



EIA Scoping Report

Residential-Led Mixed-Use Development

Policy C1, Penwortham

November 2018

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For and on behalf of GVA HOW Planning

1. Introduction

- 1.1 Taylor Wimpey and Homes England (the 'Applicants') are seeking to obtain planning permission for residential-led mixed-use development and Cross Borough Link Road (CBLR) on land to the east of Penwortham Way known as 'Policy C1, Penwortham' (the site). The site is located within the administrative authority of South Ribble Borough Council (SRBC).
- 1.2 The site is allocated in the South Ribble Local Plan (adopted in July 2015) as a Major Site for Development (under Policy C1). A Site Location Plan of the proposed development site can be found at **Appendix 1.1**.
- 1.3 A hybrid planning application is to be submitted which will propose:
- (i) In outline detail: residential led mixed use development that will deliver up to approximately 1,350 dwellings and a mix of other uses including retail, commercial, education and community uses and green infrastructure; and
 - (ii) In full detail: vehicular access from the Penwortham Way and the Cross Borough Link Road (CBLR) extension within the extent of the red line boundary shown in **Appendix 1.1**.
- 1.4 The Applicants have commissioned a technical team to undertake a range of baseline surveys across the site which have informed the scope of the EIA as set out in the Scoping Report.

Requirement for Environmental Impact Assessment

- 1.5 Regulation 6 of the Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2017 (hereafter referred to as the '2017 EIA Regulations') makes provision for a developer to request a 'Screening Opinion' from the Local Planning Authority (LPA) to ascertain whether an EIA is required if a development is classed as a Schedule 2 development. This decision is based on the likelihood of significant environmental effects arising in relation to the development proposals. In this instance, due to the location and size of the proposed development, it is considered to be 'EIA Development'. The Applicants consider the proposals to be EIA Development and will submit an Environmental Statement.
- 1.6 The proposed development qualifies as Schedule 2, Class 10 '*Infrastructure Projects*' Subsection (b) '*Urban development projects, including the construction of shopping centres and car parks, sports stadiums, leisure centres and multiplex cinemas*'.
- 1.7 In accordance with Regulation 15(4) of the 2017 EIA Regulations, we request that SRBC provides a Scoping Opinion within 5 weeks of receipt of this report.

EIA Scoping

- 1.8 Under Regulation 15 of the 2017 EIA Regulations, a person who is minded to make an EIA application may ask the relevant planning authority to state in writing their opinion as to the information to be provided and subsequently reported in an Environmental Statement (ES) (a 'Scoping Report'). The scoping process is an integral part of undertaking an EIA and its purpose is to provide relevant background information about the

sites, the proposed development, key environmental issues and the approach for the assessment of potential effects.

1.9 This Scoping Report outlines the proposed development and identifies issues that will be assessed by the EIA and reported in the ES that will accompany the planning applications. The objectives of the scoping process are to:

- Provide a detailed description of the development, including its physical characteristics and land use requirements;
- Identify key environmental topics that the EIA will consider;
- Define the extent to which environmental topics will be investigated;
- Allow consultation with the LPA, and Statutory and Non-Statutory consultees; and
- Provide a mechanism for agreeing the content and methodology of the EIA with stakeholders at an early stage in the process.

Structure of Report

1.10 The report is divided into the following sections:

- **Section 2: Site Context:** This section describes our understanding of the current conditions of the site and the surrounding area.
- **Section 3: Description of Development:** This section provides a description of the development.
- **Section 4: EIA Approach:** This section provides the proposed approach to undertaking the EIA.
- **Section 5: Alternatives:** This section sets out the approach to the alternatives assessment.
- **Section 6: Planning Policy Context:** This section provides details of the planning policies which are relevant to the Proposed Development.
- **Section 7 – 17: Environmental Assessment Topics:** Outlines the proposed methodology for the ES and for each technical assessment expressed as chapters and/or appendices of the ES.
- **Section 18: Non-Significant Issues:** Sets out those environmental issues deemed to be non-significant for the purposes of EIA and that would not be included as a chapter in the ES.
- **Section 19: Structure of the Environmental Statement:** Defines the proposed structure of the formatting of the ES, chapters and document formats.
- **Section 20: Summary and Conclusions.**

The Environmental Impact Assessment Team

1.11 The ES will be compiled using a wide range of sources and with inputs from competent experts. The organisations and their roles in the project team are listed in Table 1.1 below.

Table 1.1: The EIA Project Team

Discipline	Company
Ecology and Nature Conservation	TEP
Heritage and Archaeology	CgMs
Landscape and Visual	Camlin Lonsdale
Ground Conditions	ROC
Flood Risk and Drainage	ROC
Transport and Access	Croft
Air Quality and Dust	REC
Noise and Vibration	REC
Socio-economic assessment	Hatch Regeneris
Climate Change	BWB
Health	PBA (part of Stantec)
EIA Co-ordination	GVA HOW

2. Site Context

2.1 This section sets out the geographical context of the site and summarises potential environmental constraints and sensitive receptors in their vicinity.

Site Location and Description

2.2 The site is irregular in shape and occupies approximately 78ha on land to the east of Penwortham Way to the south of the settlement of Penwortham. The site is located within the administrative authority of SRBC. The northern extent of the site is located within the ward of Charnock and the southern extent is located within the ward of Farington West.

2.3 The site is bound by Penwortham Way to the west, existing residential development south of Kingsfold Drive to the north, the West Coast mainline railway to the east and agricultural fields to the south.

2.4 The site comprises a mix of land uses including:

- Agricultural land separated into a number of fields by fences, hedgerows and trees;
- Residential dwellings and gardens;
- Agricultural buildings;
- Stables;
- Pylon accommodation land;
- Pylon corridor;
- Roads; and
- Industrial and commercial uses including a 1 vehicle repair centre, fencing company and dairy.

2.5 The surrounding area comprises a mix of agricultural land to the east and south beyond Penwortham Way and Cootes Lane/Chain House Lane, the settlement of Penwortham to the north and Tardy Gate to the east beyond the railway.

2.6 The site lies within Flood Zone 1 meaning that the site has a less than a 1 in 1,000 (1:1,000) annual probability of flooding from fluvial sources. The site is located approximately 50m east of Mill Brook which is a tributary of the River Ribble, which itself is located approximately 1.5km north of the site. The river Lostock is located approximately 0.7km southeast of the site beyond Farrington.

2.7 Hydraulic modelling has previously been undertaken at the site which has highlighted potential surcharging of drains to the north of the site. This is discussed further in Section 11: Drainage and Flood Risk of this report.

2.8 There are no foul or combined sewers present within the site boundary and the existing properties are served by septic tanks and cesspits.

2.9 There are a number of Ordinary Watercourse features present within the site itself which generally drain to the south and east of the existing site. These are primarily open channels located along field boundaries

adjacent to hedge and fence lines. With regards to surface water flooding, according to the Flood Map for Planning¹ the majority of the site is at Very Low risk. However, there is an area in the northern extent of the site which is at Low risk, and isolated areas across the site which are at Medium and High risk. There is no risk from flooding from reservoir sources at the site.

- 2.10 The bedrock geology is that of the Singleton Mudstone Member (Mudstone). This is overlain by Devensian Till (Diamicton) superficial deposits.
- 2.11 The site has remained largely as undeveloped agricultural land since earliest mapping records with the exception of residential properties and light industrial activities.
- 2.12 There are no active or historic landfills located either within the site boundary or within 1km of the proposed development.
- 2.13 There are no statutory ecologically designated sites either within the site boundary or within 2km of the site. No non-statutory ecologically designated sites are located within the site boundary, however, Preston Junction Local Nature Reserve (LNR) is located approximately 0.8km northeast of the site.
- 2.14 There are a number of trees located across site, one of which is subject to a Tree Preservation Order (TPO).
- 2.15 There are no statutory heritage designations (Scheduled Monuments, Grade I Grade II Listed Buildings, Conservation Areas, Registered Parks and Gardens or Registered Battlefields) within the site boundary. There are a number of designated heritage assets located within 2km of the site which include:
- 14 Listed Buildings, the closest of which is the Grade II Listed Church of St Paul (approximately 0.5km southeast);
 - Miller Park Grade II* Registered Park and Garden (approximately 2km north); and
 - Penwortham Old Bridge Scheduled Monument (approximately 1.7km north).
- 2.16 The predominant source of local noise originates from road traffic on Penwortham Way to the immediate west of the site. The West Coast railway line located to the immediate east of the site is also a source of noise.
- 2.17 The site is not located within close proximity to an Air Quality Management Area (AQMA); the closest AQMA is located to the east of the site on Leyland Road (approximately 0.4km east).

Environmental Constraints and Potentially Sensitive Receptors

- 2.18 Features of the sites and surrounding area may form a constraint to development or be identified as a sensitive receptor that may be affected by the site. Identifying such constraints and receptors early in the design process ensures that mitigation measures are designed into the proposals progressively from the outset and are fully integrated into the design where appropriate. Details on specific environmental constraints and opportunities found at and around the site are presented within the technical sections of this document (see sections 7 to 16).

¹ <https://flood-map-for-planning.service.gov.uk/>

3. Description of Development

- 3.1 A hybrid planning application is to be submitted which will propose:
- (i) Outline planning permission for: A residential led mixed use development that will deliver up to approximately 1,350 dwellings and a mix of other uses including retail, commercial, education and community uses and blue and green infrastructure; and
 - (ii) Detailed planning permission: Vehicular access from Penwortham Way and the Cross Borough Link Road as shown in **Appendix 1.1**.
- 3.2 Although the exact quantum of development and proposed uses will be refined as part of the design process, the application will accord with the requirements of Policy C1 of the adopted South Ribble Local Plan.
- 3.3 The main vehicular access to the site will be via a signal controlled junction from Penwortham Way.
- 3.4 The ES will include a detailed description of the proposed development at the site and the construction activities required for its delivery. This section of the ES will also include a summary of the general principles required to avoid or reduce impacts during the construction stage.
- 3.5 The description of the proposed development section will also include information on those mitigation measures that have been designed-in to the proposals, having been identified as necessary through the EIA process. These features of the proposals will be considered to be part of the development that is subject to the final assessment of impacts presented in the ES. Where mitigation measures are not of a nature that they can be designed into the scheme, they will be specified separately. Further detail relating to the approach to mitigation is presented in Section 4 of the Scoping Report.
- 3.6 Although the elements set out above are currently anticipated to form part of the proposals, the details will be informed and refined through the EIA process and the continuous process of consultation with the LPA and key stakeholders.

