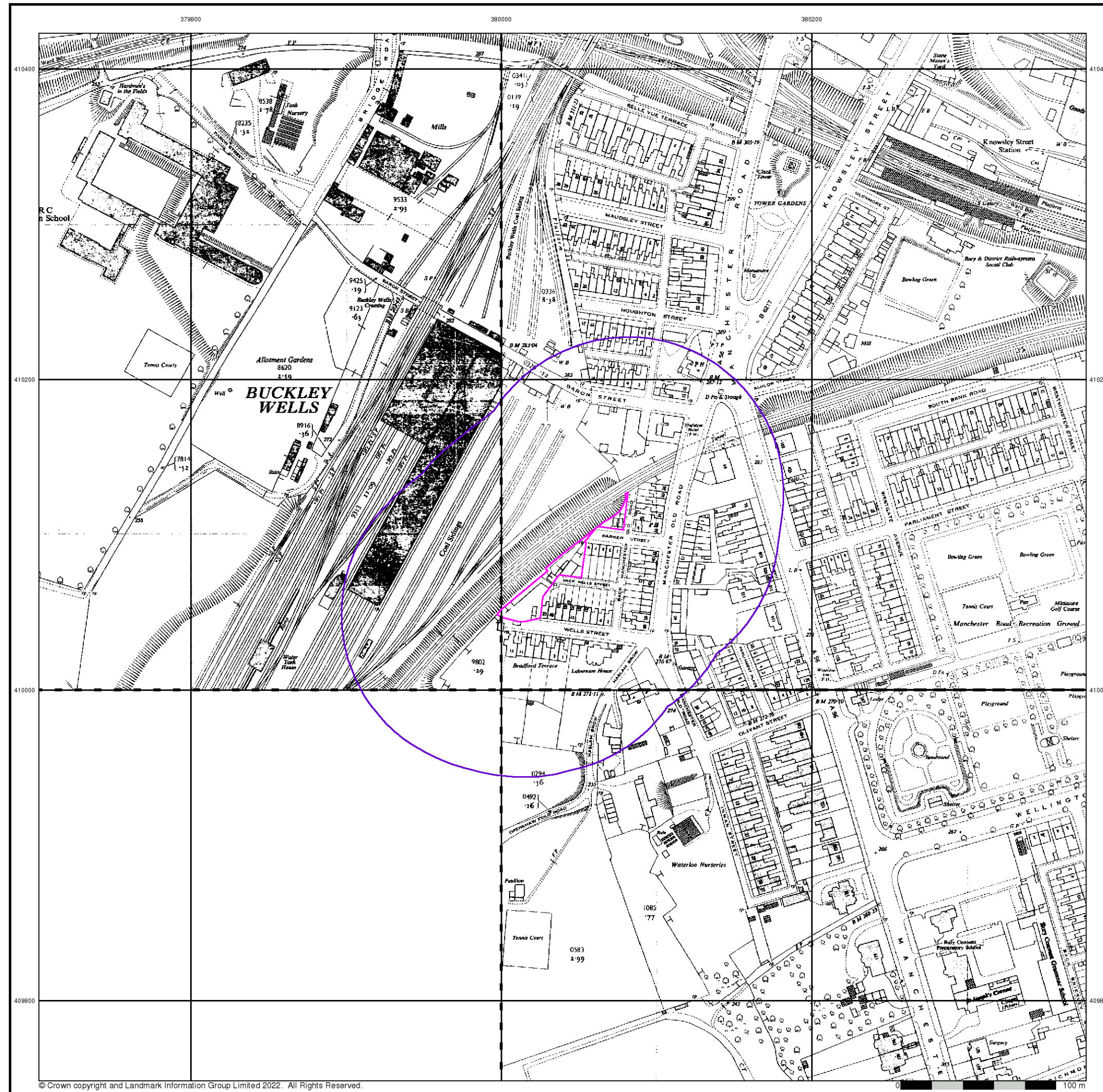
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## Ordnance Survey Plan

Published 1958 - 1959

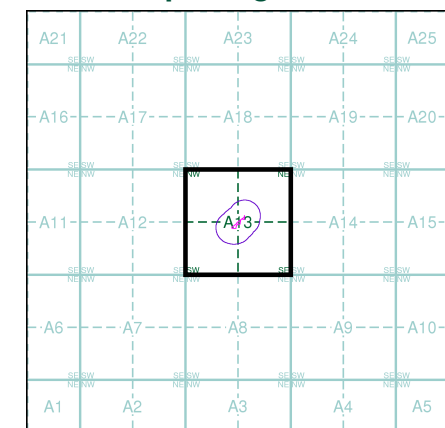
Source map scale - 1:2,500

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)

|                          |                          |
|--------------------------|--------------------------|
| SD7910<br>1958<br>12,500 | SD8010<br>1959<br>12,500 |
| SD8009<br>1958<br>12,500 |                          |

### Historical Map - Segment A13



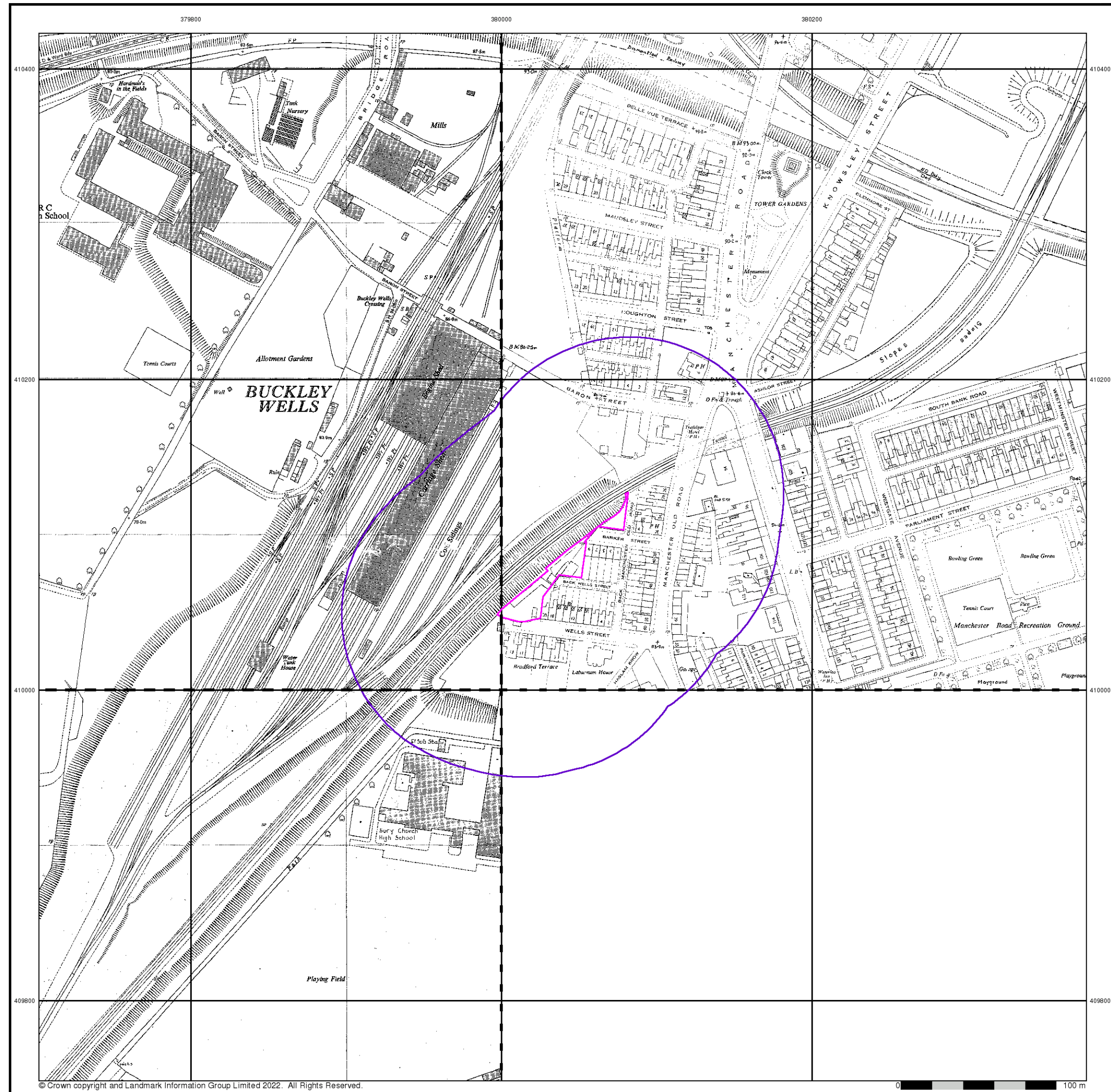
#### Order Details

Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 100

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## Additional SIMs

Published 1958 - 1987

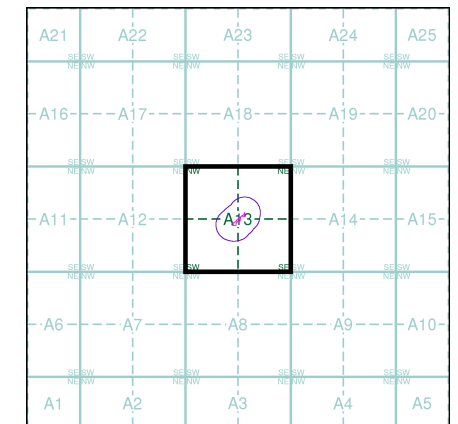
Source map scale - 1:1,250

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)

|          |          |
|----------|----------|
| SD7910SE | SD8010SW |
| 1958     | 1980     |
| 1:1,250  | 1:1,250  |
| SD7909NE |          |
| 1987     |          |
| 1:1,250  |          |