4. EIA Approach

4.1 This section details the proposed technical areas for assessment within the ES. It sets out the legislative framework, an outline of the intended approach to assessment and the potential effects that have been identified at this stage. Where appropriate and where sufficient information is known, it outlines potential mitigation measures.

Potentially Significant Issues

4.2 The scoping exercise has identified several study areas which have the potential to generate significant environmental effects. Accordingly, the following environmental issues have been 'scoped in' to the EIA for the proposed development:

- Ecology and Nature Conservation;
- Heritage and Archaeology;
- Landscape and Visual;
- Ground Conditions;
- Flood Risk and Drainage;
- Transport and Access;
- Air Quality & Dust;
- Noise and Vibration;
- Socioeconomics;
- Climate Change; and
- Health.

4.3 Each of these technical assessment areas is discussed in greater detail in sections 7–17 of this report.

EIA Approach and Methodology

4.4 The ES will be prepared to fully comply with Schedule 4 (Part I and II) of the 2017 EIA Regulations: 'Information for Inclusion in Environmental Statements'; and in accordance with National Planning Practice Guidance (NPPG).

4.5 The 2017 EIA Regulations state that:

"4. A description of the factors specified in regulation 4(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions), impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.

5. A description of the likely significant effects of the development on the environment resulting from, *inter alia*:

- (a) the construction and existence of the development, including, where relevant, demolition works;
- (b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;
- (c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;
- (d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);
- (e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;
- (f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;
- (g) the technologies and the substances used.

The description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project, including in particular those established under Council Directive 92/43/EEC(a) and Directive 2009/147/EC(b)."

4.6 As such a consistent approach will be adopted throughout the EIA to ensure that likely significant effects are identified and evaluated in a transparent manner. Each environmental assessment topic will adopt the following approach:

- Baseline Assessment and Identification of the Study Area;
- Identification of Sensitive Receptors;
- Identification of Potential Impacts during Construction and Operation of the Proposed Development (including indirect, direct, adverse and beneficial);
- Assessment of Impact Significance;
- Identification of Potential Impacts Mitigation Measures;
- Assessment of Residual Impacts; and
- Assessment of Cumulative Impacts.

Assessment Parameters

4.7 The 2017 EIA Regulations, supported by precedents from UK case law, have established a legal framework for the process of EIA and the contents of Environmental Statements (ESs). More specifically, as a result of a

legal case associated with Rochdale Metropolitan Borough Council (RMBC), the 'Rochdale Envelope Principle' is now an accepted way of assessing outline applications where full detail is not available.

- 4.8 The application will be accompanied by plans which set the parameters for the development. Detailed planning application drawings including sections and elevations for the proposed access will be provided. The outline element will be defined utilising land use and height parameter plans. This enables the likely significant effects of the development to be assessed and appropriate mitigation measures identified.
- 4.9 In order to ensure that what is built will have been assessed in the EIA process, the parameter plans for the outline elements will be tied to the planning permission by conditions which will require any reserved matters to conform with the parameter plans. In this way, the likely significant impacts of whatever is built will have been assessed in the ES. This is a robust approach to assessing development in outline planning applications, as established in the Rochdale case.
- 4.10 The EIA parameters, along with the written description of the proposed development [to be provided in Chapter 5 of the ES], will allow the likely significant effects of the proposal to be fully assessed and appropriate mitigation measures secured. The proposed EIA parameters to be prepared for the site are presented in Table 4.1 below.

Table 4.1: EIA Parameters

EIA Parameters	Purpose
Planning Application Boundary	Defines the extent of the site and the proposed development.
Land Use and Height Parameter Plan	Defines the type of development permissible within the identified zones and the maximum height of development permissible within the identified zones. Heights are defined in storey height and taken from the existing topographical level (unless otherwise stated).
Detailed Application Drawings for Access	Provides detailed information on access arrangements.
Demolition Plan	Defines the buildings on site which will be demolished.

- 4.11 In addition to the parameters plans, an indicative masterplan for the outline elements will provide an indication of the likely development layout and associated landscaping proposed and allow informed assumptions about the development to be applied. A Design and Access Statement will accompany each of the planning application and will present further indicative information about the proposed development, as will the description of development presented in the ES.

Significance Criteria

- 4.12 The assessment of significance will be undertaken for all potential effects to determine their relative importance. The following criteria will be considered when assessing their significance:
- Magnitude (size of effect);

- Spatial extent (size of the area affected);
- Duration (short, medium or long term);
- Nature of the effect (direct or indirect, reversible or irreversible);
- Sensitivity of the surrounding environment and receptors;
- Inter-relationship between effects;
- International, national or local standards; and
- Relevant planning policy.

4.13 Where appropriate and not restricted by the requirements of specific guidance, the significance criteria below will be used to categorise predicted effects. Where alternative classifications have been used in order to comply with specific guidance, they will be explained in the methodology sections within each technical assessment. The significance levels identified can be either adverse or beneficial.

Table 4.2: Significance Criteria

Significance	Criteria
Major	These impacts are likely to be important considerations at a regional or district scale but, if adverse, are potential concerns to the project, depending upon the relative importance attached to the issue during the decision making process. Mitigation measures and detailed design work are unlikely to remove all of the impact upon the receptor.
Moderate	These impacts, if adverse, while important at a local scale, are not likely to be key decision making issues. Nevertheless, the cumulative effect of such issues may lead to an increase in the overall effects on a particular area or a particular resource. They represent issues where impacts will be experienced but mitigation measures and detailed design work may ameliorate/enhance some of the consequences upon affected communities or interest. Some residual impact may still arise.
Minor	These effects may be raised as local issues but are unlikely to be of importance in the decision making process. Nevertheless, they are of relevance in the detailed design of the project and consideration of mitigation measures.
Negligible	Potential impact is beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.
No Impact	No Impact is predicted.

Mitigation

4.14 As set out within paragraph 7 of Schedule 4 of the 2017 EIA Regulations, the EIA will include:

“A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases”.

- 4.15 Mitigation is defined as those measures that are required to avoid, remedy or offset the identified environmental impacts of a project. As described in Section 3, those mitigation measures that are identified through the EIA process and which have been designed into the proposals such that they appear on the parameters plans and are integral to the development will be considered to be part of the development for the final assessment as presented in the ES. Embedded mitigation will be described in full in Chapter 5 The Proposed Development under 'Embedded Mitigation' section. This 'embedded' mitigation will be described in each technical chapter prior to the assessment of potential impacts. It is placed in this order to enable an assessment of the impacts to be made which takes into account the mitigation measures which have been designed in to the proposed development, i.e. embedded into the design.
- 4.16 Mitigation that is not embedded into the proposals and which requires a commitment from the applicants to carry out further actions will be specified in the Mitigation section of each technical chapter and summarised in the Summary of Mitigation and Residual Effects chapter. These measures would then be secured through the application of conditions attached to the planning permission or through an appropriate legal framework, such as the Section 106 agreement.

Residual Effects

- 4.17 Each ES chapter will conclude with a summary of the residual effects of the developments once all related mitigation measures have been taken into account.

Cumulative Effects

- 4.18 The EIA Regulations also require the assessment of cumulative effects. Cumulative effects may be divided into two categories as follows:
1. Additional impacts arising from interrelationships within the same scheme; and
 2. Those arising from the scheme in combination with other proposed developments.
- 4.19 Most cumulative effects result when construction phases of more than one development overlap. However, the assessment will also assess operational effects of more than one development, where appropriate.
- 4.20 Cumulative effects will be discussed as a separate chapter, assessing the potential for cumulative effects for each technical assessment, thus ensuring that the LPA can evaluate the impacts of the development in isolation and in conjunction with other developments in the area.
- 4.21 GVA HOW have undertaken a cumulative site search for planning applications submitted to SRBC planning portal between October 2016 and October 2018. The search area extended to a 2km radius from the site boundary. This search area is considered robust given the nature of the development and its location.

Table 4.3: Cumulative sites

Application No.	Proposal	Approx. Distance and Direction	Status
07/2017/1266/REM	Reserved Matters application for the erection of 61 residential units comprising of dwellings and apartments with associated landscaping	Approximately 1km north	Approved 14 December 2018
07/2014/0184/ORM	Outline application for Residential development of up to 400 dwellings (access applied for)	Approximately 1.4km south	Approved on 11 March 2016
07/2017/0211/ORM	Hybrid planning application comprising of Full and Outline development - Environmental Impact Assessment (EIA) development Part 1 FULL - Retail floorspace (Use Classes A1 & A3) and associated car parking, site access, highway works, drainage and strategic landscaping; Part 2 OUT - Employment floorspace (Classes B1, B2 & B8), hotel (Class C1), health and fitness and leisure (Class D2), creche/nursery (Class D1), retail (Classes A1, A2, A3, A4 & A5), car showrooms (Use Class Sui Generis), residential (Classes C2/C3) and provision of associated car parking, access, public open space, landscaping and drainage (Access applied for) and affecting the setting of a Listed Building	Approximately 1.5km southeast	Approved on 20 December 2017

- 4.22 In addition to the sites outlined in Table 4.3 the safeguarded land located immediately south of the application site presented in **Appendix 1.1** will be assessed for potential cumulative effects.
- 4.23 We invite SRBC to confirm whether there are any existing, approved or committed developments in the area that should be included within the assessment of cumulative effects. The assessment of the cumulative sites will be based on the description of development, red line plans and any available masterplans/parameter plans for any identified sites.
- 4.24 Consideration will be given to the potential synergistic cumulative effects, arising from the interaction of two or more environmental effects associated with the proposed development on a given receptor or resource.