## Historical Map - Segment A13



## Order Details

Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 100

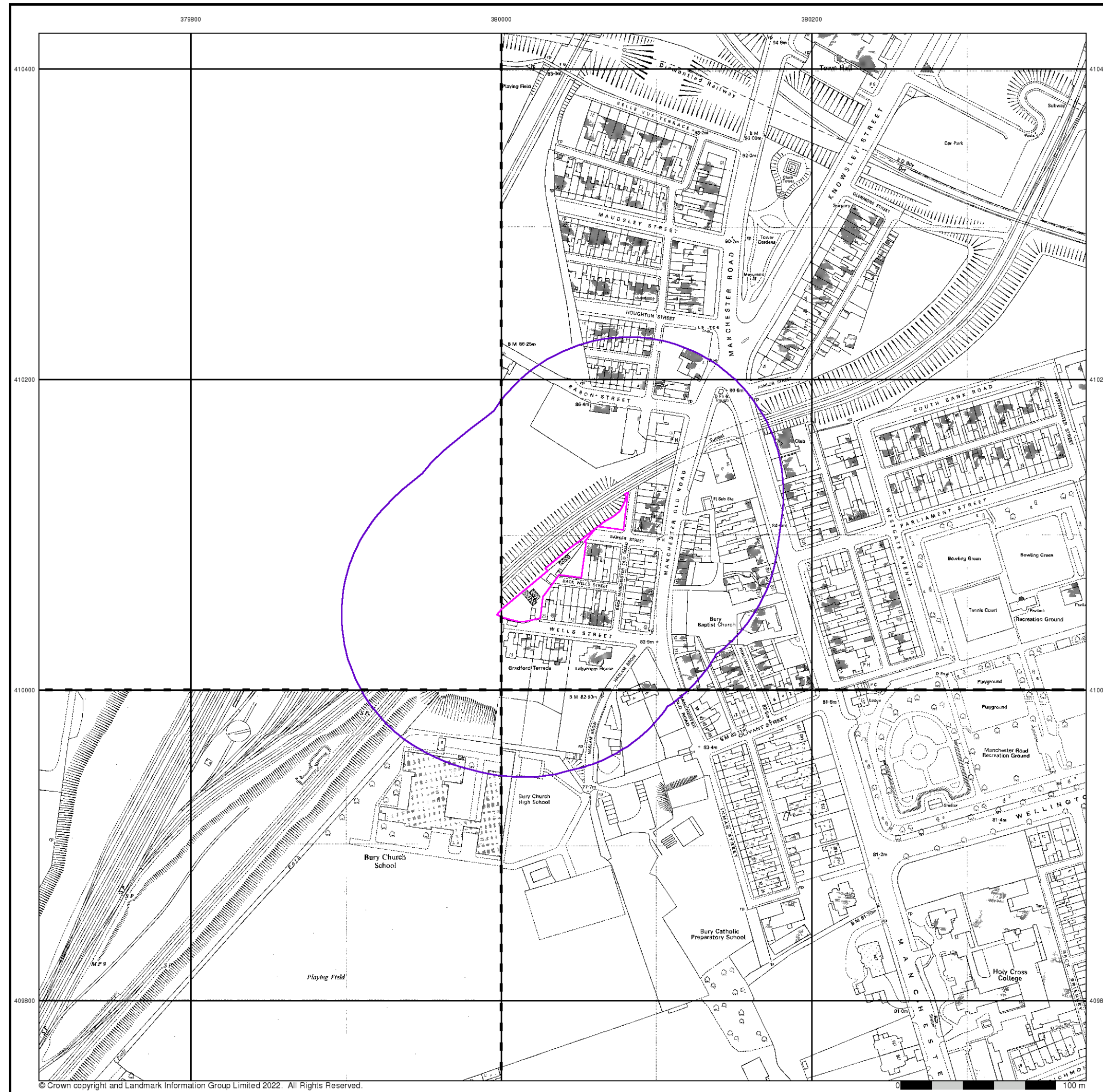
## Site Details

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## Ordnance Survey Plan

**Published 1967 - 1984**

**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)

|          |      |         |
|----------|------|---------|
| SD8010SW | 1984 | 1:1,250 |
| SD7909NE | 1967 | 1:1,250 |
| SD8009NW | 1982 | 1:1,250 |

### Historical Map - Segment A13

N

### Order Details

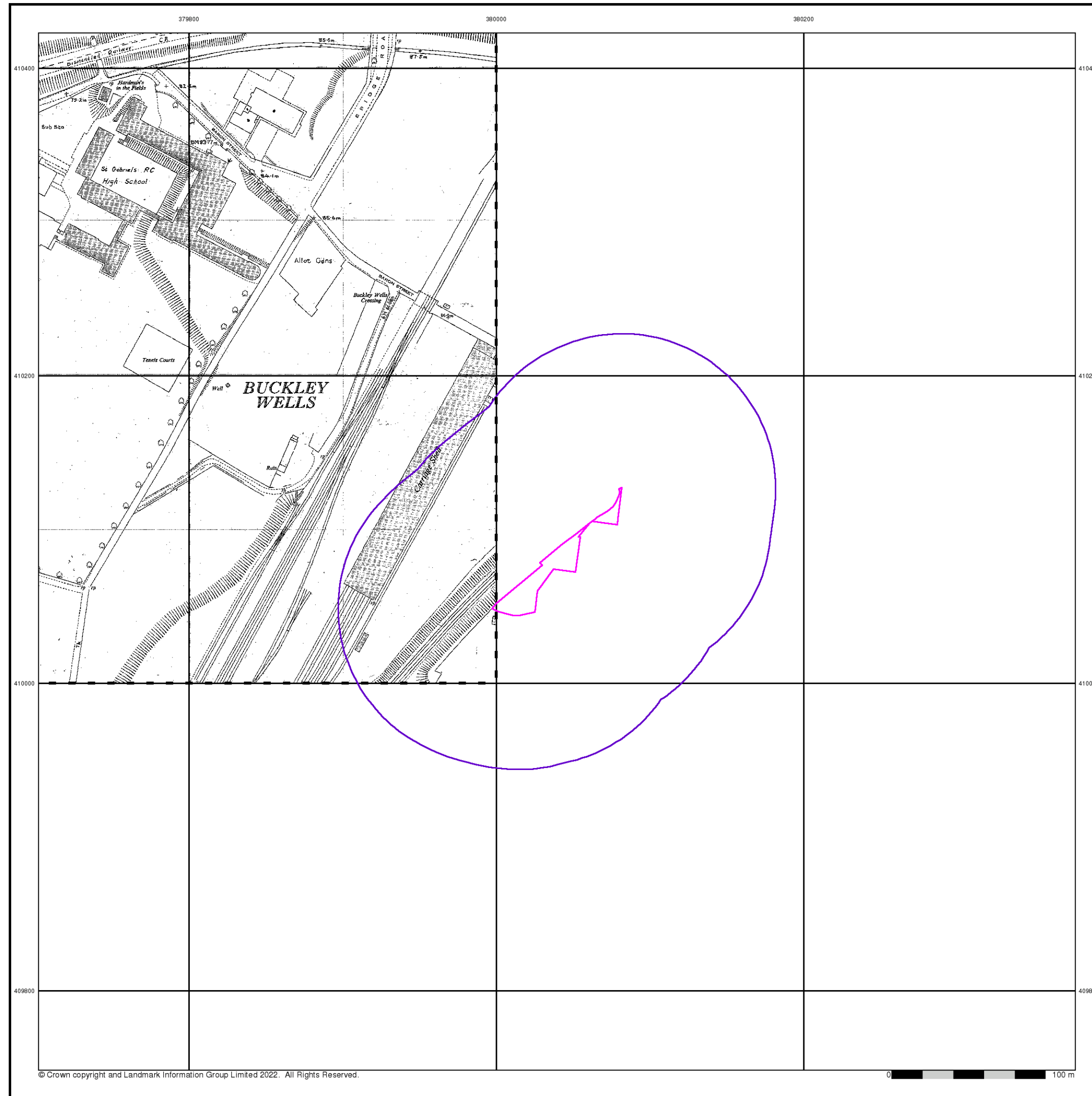
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|--------------------------|----------------|
| Order Number:            | 302209573_1_1  |
| Customer Ref:            | ES051022c      |
| National Grid Reference: | 380040, 410080 |
| Slice:                   | A              |
| Site Area (Ha):          | 0.11           |
| Search Buffer (m):       | 100            |