5. Alternatives

5.1 The 2017 EIA Regulations require that the ES provide:

“A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.”

5.2 Therefore, the ES will define the following types of alternatives considered by the applicants:

- The 'do nothing' alternative: Consideration of the impacts in the absence of the development;
- Alternative layout and designs: A description of the design evolution based on environmental constraints, potential effects and other considerations, with a description and account of the main reasons why alternative layouts were dismissed and why the preferred design option was selected.

5.3 No alternative sites were considered for the development as the site is allocated in the South Ribble Local Plan (adopted in July 2015) as a Major Site for Development (under Policy C1).

6. Planning Policy Context

- 6.1 A planning policy context chapter will be included within the ES to assess the proposals against relevant planning policy. The details of policies relating to specific topics addressed within the ES will be contained within the relevant technical chapters.

Context

National Planning Policy

- 6.2 The Planning Policy will comprise a series of national planning documents including the National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG) alongside any relevant policies and guidance. Local planning policy documents will inform the approach to the EIA and the requirement for the proposed development.
- 6.3 The NPPF states the key role of planning is to contribute to the achievement of sustainable development. The NPPF sets out a series of planning policies to achieve sustainable development. Those policies of relevance will be considered and reviewed in light of the proposed development.

Local Planning Policy

- 6.4 The adopted Development Plan for the area comprises:
- The Central Lancashire Core Strategy (adopted in July 2012);
 - The adopted South Ribble Local Plan 2012 – 2026 (adopted in July 2015); and
 - The Penwortham Neighbourhood Plan 2016 – 2026.
- 6.5 The ES will review any relevant adopted planning policies and take these into account within the technical assessment which form part of this ES.

Approach

- 6.6 The merits of the proposed developments will be examined against the relevant planning policies and guidance adopted at national and local levels.
- 6.7 In particular, the following issues will be considered in the ES to set the planning context:
- General planning principles;
 - The compatibility and appropriateness of the proposed uses;
 - The Environment;
 - Employment;
 - Transport;
 - Sustainability and Energy; and

- Design (policy and guidance).

7. Ecology and Nature Conservation

- 7.1 This section of the ES will present an assessment of the potential effects of the proposals on ecological receptors, which will be identified through desk-based research, site surveys and consultation with key stakeholders. The approach proposed in this Scoping Report has been informed by the findings of the desk-based and site survey work and published best practice guidance. The ecological and nature conservation assessment will be undertaken by TEP.

Site Context

- 7.2 The following ecological surveys have been undertaken and provide a detailed understanding of the site context.
- 7.3 The site comprises pasture and arable fields bounded by hedgerows with residential housing and farm buildings and fragments of other habitats including woodland, scrub, grassland, and waterbodies. Existing residential development within Penwortham bounds the site to the north, with Penwortham Way to the west, a railway line to the east and residential development along Chain House Lane to the south.

Arboricultural Survey

- 7.4 The site was surveyed in May 2018 by means of inspection from ground level by a qualified Arboricultural Consultant. Trees were assessed in accordance with BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations* and the results are presented in a series of Tree Constraints Plans (TEP Ref: D6900.001-005). See **Appendix 7.11** for detail.
- 7.5 Tree cover on the site is extensive and typical of the largely agricultural land use with some ornamental and amenity trees around residential properties, roads and areas of public open space.
- 7.6 Trees are distributed evenly throughout the site but concentrated along field boundaries, road edges and around buildings. They are predominantly of moderate and low quality with small percentages of high quality trees and those unsuitable for retention due to their condition. There is a well-established network of hedgerows throughout the site demarcating field boundaries and along roads.
- 7.7 Where the age distribution, species mix or function of tree cover was relatively uniform trees were plotted as groups. Significant individual trees within groups were identified and plotted themselves.
- 7.8 A summary of the results of the ecology surveys undertaken at the site is provided below.

Desk Based Assessment

- 7.9 The site lies within the Impact Risk Zone for Ribble Estuary Site of Special Scientific Interest (SSSI), which is located approximately 6.79km to the west of the site. However, residential development does not fall under a category that would trigger a consultation between the Local Planning Authority (LPA) and Natural England. No impacts are anticipated on this SSSI as a result of the development.

- 7.10 There are six statutorily designated sites within 10km of the site. The nearest of these designations is Beeston Brook Pasture SSSI, which lies 5.77km to the east. The other sites include Ribble and Alt Estuaries Ramsar and Special Protection Area (SPA), Ribble Estuary National Nature Reserve (NNR) and SSSI, Red Scar and Tun Brook Woods SSSI, Darwen River Section SSSI and Newton Marsh SSSI. Due to the distance between these designations and the site, no direct impacts are anticipated on these areas. There may be implications with regard to increased visitor numbers at the above sites, where these areas are open to the public. Addressing this issue will require consultation with the LPA and Natural England.
- 7.11 There are four non-statutory designated sites within 2km of the site. The nearest of these is Preston Junction Biological Heritage Site (BHS) and Local Nature Reserve (LNR), which is located 850m to the northeast of the site. The other sites are Cop Lane Cutting BHS, Hurst Grange Park BHS and Carr Wood BHS. Due to the distance between these designations and the site, no direct impacts are anticipated on these areas. There may be implications with regard to increased visitor numbers at the above sites, where these areas are open to the public. Addressing this issue will require consultation with the LPA and Natural England.
- 7.12 Notable habitats within and adjacent to the site include deciduous woodland and traditional orchards, both of which are habitats of principal importance. These habitats fall outside of the proposed development area and therefore no direct impacts on them are anticipated, provided that appropriate tree protection measures are employed.
- 7.13 See **Appendix 7.1** for further detail.

Phase 1 Habitat Survey

- 7.14 The majority of the site is formed of intensively managed agricultural land which is of low conservation value and therefore there are opportunities to significantly enhance the site for local wildlife within the scheme. There are, however, several habitats that are of higher quality, including hedgerows, wet ditches, ponds and mature trees. The loss of these habitats would reduce the overall ecological value of the site and could have detrimental impacts to the protected species they may support. These will be retained where possible within the scheme or compensatory like-for-like replacement will be provided. Green links and habitat connectivity throughout the site will be maintained and habitat creation will include wildlife-friendly features.
- 7.15 Hedgerows and pond are listed as a Priority Habitat under Section 41 of the NERC Act 2006. Hedgerows are also listed under the Lancashire Biodiversity Action Plan. These will be retained where possible within the scheme or compensatory like-for-like replacement will be provided.
- 7.16 Japanese knotweed and Japanese rose are present on the site. These are listed as a non-native invasive species under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to cause the spread of these species in the wild. A management plan will be created to minimise the likelihood of the spread of these species.
- 7.17 Native bluebell has been recorded on the site. This is listed as a protected species under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). A management plan will be created to minimise impacts to this species.
- 7.18 See **Appendix 7.2** for further detail.

Hedgerow Assessment

- 7.19 20 of the hedgerows have been assessed to qualify as "important" under the Hedgerow Regulations. Many of the hedges are species-rich and provide foraging, commuting and refuge habitat for range of faunal species and form part of a network of hedgerows across the wider landscape. As such, the hedges are considered to have local importance within the landscape.
- 7.20 These hedgerows will be retained within the scheme. Other hedgerows will also be retained where possible or compensatory like-for-like replacement will be provided.
- 7.21 See **Appendix 7.3** for further detail.

Wintering Bird Survey

- 7.22 During the winter bird survey no SPA or Ramsar qualifying species for the nearby designated sites were recorded on the ground within 500m of the proposed site boundary, although a small number of pink-footed geese were recorded flying over the site during one of the survey visits. Due to the lack of usage of the site by SPA or Ramsar species, the proposed development will not have any impact on these protected sites.
- 7.23 Twenty one other raptor, waterbird, protected and Bird of Conservation Concern (BoCC) species were recorded on the ground within 500m of the proposed site boundary during the winter bird survey. The majority of these were BoCC passerine species supported by the hedgerows and open fields throughout the site. Removal of hedgerows within the site would result in a reduction in sheltering and foraging opportunities for local bird populations. These will be retained where possible within the scheme or compensatory like-for-like replacement will be provided. Wildlife friendly planting will provide foraging opportunities for birds over the winter.
- 7.24 See **Appendix 7.4** for further detail.

Breeding Bird Survey

- 7.25 50 bird species were recorded within the site boundary and 100m survey buffer, which represents a medium species diversity, considering the large size of the site, with the majority of species recorded being commonplace and widespread. Six notable bird species were confirmed to be breeding: tree sparrow, starling, mistle thrush, mallard, house sparrow and dunnock. This was evidenced by the presence of juvenile birds during the survey or adults carrying food. All six of these notable species were confirmed to breed within the site itself, rather than within the 100m buffer. An additional three notable species probably nested within the site, including bullfinch, song thrush and swallow.
- 7.26 Based on the criteria devised by Fuller (1980), the 41 confirmed, probable and possible breeding bird species recorded within the site and 100m site buffer indicate the site is of significance at the local level. The large majority of the species recorded as potentially breeding within the site are associated with woodland, scrub and shrub habitats and were likely to be nesting within the large volume of hedges present across the site. This includes the notable species tree sparrow, mistle thrush, house sparrow and dunnock which were confirmed to breed within the site. Some of the notable species such as house sparrow, starling and swallow were likely to be nesting in and adjacent to buildings, such as the farms and houses within the site, as well as the residential areas with gardens adjacent to the site.

7.27 The loss of trees, hedgerows and dense vegetation will result in a loss of nesting habitat for local bird populations and could lead to the destruction of disturbance and subsequent abandonment of nests, if present. These habitats will be retained where possible within the scheme or compensatory like-for-like replacement will be provided. Reasonable Avoidance Measures will be implemented during any vegetation clearance required and a nest box scheme will be produced to mitigate for any losses and enhance the site for nesting birds. Wildlife friendly planting will provide foraging opportunities for birds.

7.28 See **Appendix 7.5** for further detail.

Badger Survey

7.29 No records of badgers were returned in the desk based assessment and no evidence of badger was identified during the surveys. Therefore, it is considered likely that badgers are absent from the site.

7.30 However, a number of habitats on the site are suitable for badgers. Badgers are highly mobile throughout their range and therefore there is a small possibility that badgers could utilise the site, in its current state or in the future. Vegetation clearance and excavation works could result in the destruction of badger setts and badger injury/fatality, if present within the site. An updated badger survey will be undertaken prior to commencement on site.

7.31 See **Appendix 7.6** for further detail.

Great Crested Newt Survey

7.32 No records of great crested newts are present within 1km of the site. 21 ponds were identified to be present through aerial and OS imagery within 500 of the site. Environmental DNA (eDNA) sampling of five ponds within confirmed the absence of great crested newts. Of the remaining ponds nine were found to be dry or no longer present and seven were on third party land offsite and were not accessible to survey. Given the absence of great crested newts in the other ponds and the lack of records, as well as the location of the non-accessible ponds, no impacts on great crested newts are anticipated as a result of the proposals.

7.33 See **Appendix 7.7** for further detail.

Water Vole Survey

7.34 There are records of water vole to the south of the site but these records are over 15 years old and are located beyond major road barriers with no habitat connectivity to the site. Only one ditch on the site was considered to be suitable for water voles but this is isolated from other habitat. The remaining 28 ditches were found to be dry during the survey. It is therefore highly unlikely that water voles are present on the site.

7.35 See **Appendix 7.8** for further detail.

Bat Activity Survey

7.36 Bat activity was distributed across the site, concentrated along the hedgerow networks. Activity levels and species diversity were low across the site. The site is therefore considered to have low suitability for bats.

7.37 Loss of hedgerows and mature trees within the site could result in a reduction in foraging opportunities for local bat populations. These habitats will be retained where possible within the scheme or compensatory like-for-like replacement will be provided. Green links and habitat connectivity throughout the site will be maintained which will allow bats to forage and commute through the site. Light spill on to retained and newly created habitats, during the construction and operation phases, will be minimised through the implementation of sensitive lighting design.

7.38 See **Appendix 7.9** for further detail.

Bat Roost Survey - Buildings

7.39 Of the buildings that may be affected by the development works, none are considered likely to support roosting bats. The lack of bat activity across the site would indicate that no roosts of conservation significance (i.e. maternity roosts) are present.

7.40 If buildings are to be affected by the proposals then a full internal and external roost assessment will be undertaken. If evidence of roosts is found or if the building(s) are found to contain potential roost features then nocturnal roost surveys and a Natural England England EPS derogation licence may be required.

7.41 See **Appendix 7.10** for further detail.

Bat Roost Survey - Trees

7.42 142 trees were identified to contain potential roost features ranging from low to high roost suitability. No confirmed roosts were identified during the back tracking surveys or incidentally during the bat activity surveys, although parts of the site weren't accessible for these surveys.

7.43 Due to the low levels of bat activity across the site it is not anticipated that any roosts of significant conservation status, such as maternity roosts, are currently present within the site or nearby. However, there is the potential for smaller roosts to use the site throughout the year and some of the high suitability trees could also provide hibernation opportunities for bats.

7.44 Loss of these trees would result in a reduction in roosting habitat locally and could lead to the damage or destruction of bat roosts, if present. Trees with roosting suitability, particularly those with high and moderate suitability, will be retained and protected, where possible.

7.45 Prior to felling any trees with high or moderate suitability will be subject to nocturnal roost surveys to identify whether roosts are present. If roosts are identified a total of three nocturnal roost surveys will be required, for roost characterisation, to inform a Natural England EPS derogation licence application to fell the affected tree(s).

7.46 Reasonable Avoidance Measures will be implemented for any trees, with low to high roosting suitability, to be felled within the scheme. This may include sensitive work programming, precommencement inspections and soft felling under the supervision of a licensed bat ecologist.

7.47 Where trees with moderate or high suitability are lost alternative roosting habitat, such as bat boxes, should be incorporated into the scheme. The number and specification of the boxes will be dependent on the scale of loss.

7.48 See **Appendix 7.10** for further detail.

Planning Policy Context

National Planning Policy and Legislation

- The Conservation of Habitats and Species Regulations 2017 (as amended) (The Habitat Regulations);
- Wildlife and Countryside Act 1981 (as amended) (WCA);
- Natural Environment and Rural Communities Act 2006 (NERC);
- Hedgerow Regulations 1997;
- Protection of Badgers Act, 1992;
- Section 15: NPPF, Conserving and enhancing the natural environment; and
- Circular 06/2005: Biodiversity and Geological Conservation – Statutory obligations and their impacts on the planning system.

Local Planning Policy

7.49 The following policies, with the South Ribble Council Local Plan (adopted July 2015), contain wording which is relevant to ecology:

- Policy G8 – Green Infrastructure and Networks – Future Provision;
- Policy G13 – Trees, Woodlands and Development;
- Policy G16 – Biodiversity and Nature Conservation; and
- Policy G17 – Design Criteria for New Development.

Approach

7.50 The following ecology surveys have been undertaken to inform the EIA:

Desk Based Assessment

7.51 A search of existing information relating to protected species, habitats of conservation priority and designated sites has been undertaken. Sources included Lancashire Environment Records Network, Natural England and MAGIC Map websites. The search extended 2km from the site boundary for non-statutory designated sites, protected species and priority species and habitats. Information regarding statutory protected sites within the wider area (up to 10km) was also collected. Relevant local planning policies were also identified to inform the assessment. See **Appendix 7.1** for detail.

Phase 1 Habitat Survey

7.52 A Phase 1 habitat survey of the site has been carried out by TEP botanists in April and May 2018. The survey was carried out in accordance with the Phase 1 habitat assessment methods (JNCC 2010) and Guidelines

for Preliminary Ecological Appraisal (CIEEM 2017). The method records the habitat types present in and immediately surrounding the site, based on the JNCC descriptions. Plant species were identified in accordance with Stace (2010) and recorded as target notes using the DAFOR scale. See **Appendix 7.2** for detail.

Hedgerow Assessment

- 7.53 A hedgerow assessment of the site has been carried out by TEP botanists in April and May 2018. Native hedgerows on site were subject to a detailed sampling survey in accordance with the criteria set out in the Hedgerow Regulations (1997) in terms of wildlife and landscape criteria for determining “important” hedgerows. This entailed recording the number of woody species (as listed on Schedule 3 of the Hedgerow Regulations) within 30m sample sections as well as any features within 2m associated with the hedge. These features include the presence of any bank or wall, ditch, standard trees and ground flora species (as listed on Schedule 2 of the Hedgerow Regulations). Also, the number of connections with adjacent hedgerows was recorded. Hedgerow target notes were made on standard data recording forms. For each hedgerow this included a description of the hedge and detailed plant species list. See **Appendix 7.3** for detail.
- 7.54 For clarity, the scope of the survey and assessment does not cover the archaeology and history criteria set out in the Hedgerow Regulations.

Wintering Bird Survey

- 7.55 A winter bird survey, comprising nine visits between September 2017 and February 2018, was undertaken at the site. October to March forms the winter period where species of potential interest for this site associated with nearby European protected sites (e.g. Ribble and Alt Estuaries Special Protection Area (SPA)/ Ramsar and Martin Mere SPA/ Ramsar) are present in significant numbers in the wider area. The bird migration season also includes September and April.
- 7.56 During each survey visit a transect route was walked throughout the proposed development site and surrounding area (up to 500m away). The transect surveys lasted for between four and six hours. The surveys were undertaken by TEP ornithologists.
- 7.57 Birds recorded during the transect survey included: all wader, wildfowl and raptor species; Birds of Conservation Concern (BoCC) Amber or Red List species; priority species listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006); and protected species listed on Schedule 1 of the Wildlife and Countryside Act (1981, as amended). Observations were recorded directly onto the survey map. See **Appendix 7.4** for detail.

Breeding Bird Survey

- 7.58 A breeding bird survey was carried out of the site, using methods based on the standard breeding bird survey and common bird census methods developed by the British Trust for Ornithology (Gilbert et al. 1998).
- 7.59 Visits were carried out in the morning period, starting at least half an hour after dawn. Each survey visit was carried out approximately 4 weeks apart, over the period April to June, by TEP ornithologists. Bird species and activity patterns were recorded and mapped using standard BTO symbology. Three survey visits were undertaken using pre-determined transect routes to cover the entire site. Bird species within the 100m

surrounding the site boundary were also recorded during the survey, as a proportion of the bird's foraging or nesting habitat is likely to be within the site. See **Appendix 7.5** for detail.

Badger Survey

- 7.60 A badger survey of the site, and surrounding 30m buffer where accessible, was undertaken by TEP ecologists in March 2018. This survey was undertaken in line with the standard approach detailed in Surveying Badgers (Harris et al., 1989) and used during the National Badger Survey (Cresswell et al., 1990).
- 7.61 The survey involved surveying potentially suitable habitat and looking for evidence of badger activity such as setts, badger trails/pathways, snuffle holes (or foraging pits), latrines and badger hairs. Any badger setts and associated entrance holes were recorded and assigned a category of badger sett type. See **Appendix 7.6** for detail.

Great Crested Newt Survey

- 7.62 21 ponds were identified to lie within 500m of the site, during a review of aerial and OS imagery. Ponds which were found to hold water, where access was granted, were subject to eDNA sampling to determine the presence or absence of great crested newts. eDNA sampling was undertaken by licensed surveyors in June 2017.
- 7.63 On 28th March 2014, DEFRA published a report (Biggs et al. 2014) into the effectiveness of environmental DNA testing to detect GCN presence from samples of pond water. Shortly after publication of this report, Natural England European protected species (EPS) licensing department confirmed that they would accept quantitative Polymerase Chain Reaction (qPCR) analysis of eDNA from water samples as proof of presence or absence of GCN in a pond. Natural England also stated that sampling must take place between the 15th April and the 30th June and be undertaken by a licensed GCN surveyor.
- 7.64 Due to the results of the eDNA sampling and access restrictions, and the absence of great crested newt records within the desk based assessment, it was concluded that no further great crested newt surveys were required at the site. See **Appendix 7.7** for detail.