### Site Details

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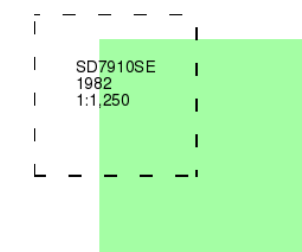
## Additional SIMs

Published 1982

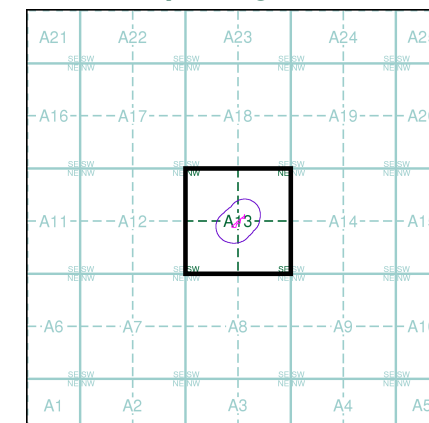
Source map scale - 1:1,250

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



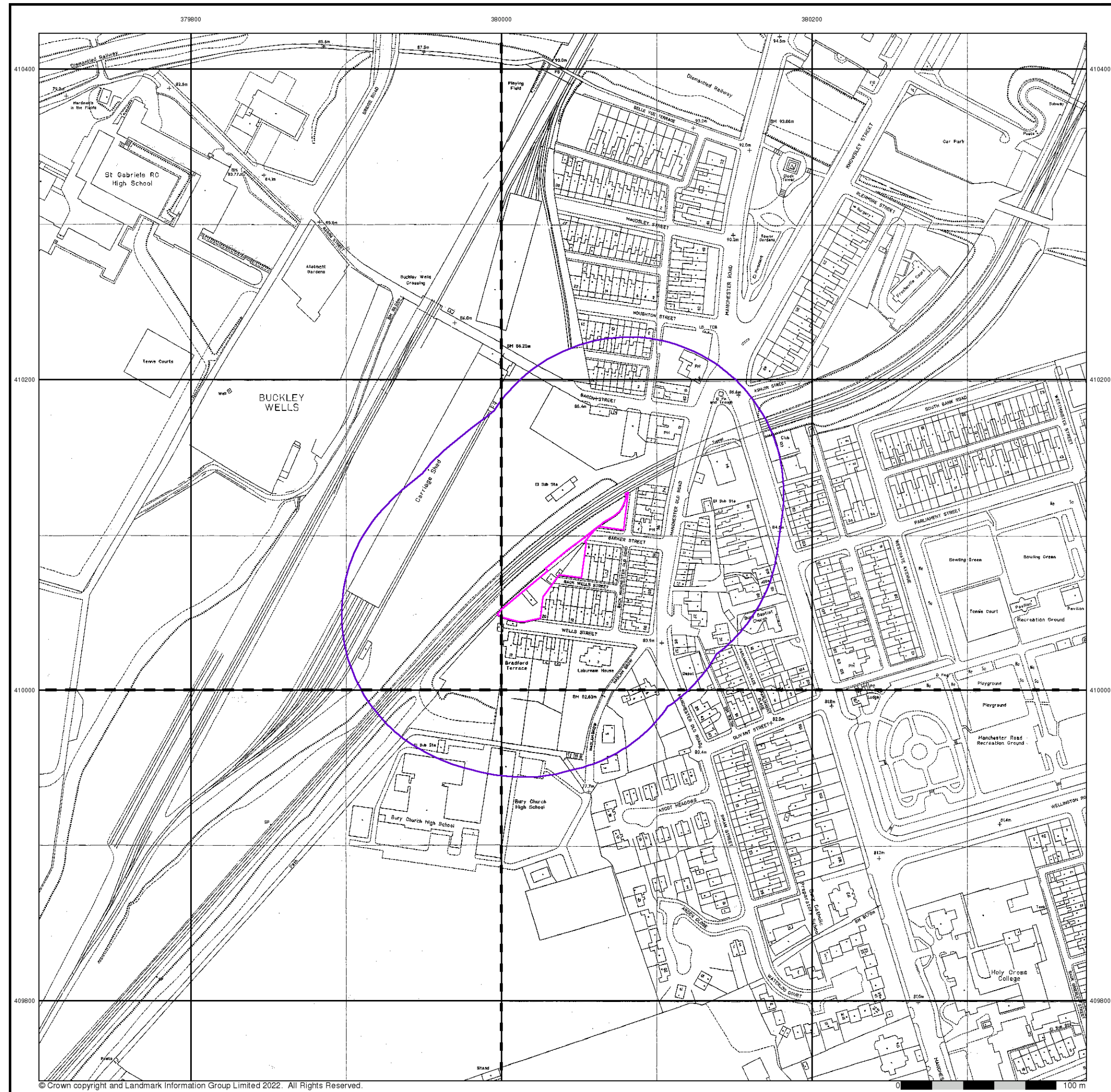
## Order Details

Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 100

## Site Details

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## Large-Scale National Grid Data

Published 1992

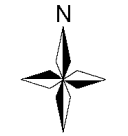
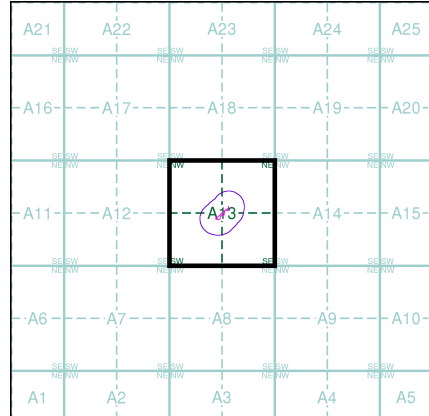
Source map scale - 1:1,250

'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)

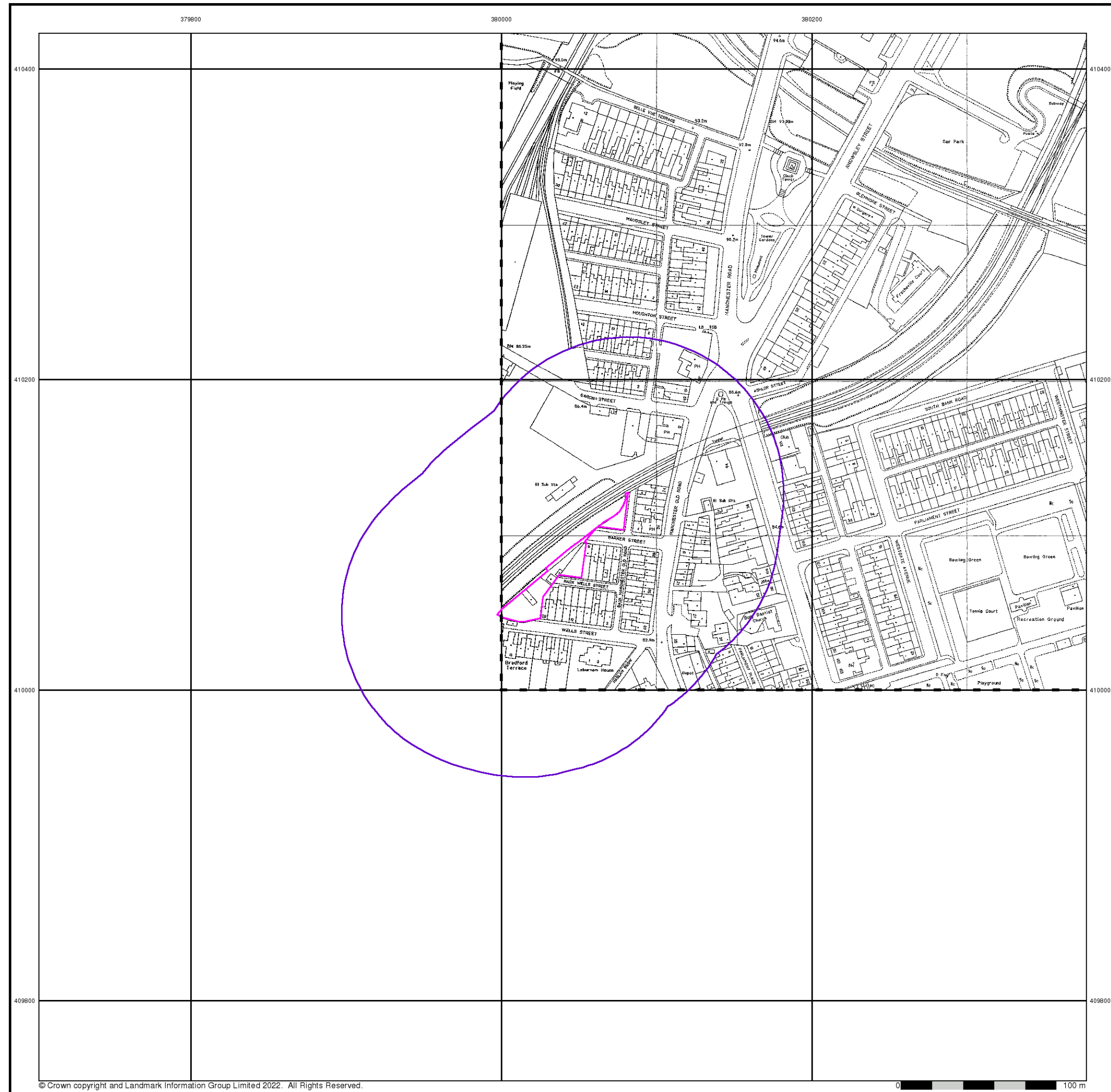
|                             |                             |
|-----------------------------|-----------------------------|
| SD7910SE<br>1992<br>1:1,250 | SD8010SW<br>1992<br>1:1,250 |
| SD7909NE<br>1992<br>1:1,250 | SD8009NW<br>1992<br>1:1,250 |