Water Vole Survey

- 7.65 29 ditches were identified within the site, during a review of aerial and OS imagery. A water vole survey of these ditches was undertaken by TEP ecologists in July 2017. This survey was undertaken in line with the current guidelines for water vole surveys taken from The Water Vole Mitigation Handbook (2016).
- 7.66 The survey involved scoping out potentially suitable ditches and searching their banks from within the channel, looking for evidence of water vole activity such as burrows, runs, tracks, latrines and feeding remains.
- 7.67 Due to the unsuitability of the ditches it was concluded that no further water vole surveys were required at the site. See **Appendix 7.8** for detail.

Bat Activity Survey

- 7.68 Bat activity surveys were carried out at the site between August 2017 and June 2018, in accordance with Bat Conservation Trust (BCT) guidance (Collins 2016). Two pre-determined transect routes, to cover all features likely to be of value to foraging and commuting bats, were surveyed to sample bat activity during the peak active season.
- 7.69 A pair of bat surveyors walked each transect route using heterodyne (Pettersson D230) and frequency division (Anabat) detectors. The surveys commenced at sunset and continued for at least 120 minutes after sunset. Number of bat passes, species, behaviour and flight direction were noted at each pre-determined four-minute stop and the intervening walks. Standardised methods of measuring and recording weather parameters were used e.g. cloud cover (oktas) and wind (Beaufort scale).
- 7.70 To accompany the transect surveys static monitoring was undertaken. Eight Anabat Express and SM2 static detectors were placed close to features of valuable foraging/commuting habitat within the site and were set to record for five consecutive nights during favourable weather conditions to monitor bat activity.
- 7.71 Recorded sonograms were analysed using Analook W4.2d software by bat ecologists trained to Analook Analysis Advanced Level 3.
- 7.72 See **Appendix 7.9** for detail.

Bat Roost Survey - Buildings

- 7.73 Buildings within the site were assessed in line with the Bat Conservation Trust (BCT) Guidelines (Collins, 2016) for their potential to support roosting bats. The survey was undertaken by TEP bat licensed ecologists in March 2018.
- 7.74 The buildings were subject to an external assessment for bat roost suitability, where accessible, to identify any suitable potential roost features (PRF's) for use by bats such as crevices, cracks, holes and any other potential access points into the structures. PRF's were inspected to assess their suitability for use by bats using a torch and binoculars. Inspection of features included determining presence of any signs of bats roosting within the buildings including; droppings, feeding remains and other indicative marks. The buildings were then categorised in accordance with the criteria set out in the BCT Guidelines. See **Appendix 7.10** for detail.

Bat Roost Survey - Trees

- 7.75 Trees within the site were assessed in line with the BCT Guidelines for their potential to support roosting bats. The survey was undertaken by licensed bat ecologists in March 2018.
- 7.76 The ground based assessment of the trees involved the surveyor searching from the ground for any PRF's which may be used by bats, using binoculars. The trees were then categorised in accordance with the criteria set out in the BCT Guidelines.
- 7.77 Following the ground based assessment, trees categorised as moderate or high were subject to aerial inspection. The survey was undertaken by tree climbers and a licensed bat ecologist in July and August 2018. PRF's were searched for evidence and/or suitability for roosting bats with the aid of high powered torch and endoscope. The trees were then categorised in accordance with the criteria set out in the BCT Guidelines.

- 7.78 Following the aerial inspection, trees categorised as moderate or high were subject to back tracking surveys. Trees within the site were grouped into six survey "zones". Zones that contained trees with high suitability were subject to three back tracking surveys. Zones that contained trees with moderate suitability only were subject to two back tracking surveys. The surveys were led by bat surveyors and the number of surveyors (one or two per zone) was determined based on the number of trees, size of area and accessibility.
- 7.79 Surveyors were positioned along potential bat commuting features within each zone and moved in the same direction with an aim to identify bats re-entering roosts at dawn or moved in the opposite direction with an aim to identify bats emerging from roosts at dusk. The back tracking surveys were carried out in line with the 2016 BCT Guidance. Dusk surveys commenced 15 minutes prior to sunset and finished 90 minutes after sunset. Dawn surveys commenced 90 minutes prior to sunrise and finished 15 minutes after sunrise. Surveyors used heterodyne detectors (Petterson D230) and frequency division (Anabat SD2 and Express) detectors to record bat calls. Sonogram analysis was undertaken by ecologists, trained to Advanced Level 3 Analook Analysis. See **Appendix 7.10** for detail.

Arboricultural Impact Assessment

- 7.80 The baseline tree data will be used to inform the Masterplan and assist in designing access. Any loss of high (Category A) and moderate (Category B) quality trees and groups will be supported by sound design rationale. Low quality or unsuitable (Category C and U) trees should not unduly constrain any development but should be retained where appropriate.
- 7.81 It is highly likely that a development of this kind will result in the loss of some trees; the level of this loss and any measures necessary for mitigation will ultimately be considered as set out in BS5837 in the form of an Arboricultural Impact Assessment (AIA).
- 7.82 The AIA will report on the level of tree loss in areas where a detailed design is proposed (eg: access) and assess the extent of mitigation measures necessary to offset this loss. For areas in which the detail of the layout is reserved an assessment will be made of the likely impacts on tree cover based on the principles of development in those areas. The detail of tree removal and retention will be assessed as part of a future detailed or Reserved Matters application.
- 7.83 The Arboricultural Impact Assessment will consider the distribution and quality of trees and the proposed type and likely arrangement of development. It will describe design parameters for future detailed layout development and draw conclusions on whether there is any local or national policy impediment for the grant of outline planning permission. It will also include heads of terms for an Arboricultural Method Statement which could be secured through planning condition. See **Appendix 7.11** for detail.

Impact Assessment

- 7.84 The assessment will follow CIEEM 2016 guidelines (CIEEM, 2016, Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, freshwater and Coastal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester). The guidelines provide a robust framework for EclA, which is then informed by the interpretation of contextual information and professional judgment.
- 7.85 The CIEEM approach requires a description of baseline conditions, with the importance of ecological features identified within a defined geographical context. Impacts on important ecological features are

then identified and characterised and the significance of the effects are determined in the context of CIEEM EclA guidance which states that a significant effect is one that either “supports or undermines biodiversity conservation objectives for ‘important ecological features’ “. The decision on significance is made irrespective of the geological scale of importance of the feature, as such (and differing to the way the term ‘significant’ is used in other EIA topics), a significant negative effect is not necessarily one that would make the proposals unacceptable. The significance of effect assessment is made both prior to and following mitigation to provide a transparent assessment of residual effects. Any mitigation that is being relied upon will be clearly laid out in the assessment.

- 7.86 European guidance (EC, 2013) requires that EIA considers the effects of projects on climate change and on biodiversity. The EC guidance indicates that impacts which are only likely to be experienced in the next 20 years should be based on current weather patterns or near-future projections if available and relevant. Beyond 20 years, potential impacts (those associated with operation of the development) may need to be modified in the light of the projected climate. This will be taken into account in the assessment of operational effects.

Cumulative Effects

- 7.87 A separate cumulative effects chapter will be presented at Chapter 18 of the ES. This will assess the cumulative impacts of the proposed development in conjunction with any committed developments within the vicinity of the sites identified through the scoping process.
- 7.88 Overall, ecology is to be included in the scope of the EIA as there is potential for significant effects considering the impact of the proposed development on this topic.

8. Archaeology and Heritage

- 8.1 This section of the ES will present an assessment of the potential effects of the proposals on the cultural heritage and archaeology of the proposed development site (hereafter the site), which will be identified through desk-based research, site surveys and consultation with key stakeholders. The assessment will be undertaken by CgMs.
- 8.2 Collectively, archaeology and cultural heritage are known as 'the historic environment'. The historic environment includes all physical remains of past human activity (whether visible, buried or submerged and including landscape and planted or managed flora). Those aspects of the historic environment that hold value to this and future generations because of their historic, archaeological, architectural or artistic interest are termed 'heritage assets'. Some heritage assets are referred to as 'designated'; these include World Heritage Sites, Scheduled Monuments, Listed Buildings, Registered Parks and Gardens, Registered Battlefields, and Conservation Areas. Whilst the majority of heritage assets are what are known as 'non-designated', they are still afforded protection under the terms of both national planning policy as detailed in the National Planning Policy Framework (NPPF) and local planning policy, through their inclusion in local plans.
- 8.3 Effects on heritage assets to be assessed could include direct effects, indirect effects, and cumulative effects. These effects could be permanent or temporary (short term, medium term or long term); beneficial or adverse. This chapter of the Scoping Report provides a preliminary description of the baseline environment of the site and associated study area that may be affected by the proposed development. It then goes on to describe the proposed method of assessment for identifying likely significant environmental effects.
- 8.4 The results of the proposed assessment will be presented in the Environmental Statement (ES). The ES chapter will further describe the baseline conditions and the methodology used to assess the effects of the proposed Development. Effects will be assessed for the construction and operational phases of development, where required. Where appropriate, mitigation measures proposed to reduce or remove any likely significant effects will be described and the likely residual impact will be assessed.