### Historical Map - Segment A13



| Order Details            |                |
|--------------------------|----------------|
| Order Number:            | 302209573_1_1  |
| Customer Ref:            | ES051022c      |
| National Grid Reference: | 380040, 410080 |
| Slice:                   | A              |
| Site Area (Ha):          | 0.11           |
| Search Buffer (m):       | 100            |

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## Large-Scale National Grid Data

**Published 1994**

**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)

SD8010SW

1994

1:1,250

### Historical Map - Segment A13

A21A22A23A24A25

A16A17A18A19A20

A11A12A13A14A15

A6A7A8A9A10

A1A2A3A4A5

N

### Order Details

|                          |                |
|--------------------------|----------------|
| Order Number:            | 302209573_1_1  |
| Customer Ref:            | ES051022c      |
| National Grid Reference: | 380040, 410080 |
| Slice:                   | A              |
| Site Area (Ha):          | 0.11           |
| Search Buffer (m):       | 100            |

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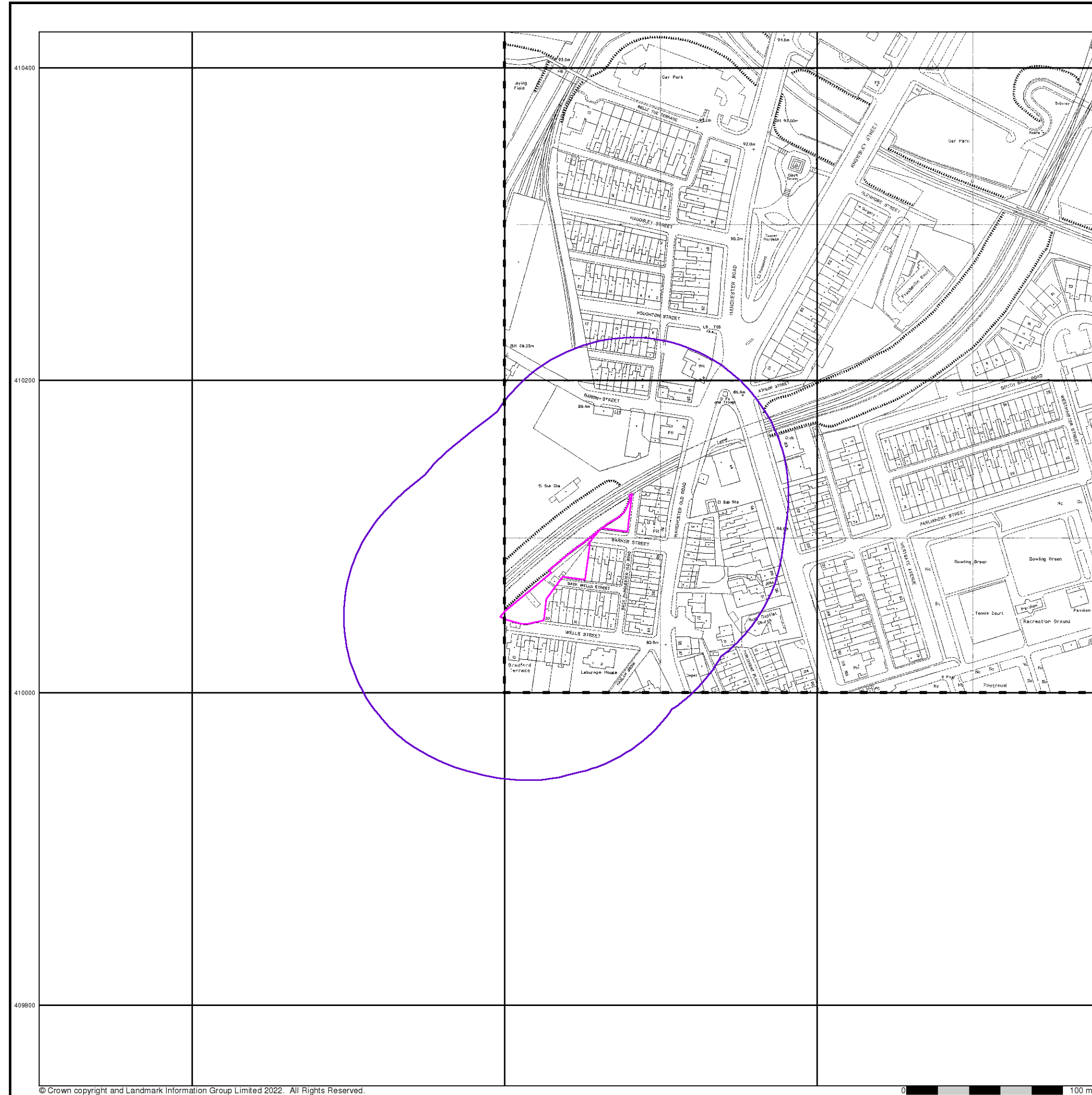
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0 100 m

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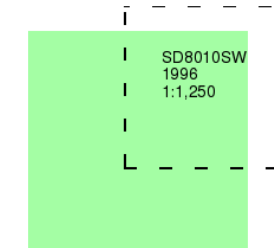
## Large-Scale National Grid Data

Published 1996

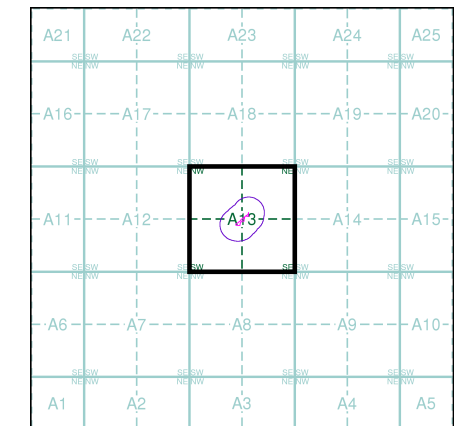
Source map scale - 1:1,250

'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)



### Historical Map - Segment A13



### Order Details

Order Number: 302209573\_1\_1  
Customer Ref: ES051022c  
National Grid Reference: 380040, 410080  
Slice: A  
Site Area (Ha): 0.11  
Search Buffer (m): 100