Site Context

- 8.5 A Historic Environment Desk-Based Assessment (DBA) of the site has been undertaken (see **Appendix 8.1**). There are no World Heritage Sites, Scheduled Monuments, Registered Parks and Gardens, Registered Battlefields or Conservation Areas within the site or the 1km study area used for the preparation of the DBA. Whilst none are located within the sites, five Grade II Listed Buildings are located within the 1km study area, the closest being approximately 650m from the site boundary. Given the distance between the site and the Listed Buildings and taking account of the lack of inter-visibility due to the landscape and built form, there is not considered to be any potential for adverse impacts to their heritage significance as a result of the proposed development. As such, impacts to the setting of designated heritage assets have been scoped out of the assessment.
- 8.6 A search of the HER indicates that there are three non-designated heritage assets located within the site, all former farmsteads shown on the 1848 Ordnance Survey map. A further 50 non-designated assets are

located within the 1km study area, the majority of which date to the Post-Medieval or Modern periods. An assessment of available cartographic evidence indicates that the sites have comprised agricultural fields since at least the mid-19th century.

Planning Policy Context

National Planning Policy

8.7 Section 16 of the NPPF, entitled 'Conserving and enhancing the historic environment' provides guidance for planning authorities, property owners, developers and others on the conservation and investigation of heritage assets. Overall, the objectives of Section 16 of the NPPF can be summarised as seeking the:

- Delivery of sustainable development;
- Understanding the wider social, cultural, economic and environmental benefits brought by the conservation of the historic environment;
- Making a positive contribution to local character and distinctiveness; and
- Recognition of the value that heritage makes to our knowledge and understanding of the past.

8.8 In considering any planning application for development, the planning authority will be mindful of the framework set by government policy, in this instance the NPPF, by current development plan policy and by other material considerations.

Local Planning Policy

8.9 The development plan policy framework is provided by the Central Lancashire Core Strategy (2012) and the South Ribble Local Plan (2015).

Central Lancashire Core Strategy

8.10 The Central Lancashire Core Strategy contains one relevant policy, Policy 16: Heritage Assets, which states:

"Protect and seek opportunities to enhance the historic environment, heritage assets and their settings by:

- a) Safeguarding heritage assets from inappropriate development that would cause harm to their significances.*
- b) Supporting development or other initiatives where they protect and enhance the local character, setting, management and historic significance of heritage assets, with particular support for initiatives that will improve any assets that are recognised as being in poor condition, or at risk.*

c) Identifying and adopting a local list of heritage assets for each Authority."

South Ribble Local Plan

8.11 The South Ribble Local Plan policy relating to the study site, Policy C1, Penwortham makes no reference to the historic environment or the treatment of heritage assets. However, part d) of Policy G17 – Design Criteria for New Development states planning permission will only be granted provided that:

"The proposal would sustain, conserve and where appropriate enhance the significance, appearance, character and setting of a heritage asset itself and the surrounding historic environment. Where a proposed development would lead to substantial harm or loss of significance of a designated heritage asset, planning permission will only be granted where it can be demonstrated that the substantial public benefits of the proposal outweigh the harm or loss to the asset."

Approach

- 8.12 Potential impacts arising as a result of the Proposed Development are considered to consist of direct physical impacts to the identified non-designated heritage assets and any currently unknown archaeological remains that may be located with the sites. These impacts will occur during the construction phase of the Proposed Development. Given the nature of the non-designated heritage assets located within the 1km study area, indirect impacts to the setting of any of these assets are not anticipated.
- 8.13 The ES chapter will provide an assessment of baseline conditions to determine the heritage significance of identified assets that could be affected by the proposed development, and the potential for the presence of any as yet unknown heritage assets within the sites.

Consultation

- 8.14 South Ribble Borough Council (SRBC) currently obtains advice relating to the historic environment and development proposals from a commercial archaeological consultancy (the Lancashire Archaeological Advisory Service; LCAAS). When documents are submitted in support of, or prior to, a planning application they are forwarded to LCAAS for comment. As such, it was not possible to undertake consultation with the SRBC regarding the scope of the proposed assessment.

Research and Surveys

- 8.15 As stated above, a DBA has been undertaken and this will inform preparation of the ES. The DBA will be included within the ES as a technical appendix. In addition to presenting the baseline conditions for the sites and a study area extending 1km from the site boundary, the DBA assesses the potential for the presence of currently unknown archaeological remains. The DBA was undertaken by a full Member of the Chartered Institute for Archaeologists (CIfA) and accordance with the CIfA document *Standard and guidance for Historic Environment Desk-Based Assessment (2014)* and professional best-practice.
- 8.16 A site walk-over survey undertaken as part of the DBA. Field notes and photographs were taken to record the land use, condition of known heritage assets, surface evidence for any previously unrecorded heritage assets, site topography and site character as an indicator of potential for the presence of currently unknown archaeological remains.

Assessing the Significance of Effects

- 8.17 A staged assessment will be undertaken to determine the likely significance of effects of the development on the historic environment. This involves establishing the baseline to determine the importance of the identified heritage assets that may be affected (for the historic environment importance has the same meaning as 'heritage significance'). Once the baseline is established, the extent of impacts arising as a result of the proposed development (the 'magnitude of impact') on the heritage significance is assessed. By

comparing the importance of the asset against the magnitude of impact, the overall significance of the effect can be determined.

Sensitivity of receptor

- 8.18 Understanding the importance of the heritage assets within the historic environment baseline data includes an assessment of the heritage values of the asset, and the contribution made by setting to those values. The importance of a heritage asset is described in terms of its heritage interest (architectural, archaeological, artistic or historic) and its heritage values (evidential, historical, communal, and aesthetic).
- 8.19 The relative importance of each non-designated heritage asset within the historic environment baseline will also be determined to provide a framework for comparison. These categories do not reflect a definitive level of significance or value of a heritage asset, but a provisional one based on the asset's heritage values, which can provide an analytical tool used to inform later stages of assessment and the development of appropriate mitigation. The degree of survival of a heritage asset is also taken into account in determining receptor importance. Assets where there is likely to be very limited physical evidence because they have been destroyed or extensively damaged are of low or negligible heritage significance. Determination of heritage significance is a professional judgment made with reference to Conservation Principles.

Table 8.1: Criteria for determining relative heritage significance

Receptor Importance	Description
High (International/ National)	Internationally and nationally important resources and designated heritage assets: Scheduled Monuments, World Heritage Sites, Registered Battlefields.
Moderate (Regional)	Regionally important resources: Non-designated heritage assets and landscape features with high or moderate evidential, historical, aesthetic and/or communal values.
Low (local)	Locally important resources: Non-designated heritage assets and landscape features with low evidential, historical, aesthetic and/or communal values.
Negligible (minor)	Assets with very low or no evidential, historical, aesthetic and/ or communal values, or where remains are known to have been significantly altered or destroyed.
Unknown	Assets and structures of uncertain character, extent and/or date where the importance cannot be readily predicted.

- 8.20 It should be acknowledged that the significance of any previously unidentified buried archaeological heritage assets which may be present on the sites cannot be determined.

Magnitude of impact

- 8.21 Assessing the magnitude of impact arising as a result of the proposed development in relation to the historic environment baseline will be considered using the following criteria. The descriptions of magnitude of impact, provided in the following table, relate to harm to, or loss of significance, of the asset and are a professional judgement made with reference to Historic England Good Practice Advice Note 2 and Planning Practice Guidance.

Table 8.2: Criteria for determining magnitude of impact

Magnitude	Direct Impacts
Major	Complete removal of an archaeological site.
Moderate	Removal of a major part of an archaeological site and loss of research potential.
Minor	Removal of an archaeological site where a minor part of its total area is removed but the site retains a significant future research potential.
Negligible	Negligible impact from changes in use, amenity or access.

Assessing significance of effect

- 8.22 Professional judgement is applied in determining the overall significance of effect within the broad categories identified by the below matrix. The assessment will take into account the relative heritage significance of the asset, the contribution made by setting to that significance, and the predicted magnitude of impact on that significance that would result from the Proposed Development. This determines the overall significance of effect.

Table 8.3: Criteria for determining significance of effect

Magnitude of impact	Sensitivity of Receptors			
	High	Moderate	Low	Negligible
Major	Major	Moderate	Moderate	Minor
Moderate	Moderate	Moderate	Minor	None
Minor	Moderate	Minor	None	None
Negligible	Minor	None	None	None

- 8.23 For the purpose of this assessment, Major and Moderate adverse effects will be considered to be equivalent to substantial harm and as significant effects in EIA terms. Effects of lesser value will equate to less than substantial harm and are not significant effects in EIA terms.
- 8.24 The nature of an effect can be classified as adverse, negligible (or neutral), or beneficial:
- **Adverse:** Classifications of significance indicate disadvantageous or negative effects to an environmental receptor;
 - **Negligible and Neutral:** Classifications of significance indicate imperceptible effects to an environmental receptor;
 - **Beneficial:** Classifications of significance indicate advantageous or positive effects to an environmental receptor.
- 8.25 Heritage significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. The former relates to any direct physical harm, including total or partial loss of the asset. Where the development only affects the setting of the asset, there is no direct physical harm but loss of or change to the asset's setting can (where setting contributes to the significance of the asset) result in a reduced ability to experience and understand the asset's heritage significance.

Proposed Mitigation and Residual Effects

- 8.26 Measures will be identified to minimise, avoid or mitigate any likely significant adverse effects on the historic environment. Typically, mitigation measures for effects on heritage assets with archaeological interest include making a record of the heritage significance of the asset before the significance is harmed or lost.
- 8.27 The effect of the Proposed Development on historic environment receptors will be assessed taking account of any mitigation measures and the residual effects will be described in the ES.

References

- 8.28 A list of references used to inform the assessment will be provided.

Cumulative Effects

- 8.29 A separate cumulative effects chapter will be presented at Chapter 19 of the ES. This will assess the cumulative impacts of the proposed development in conjunction with any committed developments within the vicinity of the sites identified through the scoping process.
- 8.30 Overall, archaeology and heritage is to be included in the scope of the EIA as there is potential for significant effects considering the impact of the proposed development on this topic.

9. Landscape and Visual

- 9.1 Landscape and visual effects are independent but related issues. Landscape effects are changes in the landscape as a resource, including its constituent elements, the aesthetic and perceptual aspects of the landscape, and its distinctive character; visual effects relate to the effects of change upon the views available to people and their visual amenity. The Landscape and Visual Impact Assessment (LVIA) is to be carried out by Camlin Lonsdale.