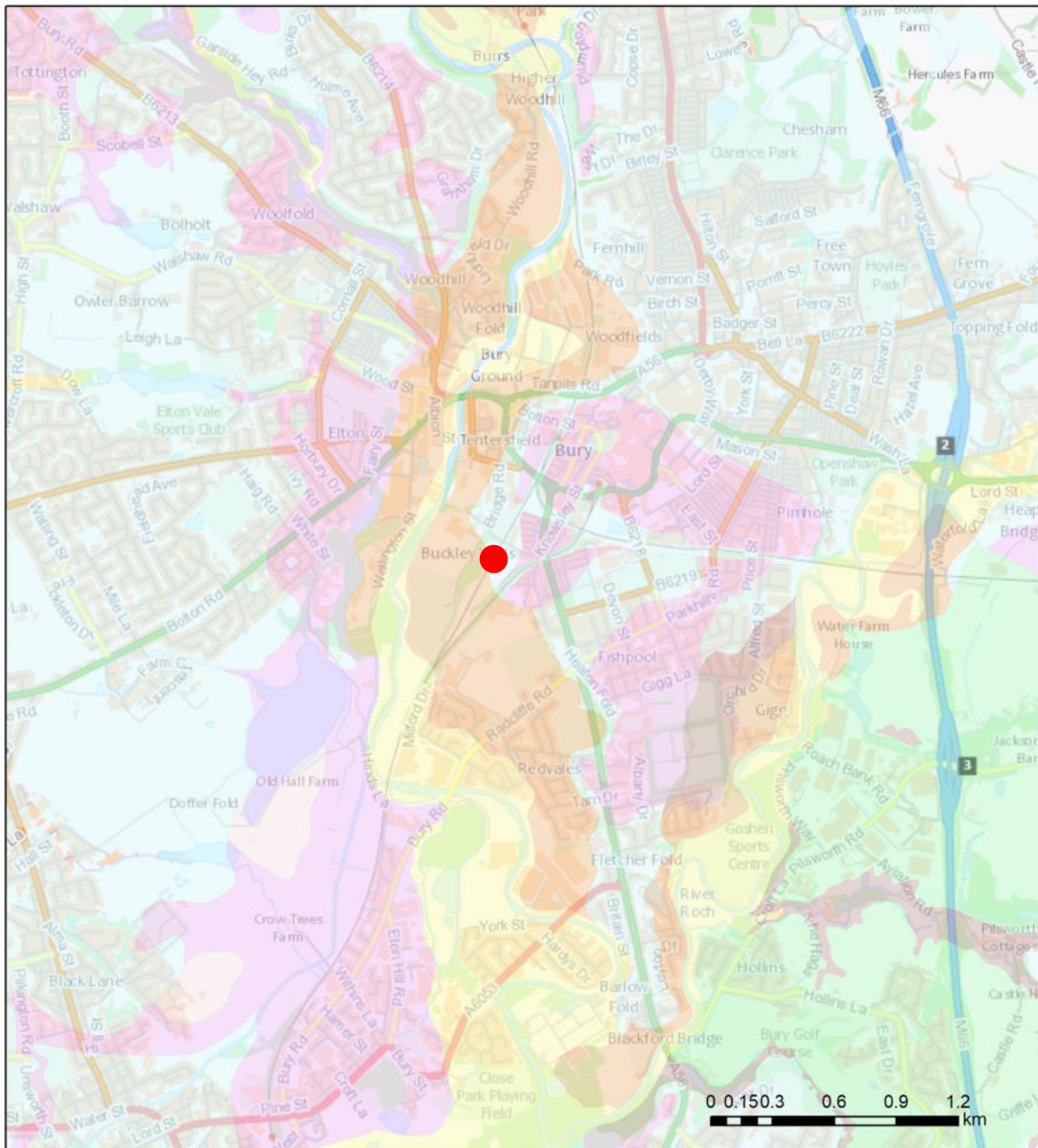
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## Appendix D – Geological Maps



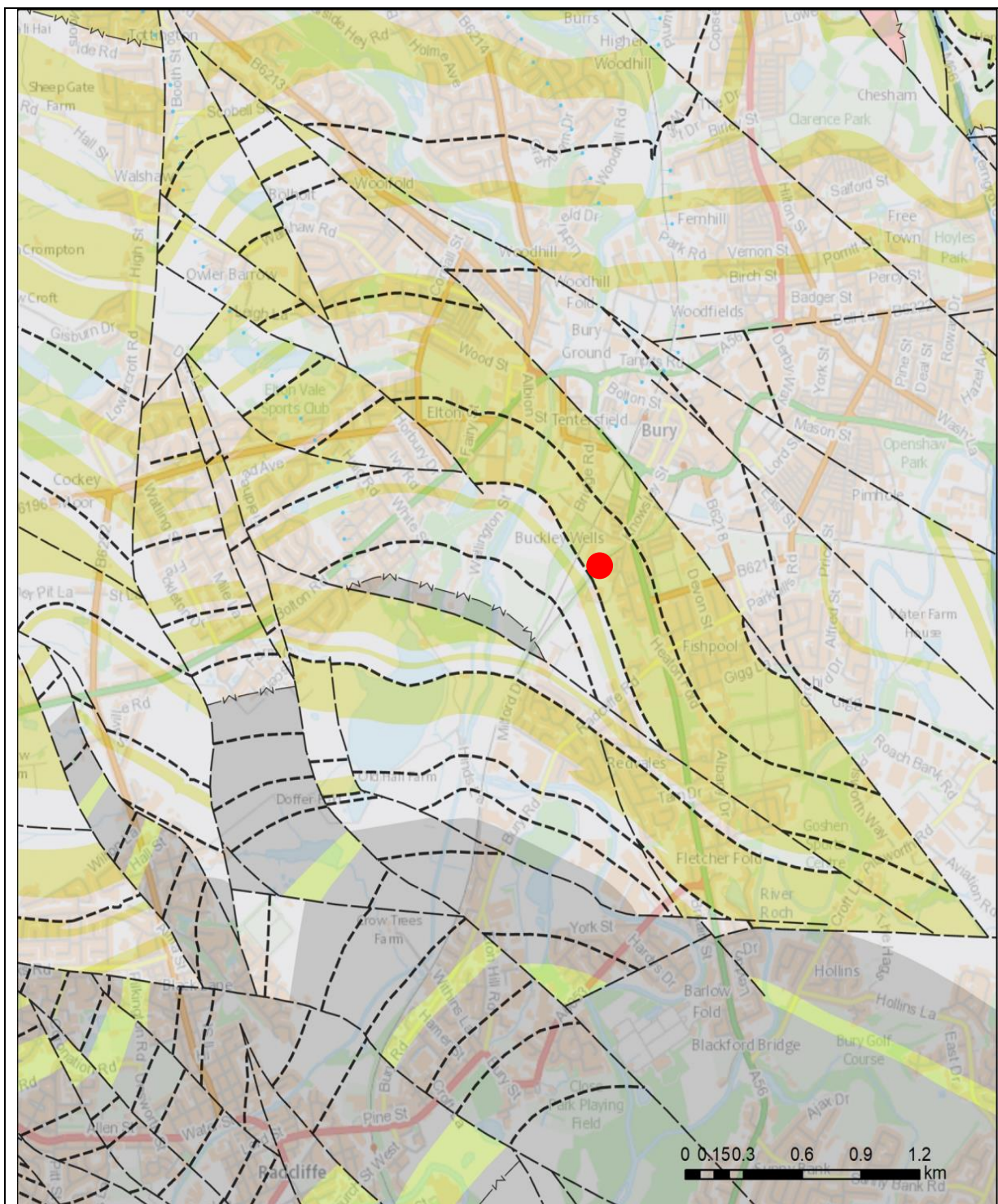
Superficial deposits 1:50,000 scale

- GLACIOFLUVIAL DEPOSITS, DEVENSIAN - SAND AND GRAVEL
- TILL, DEVENSIAN - DIAMICTON
- GLACIOLACUSTRINE DEPOSITS, DEVENSIAN - CLAY AND SILT
- HUMMOCKY (MOUNDY) GLACIAL DEPOSITS, DEVENSIAN - DIAMICTON
- ALLUVIUM - CLAY, SILT, SAND AND GRAVEL
- HEAD - CLAY, SILT, SAND AND GRAVEL
- RIVER TERRACE DEPOSITS, 1 - SAND AND GRAVEL
- LACUSTRINE DEPOSITS - SAND AND GRAVEL

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**Superficial Geology**





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Bedrock Geology

Bedrock geology 1:50,000 scale

|                                                                                   |                                                                                                   |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
|  | <a href="#"><u>PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE</u></a>  |
|  | <a href="#"><u>ROSSENDALE FORMATION - MUDSTONE AND SILTSTONE</u></a>                              |
|  | <a href="#"><u>ROUGH ROCK - SANDSTONE</u></a>                                                     |
|  | <a href="#"><u>PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE</u></a> |
|  | <a href="#"><u>CANNEL ROCK (SOUTH LANCASHIRE) - SANDSTONE</u></a>                                 |
|  | <a href="#"><u>PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE</u></a>                         |

Linear features 1:50,000 scale

|                                                                                   |                                         |
|-----------------------------------------------------------------------------------|-----------------------------------------|
|  | Buried_channel_Margin                   |
|  | Coal_seam_Inf                           |
|  | Fault_Inf_Crossmark_on_downthrow_side   |
|  | Glacial_meltwater_channel_Centre_Head   |
|  | Glacial_meltwater_channel_Centre_Tail   |
|  | Glacial_meltwater_channel_Centre_Undiff |
|  | Marine_band                             |

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Bedrock Geology Key



# Appendix E – BGS Borehole

Ref: SD81SW502

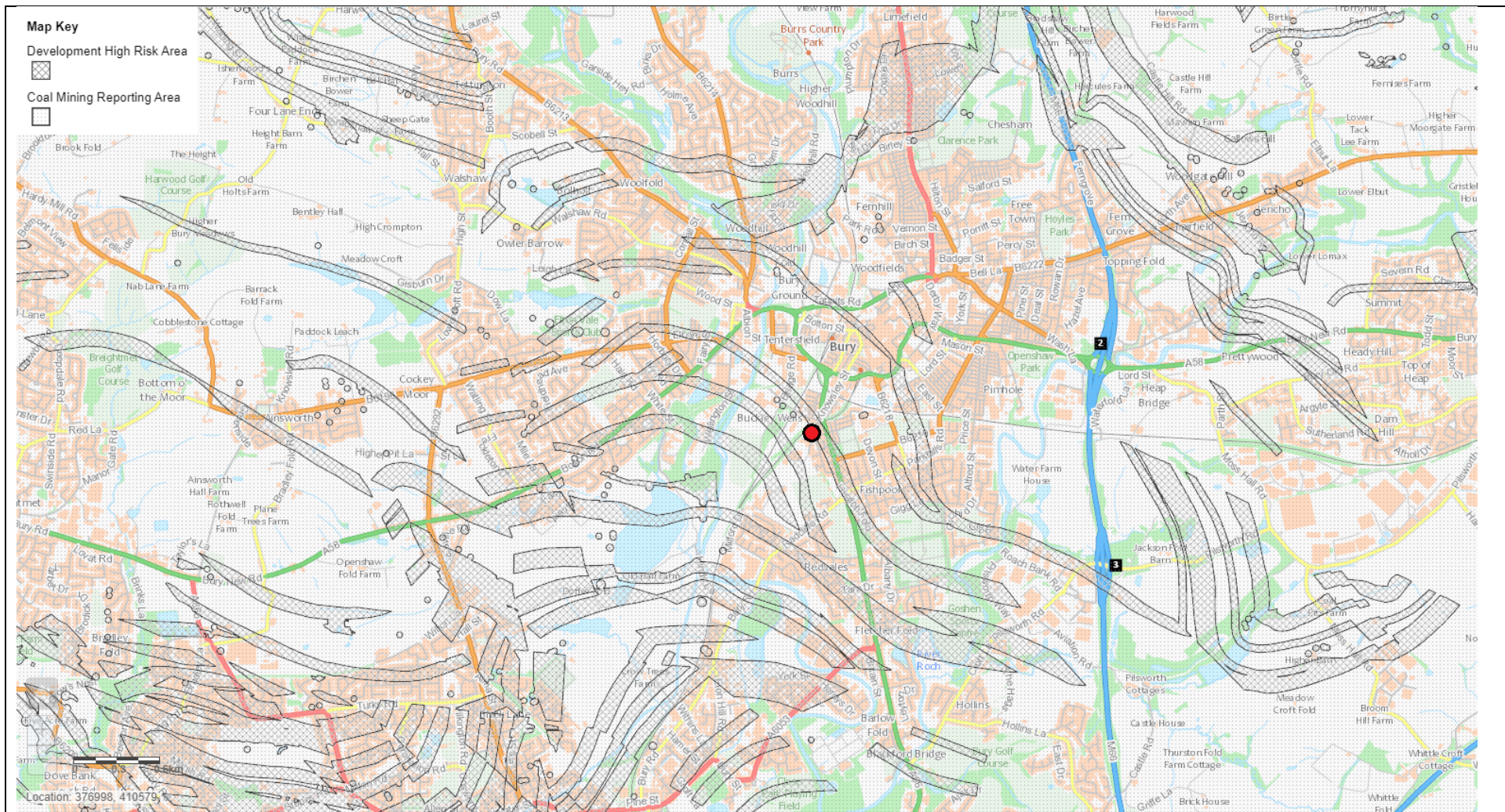
|                                       |                                                                                      |                                                                                                            |
|---------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Status<br><b>Final</b><br>Date 7/5/93 | <b>Norwest Holst Soil Engineering Ltd.</b><br><b>BOREHOLE LOG - CABLE PERCUSSION</b> | Borehole No.<br><div style="text-align: center; font-size: 1.5em; font-weight: bold;">4</div> Sheet 1 of 1 |
|---------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|

|                               |                             |                                   |
|-------------------------------|-----------------------------|-----------------------------------|
| Contract No. F9732            | Method Cable Percussion     | Coords. <del>N56</del> 8034 1093  |
| Project South Bank Road, Bury | Drilling Rig Diameter 150mm | Ground Level 51.37 TBM c + 86 AOD |
| Client Jackson Residential    |                             | Orientation Vertical              |
| Consultant Shepard Gilmour    | SD 81 SW / 273              | Date Started 03/03/93             |
|                               |                             | Date Completed 04/03/93           |

| Description of Strata                                                                                                                                     | Legend | Depth below G.L. | O.D. Level | Sampling     | Casing Depth | () & "N" | Install-ation |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------------|------------|--------------|--------------|----------|---------------|
| MADE GROUND: Firm to stiff dark brown sandy clay with occasional to some subangular to rounded fine to coarse gravel and occasional cobbles and rootlets. |        |                  |            | B 0.00 2.00  |              |          |               |
|                                                                                                                                                           |        |                  |            | C 0.55 1.00  |              | "9"      |               |
|                                                                                                                                                           |        |                  |            | C 1.55 2.00  |              | "10"     |               |
|                                                                                                                                                           |        |                  |            | D 2.20 2.30  |              |          |               |
| Stiff brown mottled light grey very sandy CLAY with some fine to coarse gravel and occasional sandy partings.                                             |        | 2.70             | 48.67      | C 2.55 3.00  |              | "9"      |               |
| Medium dense dark brown clayey gravelly SAND. Gravel subangular to rounded fine to coarse with occasional cobbles.                                        |        | 3.10             | 48.27      | D 2.90 3.00  |              |          |               |
|                                                                                                                                                           |        |                  |            | B 3.00 4.00  |              |          |               |
|                                                                                                                                                           |        |                  |            | C 3.55 4.00  |              | "24"     |               |
| Stiff to very stiff dark brown sandy silty CLAY with some fine to coarse gravel and occasional cobbles and boulders.                                      |        | 4.00             | 47.37      |              |              |          |               |
|                                                                                                                                                           |        |                  |            | D 4.20 4.30  |              |          |               |
|                                                                                                                                                           |        |                  |            | U 4.55 5.00  |              | (50)     |               |
| Stiff light grey brown mottled orange and yellow very sandy silty CLAY with some to much gravel and occasional cobbles.                                   |        | 5.00             | 46.37      | D 5.00 5.15  |              |          |               |
| Medium dense greeny yellowey brown slightly clayey very sandy GRAVEL. (Completely weathered sandstone)                                                    |        | 5.50             | 45.87      |              |              |          |               |
|                                                                                                                                                           |        |                  |            | CB 5.55 6.00 |              | "24"     |               |
| Light greyey green mottled brown in places, friable highly weathered slightly gravelly SANDSTONE very weak to weak. Occasionally clayey.                  |        | 6.00             | 45.37      |              |              |          |               |
|                                                                                                                                                           |        |                  |            | CB 6.55 7.00 |              | "56"     |               |
|                                                                                                                                                           |        |                  |            | S 7.05 7.43  | 7.00         | 103/225  |               |
| Borehole Complete at 7.43m.                                                                                                                               |        | 7.43             | 43.94      |              |              |          |               |

|                                                                                                                                      |                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| REMARKS - See Header Sheet for:<br>Key to Symbols and abbreviations<br>Drilling Details, Progress and Water Strikes<br>General Notes | <br>Form G112<br>Version 1.04<br>Revised 24.09.92 |
|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|