Site Context

- 9.2 The site occupies a low lying, mixed agrarian landscape influenced by the settlement edge of Kingsfold, Lostock and Chain House Lane. Located within the landscape character area of NCA 32 – Lancashire and Amounderness Plain, the Landscape Strategy for Lancashire Landscape Character Assessment draws assessment down to the regional level, and confirms the key characteristics for the relevant character area (15b) the Longton-Bretherton Coastal Plain as:

'The Longton landscape character area lies close to the south-western urban fringes of Preston. The proximity to a large urban centre has influenced landscape character. The network of minor lanes is dominated by ribbon development and the A59 (T), now a dual carriageway, links the former villages of Hutton, Longton, Walmer Bridge and Much Hoole. Red brick is the dominant built material in these areas. The agricultural landscape is influenced by urban fringe elements such as schools, colleges, nurseries, glass houses, hotels, horse paddocks, communication masts and electricity pylons; the network of hedgerows and hedgerow oaks is gradually being eroded by these uses.'

Planning Policy Context

National Planning Policy

- 9.3 Paragraph 7 of the NPPF states that: *"The purpose of the planning system is to contribute to the achievement of sustainable development."*
- 9.4 The NPPF sets out a series of 17 core land-use planning principles. At paragraph 124, states that *"The creation of high quality buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable in communities."*

National Planning Practice Guidance

- 9.5 The National Planning Practice Guidance (NPPG) (DCLG, 2014) (Ref. 15-3) provides a web-based resource in support of the NPPF.
- 9.6 NPPG: Design – Section 1: The Importance of Good Design, states that: *"As a core planning principle, planmakers and decision takers should always seek to secure high quality design"*. Section 3 focuses on the qualities that define well designed places and spaces, stating that: *"A well designed space has a distinctive character"*. It lists the physical aspects that contribute to distinctiveness, including the local pattern of street

blocks and blocks, building forms, details, materials, style and vernacular. It further adds that: "*Distinctiveness is not solely about the built environment*" – it also reflects an area's function, history, culture and its potential need for change.

Local Planning Policy

9.7 The following landscape and visual related policies from the South Ribble Borough Council Adopted Plan 2021-2026 set policy tests for this application:

- Policy G4 – Protected Open Land; where the Council will seek to protect the land from inappropriate development. Land is allocated so as to fulfil its key role in the character, appearance and openness of settlements and as such is worthy of protection in its own right.
- Policy G5 – Areas of Separation; where the Council will seek to protect the land from inappropriate development. This is to protect areas from merging into each other. AS1 Bamber Bridge and Lostock Hall, and AS 2 Walton-le-Dale and Penwortham, G6.
- Policy G7 – Green Infrastructure – Existing Provision; intends to protect existing provision and allocations where GI is defined as the network of natural environmental components used for sport, leisure and recreation purposes. Development proposals should seek to protect and enhance existing GI and any loss will not be permitted unless alternative provision of similar and/or better facilities for the community will be implemented within the locality; or it can be demonstrated that the retention of the site is not required to satisfy a recreational need in the local area; and the development would not detrimentally affect the amenity and nature conservation value of the site.
- Policy G8 – Green Infrastructure – Future Provision; intends to set out future provision of GI. As such development should provide landscape enhancements, conserve important environmental assets, make provision for long-term use and management, and provide access to well-designed cycleways, bridleways and footways (on and off road) to help link local services and facilities.
- Policy G10 – Green Infrastructure – Provision in Residential Developments; intends to set out GI provision that is required in new residential developments, Standards for different GI typologies are set to ensure new development meets recreational needs. The standards are to be both flexible and appropriate for each individual development, dependent on location, whether it is for on or off-site GI provision or enhancement of existing provision and facilities. Needs for play areas are confirmed as normally being required to be met on site. The Open Space and Playing Pitch Supplementary Planning Document (SPD) offers guidance on LAPs and LEAPs.
- Policy G11 – Playing Pitch Provision; confirms the standard provision of 1.14ha per 1000 population and that contributions will be sought. It also confirms that the standard is both flexible and appropriate for each individual development, dependent on whether it is for on or off-site playing pitch provision or for the improvement of existing facilities.
- Policy G13 – Trees, Woodlands and Development; confirms that planning permission will not be permitted where the proposal adversely affects trees, woodlands and hedgerows which are protected by Tree Preservation Orders, defined as Ancient Woodland, in a Conservation Area or a recognised Nature Conservation site. There is also a presumption in favour of retention and enhancement of existing tree, woodland and hedgerow cover. Where there is an unavoidable loss of trees on site, replacement trees will be required at a rate of two new trees for each tree lost. It confirms that tree survey information

should be submitted with all planning applications where trees are present on site and that it should include protection, mitigation and management measures. Appropriate management measures will be required to be implemented to protect newly planted and existing trees, woodland and/or hedgerows.

Recognised Guidance

9.8 The assessment will be undertaken in line with best practice guidance documents to inform the approach and impact assessment. This guidance is considered to be the most thorough and current in relation to the assessment of landscape character and visual effects. Those documents which will be used to inform the assessment are listed below:

- 'Guidelines for Landscape and Visual Impact Assessment Third Edition' (2013) (GLVIA 3) – produced by the Landscape Institute (LI) and the Institute of Environmental Management and Assessment (IEMA);
- 'Landscape Character Assessment' (2002) guidance produced by The Countryside Agency and Scottish Natural Heritage; and
- Photography and Photomontage in landscape and visual impact assessment, Landscape Institute, Advice Note 01/11.

Approach

9.9 In landscape terms the site occupies a low lying mixed agrarian landscape within a mature landscape pattern, influenced by the settlement edge of Kingsfold along the northern boundary, Lostock and the branchline railway on the eastern and settlement associated with Chain House Lane towards the southern extent. The western boundary with Penwortham Way (A582) forms a distinct wooded edge which subsequently gives way to the wider farmland area of New Gate which is designated Green Belt. Within the site extent dispersed settlement relating to minor lanes and rural business's are evident along with a strong landscape pattern of mature native tree cover and hedgerows. In terms of statutory designations there are numerous Public Rights of Way which traverse and connect settlement areas together or the wider landscape to the west. However there are no Listed Buildings or Conservation Areas in the locality, Tree Preservation Areas or Important Hedgerows.

9.10 From a visual perspective the low-lying nature of the site and the mature nature of the landscape pattern means that views into and across the site area from the surrounding locality are limited. The occurrence of settlement within and adjacent to the masterplan area means that residential amenity is the principal issue in terms of potential visual effects. As vehicular access into the site is limited to Bee Lane and Flag Lane (off Leyland Road) views from the public highway are also currently limited to the minor routeways within the site area, namely the lanes and Public Rights of Way. Wider visual effects, from the rural landscape to the west for example, are expected to be limited even in winter; again due to the established landscape pattern and the low-lying nature of the Penwortham area.

9.11 The existing natural landscape features on and around the site, the characterful rural lanes and routeways, and the perceived rural character of the site and its wider setting to the west, are therefore considered to be the main sensitivities of the existing landscape. Those residential properties on site and within close proximity to boundaries are considered the principal visual receptors.

- 9.12 The main construction effects arising from the construction stage, relate to the loss of existing landscape features including open pasture, hedgerows and hedgerow trees. Visual amenity and perceived landscape character could be also influenced by construction activity including compounds, hoarding, plant, particularly lighting, and associated traffic over the construction period.
- 9.13 The potential effects arising from the operation of the site relate to the potential change in the perceived character, arising from direct effects including expansion of settlement within landscape parcels and potential loss of landscape features, as well as visual intrusion from any new development visible from key receptors. The development does, however, offer potential benefits in these same respects and as such a landscape and visual impact assessment can provide a comparative assessment of such issues.
- 9.14 A landscape and visual impact assessment is required to ensure any significant adverse impacts on the landscape resources or visual amenity are recognised at an early stage in the masterplanning process and where practical, reduced by means of mitigation design. It will also highlight opportunities and incorporate measures to mitigate any residual landscape effects and improve landscape conditions.
- 9.15 The landscape and visual impact assessment will provide a systematic analysis of the existing landscape and the potential effects arising from the proposed development. Landscapes may be valued for a wide range of reasons. For this reason, good practice is based on the assessment of landscape effects and visual impact as separate, albeit related issues. The baseline assessment would set out the existing condition of the landscape in terms of its regional context, its physical fabric, landscape character, any cultural heritage value, and recreational value. The existing visual amenity of the site and locality would be assessed in a further separate sub-section of the baseline work. A detailed methodology is provided at **Appendix 9.1** along with proposed landscape and visual receptors for agreement with the Council (**Appendix 9.2**).

Cumulative Effects

- 9.16 A separate cumulative effects chapter will be presented at Chapter 19 of the ES. This will assess the cumulative impacts of the proposed development in conjunction with any committed developments within the vicinity of the sites identified through the scoping process.
- 9.17 Overall, landscape and visual is to be included in the scope of the EIA as there is potential for significant effects considering the impact of the proposed development on this topic.

10. Ground Conditions

- 10.1 The purpose of this assessment is to identify the existing soil and geological conditions and development constraints, evaluate the potential for contamination and assess the potential effects on ground conditions during both the construction and operational phase. The Ground Conditions chapter will be undertaken by RoC.

Site Context

- 10.1 The site has remained largely as undeveloped fields and agricultural land until the present day, with the exception of a few residential properties and light industrial activities (e.g. dairy farm). Numerous drainage ditches, tertiary water courses and ponds are located across the site. A sizeable overhead power runs across the site from the north western boundary to the south eastern corner, with a number of pylons within fields on site.
- 10.2 At the time of writing no ground investigation information is available for the site, however, BGS borehole records indicate that the site is underlain by topsoil to depths ranging between 0.3m and 0.6mbgl, overlying glacial clay deposits in excess of 6.6mbgl, with occasional Made Ground, silt and sand noted.
- 10.3 The site is located in a relatively low risk setting with respect to landfill and potential on or off-site sources of contamination, with no significant industrial activities, waste disposal, treatment or leachate / ground gas generation noted within or adjacent to the site's boundary. Similarly, no significant sources of contamination were noted during the course of the recently completed site walkover survey
- 10.4 Potential sources of contamination on site are generally limited to the current light industrial processes including dairy farm, poultry farm, small garages and other agricultural activity.