## Appendix F – Coal Mining Summary Map

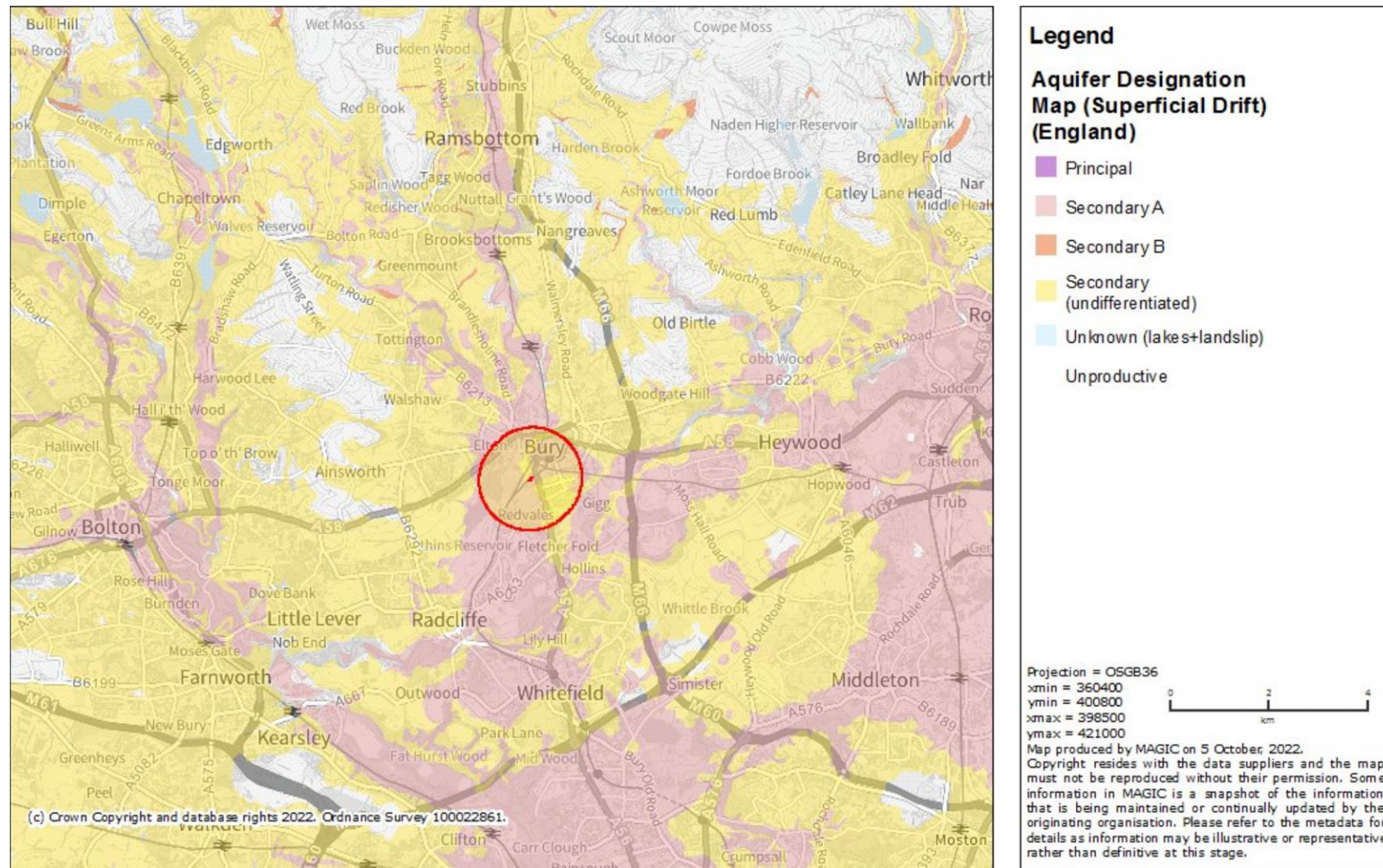


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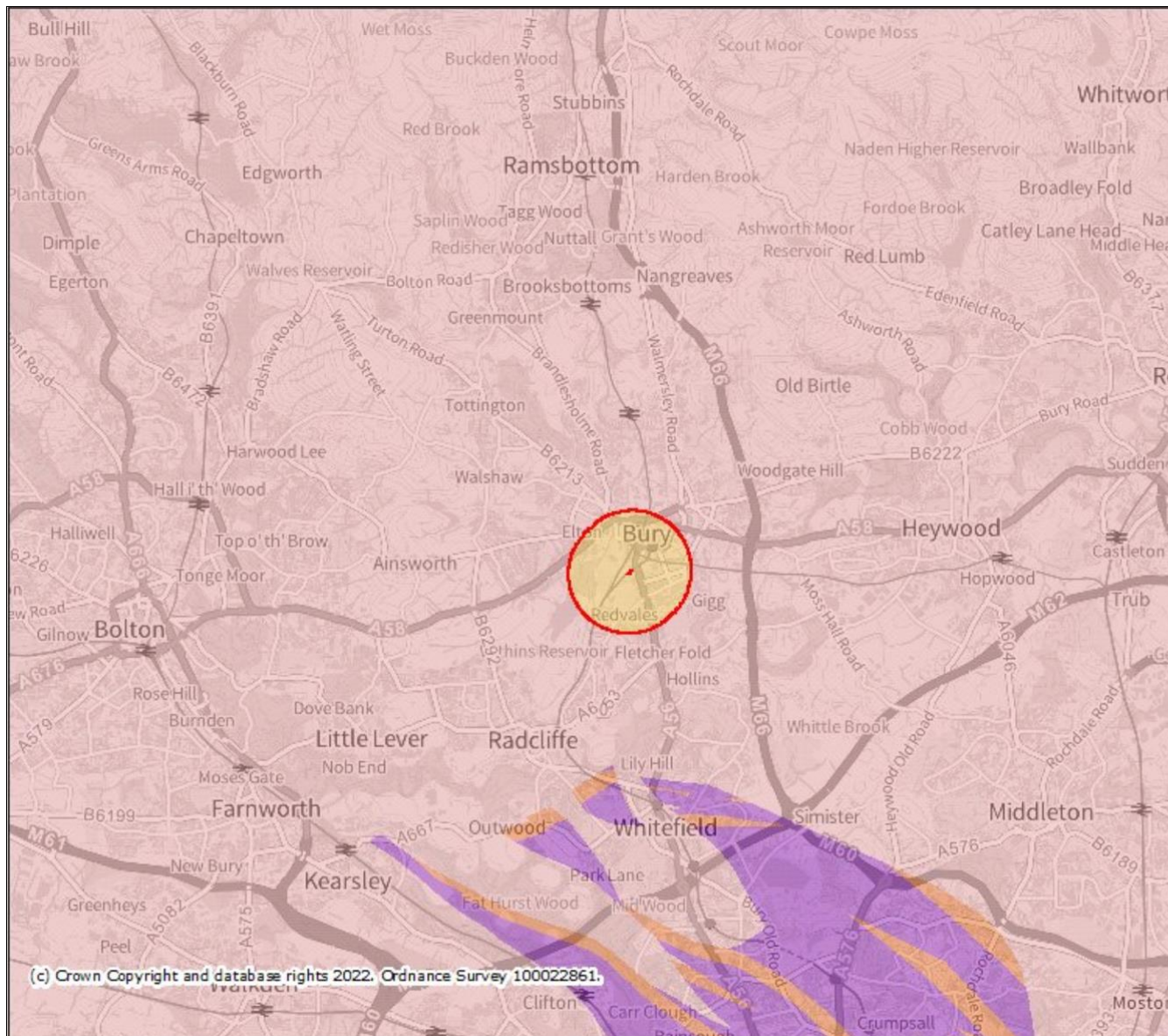
Coal Mining Summary Map



## Appendix G – Hydrogeological Maps







## Legend

### Aquifer Designation Map (Bedrock) (England)

- Principal
- Secondary A
- Secondary B
- Secondary (undifferentiated)
- Unproductive

Projection = OSGB36

xmin = 360400

ymin = 400800

xmax = 398500

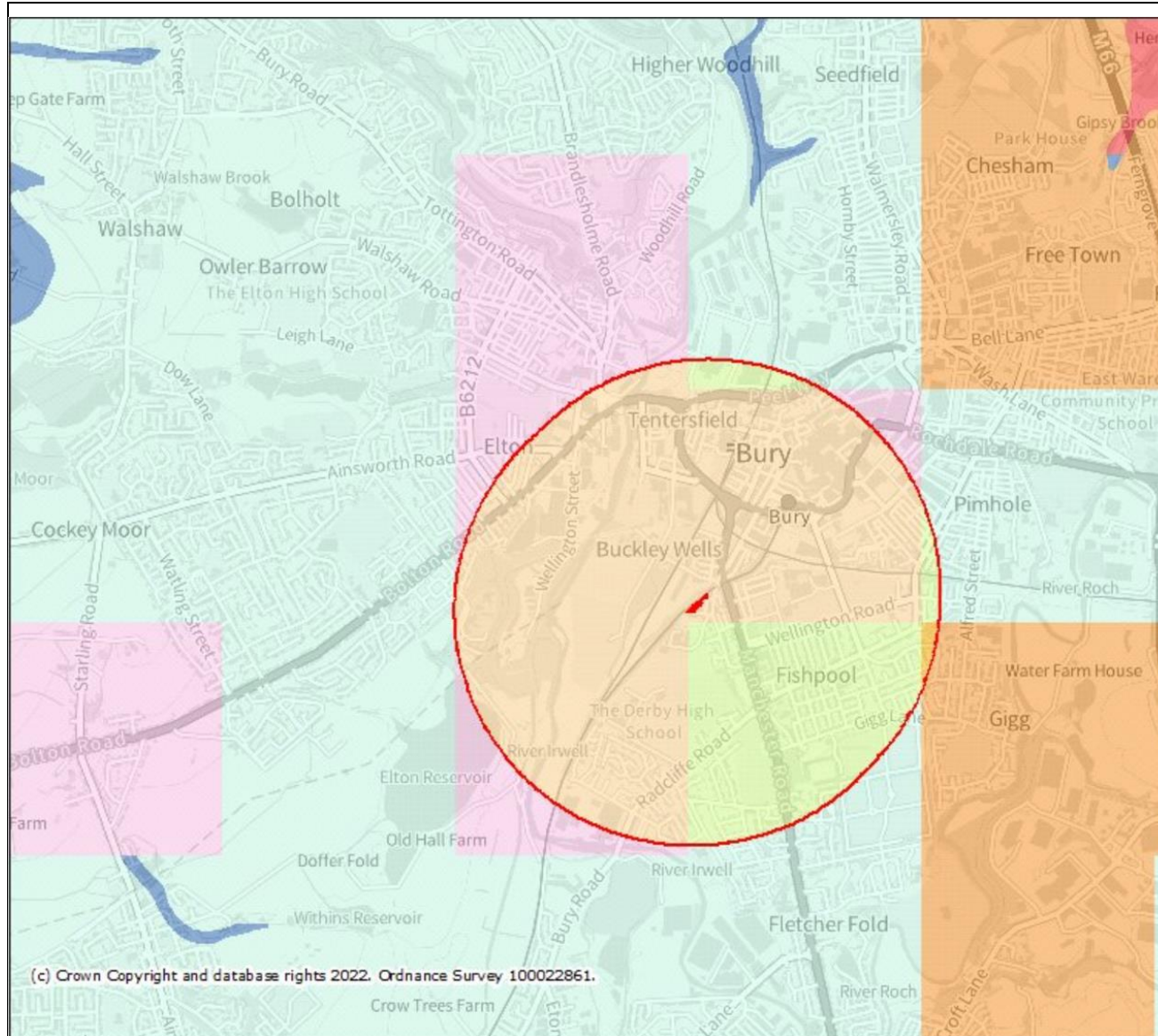
ymax = 421000



Map produced by MAGIC on 5 October, 2022.

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## Legend

### Groundwater Vulnerability Map (England)

- Local Information
- Soluble Rock Risk
- High
- Medium - High
- Medium
- Medium - Low
- Low
- Unproductive

Projection = OSGB36

xmin = 374800

ymin = 407900

xmax = 384300

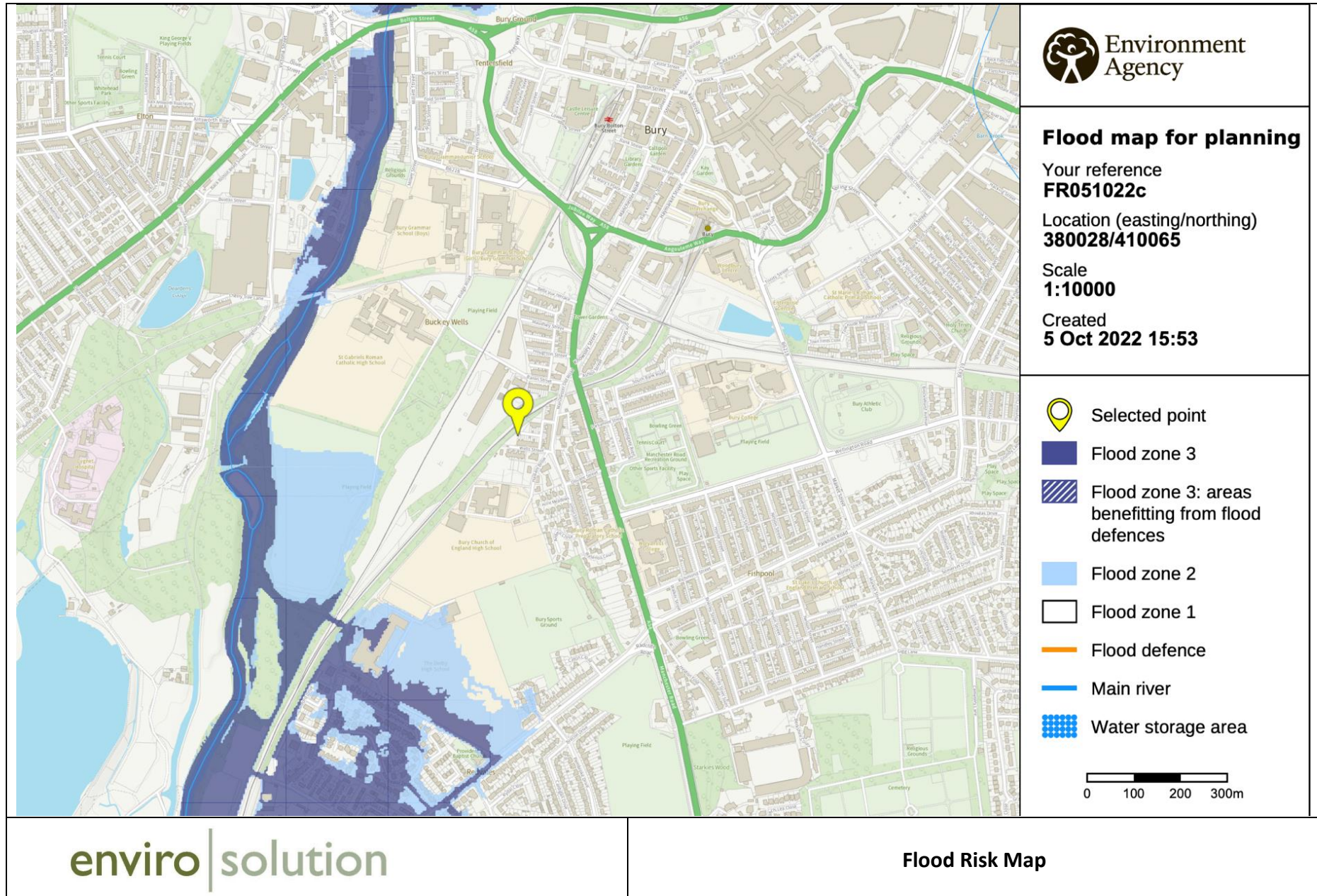
ymax = 412900

Map produced by MAGIC on 5 October, 2022.

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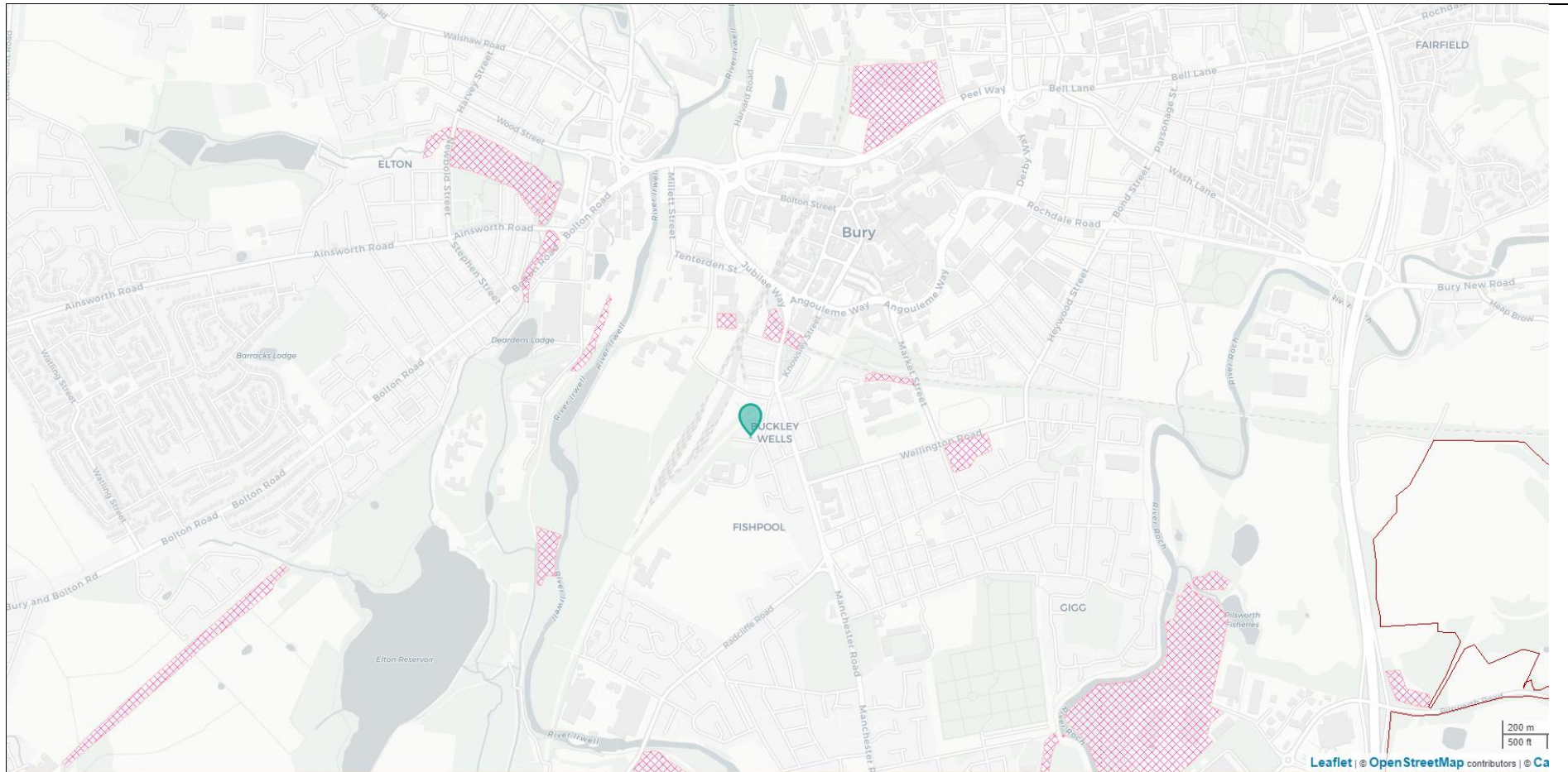


## Appendix H – Flood Risk Map





## Appendix I – Historic Landfill Map



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Historic Landfill Map

## Appendix J – Environmental Designations