Planning Policy Context

National Planning Policy and Legislation

- 10.5 The following legislation forms the framework for undertaking this chapter:
- Construction (Design and Management) Regulations 2007;
 - Town and Country Planning Act 1990;
 - Environmental Protection Act 1990;
 - The Environment Act 1995;
 - Contaminated Land (England) Regulations, 2006;
 - Groundwater (England and Wales) Regulations, 2009;
 - Environmental Damage (Prevention and Remediation) Regulations, 2009 (SI 153); and
 - Groundwater Directive (2006/118/EC)

- 10.6 National policy of particular relevance to ground conditions is set out below.
- 10.7 Section 178 of the NPPF states that planning policies and decisions should ensure that:
- a) *"a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);*
 - b) *after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and*
 - c) *adequate site investigation information, prepared by a competent person, is available to inform these assessments."*

Local Planning Policy

- 10.8 No specific contaminated land risk assessment policy document is noted on the South Ribble Borough Council website, although an informative section is available within which guidance for residents and developers is provided with respect to contaminated land including the authorities obligations under Part 2A of the Environmental Protection Act (1990). The authority also notes their requirement to collate an inspection strategy and register of contaminated land, although the authority note no entries are currently available for the register,

Approach

- 10.20 The Environment Agency / Department of Environment Model Procedures for the Management of Land Contamination (CLR 11) document recommends a phased or tiered approach to risk assessment. The first phase (Tier 1) comprises a preliminary qualitative assessment comprising four stages as follows:
- Hazard Identification – identifying potential contaminant sources on and off the site.
 - Hazard Assessment – assessing the potential for unacceptable risks by identifying what pathways and receptors could be present, and what pollutant linkages could result (forming the Conceptual Site Model).
 - Risk Estimation – estimating the magnitude and probability of the possible consequences (what degree of harm might result to a defined receptor and how likely).
 - Risk Evaluation – evaluating whether the risk needs to be, and can be, managed.
- 10.21 The Tier 1 assessment will be informed by the Phase 1 Ground Conditions desk study encompassing a review of the available historical and geo-environmental information. The data collection exercise will be undertaken following the guidelines outlined for 'Preliminary Investigations' in Section 6 of BS10175:2011 Investigation of potentially contaminated sites – Code of practice.
- 10.22 The information to be obtained and considered in the desk study will include historical Ordnance Survey maps, geological maps and memoirs, hydrological and hydrogeological records, environmental databases,

coal mining and mineral extraction records and the results of site investigations carried out previously in the vicinity of the site. The purpose of the desk study will be:

- To establish the environmental setting of the site, particularly with regard to ground conditions including local geology, hydrology and hydrogeology;
- To identify historic use or current potential sources of contamination and how these may affect the proposed scheme or indeed the wider environment;
- To develop a Conceptual Site Model (CSM) of the site. This would be carried out in line with requirements of the Environmental Protection Act Part 2A source-pathway-receptor 'pollutant linkage' methodology;
- To undertake a geotechnical appraisal of the site and identify any site constraints and potential risks; and
- To characterise, where possible, constraints and development considerations, including recommendations for further investigations, assessments and mitigation.

10.23 The information obtained during the desk-based study has been reviewed to establish the Preliminary Conceptual Model for the site. This model is based around the Source / Pathway / Receptor methodology as outlined in Figure 10.1.

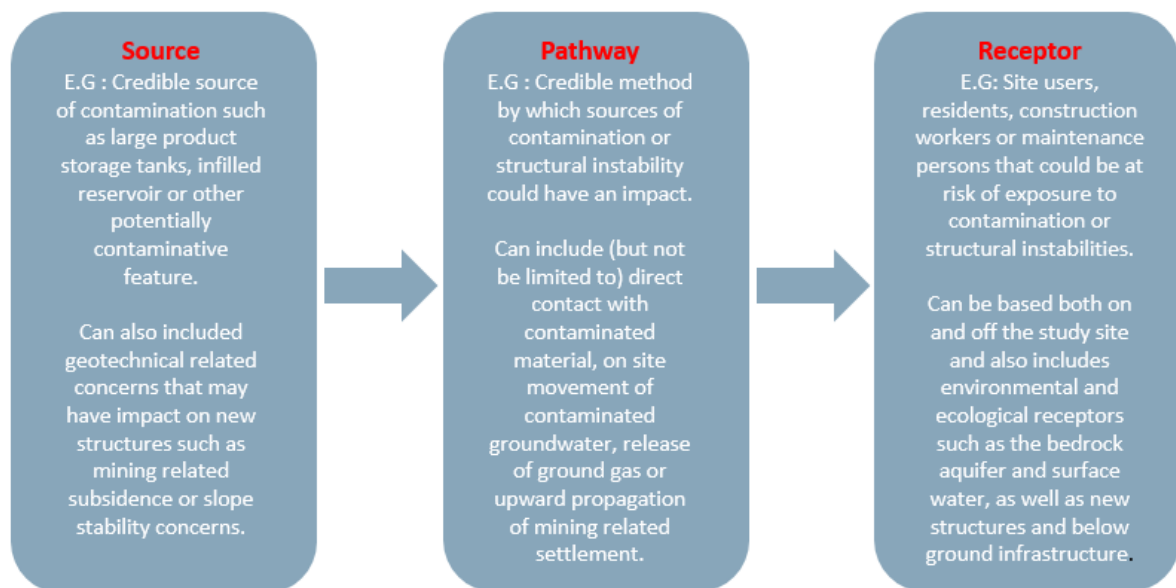


Figure 10.1 Source Pathway Receptor Diagram

10.24 Risk assessment is the process of collating known information on a hazard or set hazards in order to establish actual or potential risks to receptors. The receptor may be human health, controlled waters, a sensitive local ecosystem or even construction materials. Receptors can be connected with the hazard under consideration via one or several exposure pathways (e.g. the pathway of direct skin contact and oral exposure).

10.25 Risks are generally managed by isolating or removing the hazard, isolating the receptor, or by intercepting the exposure pathway. Without the three essential components of a source (hazard), pathway and receptor, there is deemed to be no risk. In other words, the mere presence of a hazard at a site does not mean that there will necessarily be risks.

- 10.26 CLEA CLR 8 provides a selection of contaminants that may be relevant for the assessment of contaminated land, based on site usage, because they are likely to be found on a large number of industrial sites in the UK and have the potential to affect human health and the environment. The CLEA CLR 8 documentation, along with other relevant guidance, forms the basis against which the site has been assessed.
- 10.27 A preliminary desk-based risk assessment has been completed for the site utilising the current and historical environmental information available (refer to RoC Consulting report ref: MN/AS//ROC/p1 3861). This report formed the basis from which any future program of ground investigations was designed and undertaken. See **Appendix 10.1** for further detail.
- 10.28 The results from the subsequent intrusive site investigations have allowed a geo-environmental risk assessment to be completed in accordance with the guidelines and principles of the Environment Agency CLEA Methodology and with reference to the guidance outlined within CIRIA 552 "Contaminated land risk assessment. A good practise guide". This risk assessment methodology considers the potential consequence / severity of risks that may be present within soils in comparison with the likelihood of exposure to or and occurrence of said risk.
- 10.29 A range of risk classifications are provided within CIRIA 552 further details of which are provided in Table 10.1 below.

Table 10.1: Definition of risk class and consequence.

Risk Class	Definition	Example
Minor	Potential for harm, although not significant, which may result in financial loss to resolve. Ground conditions where the use of PPE would readily mitigate risks posed to human health.	Low level contamination hotspots within made ground / demolition fill materials. Stunted or impeded plant growth due to poor soil quality.
Mild	Pollution of non-sensitive water resources or damage to crops, plant growth, below ground utilities or structures.	Perched groundwater contamination overlying low permeability aquifer or aggressive sulphate concentrations in soils.
Medium	Sources of contamination identified on site that have the potential to cause both long- and short-term health effects on site residents / users. Alternatively (or in conjunction with) sources of contamination that may have the potential to impact surface or groundwater quality or impede vegetation growth.	Elevated concentrations of hydrocarbon contamination reported within topsoil tested within residential gardens as a result of inadequate or incomplete previous remediation works. Movement of contaminated groundwater leaking from below ground storage tanks into an adjacent surface water course.
Severe	Sources of contamination that pose a credible and acute risk to human health with potential for "Significant Harm" occurring as defined by the Part IIA of the Environmental Protection Act (1990). Alternatively (or in conjunction with risks posed to human health) sources of contamination that may pose an	Grossly contaminated soils are encountered or disturbed during excavation works, causing an immediate release of toxic soil vapour and leachate / contaminated groundwater flow across adjacent land.

Risk Class	Definition	Example
	immediate risk to controlled water resources or ecosystems.	

10.30 The contaminated land risk assessment model evaluates both the severity of risks that may be present within soils / groundwaters in the context of threats posed to identified receptors before deriving the actual risk rating based on the probability of occurrence. Table 10.2 outlines the range likelihood of risk.

Table 10.2: Probability Assessment

Classification	Definition
High likelihood	A credible pollutant linkage has been identified and it is very likely contaminants will impact identified receptors in both the short or long term (or is already actively doing so). The potential for harm to be caused is highly likely.
Likely	Pollutant linkages between the sources of contamination and identified receptors are present and it is considered likely they will become active given the right set of circumstances (e.g. contaminants currently buried below ground that are likely to be exposed or disturbed during construction / excavation works). The circumstances are such that an event is not inevitable but is possible in the short term and likely over the longer term.
Low likelihood	A theoretical pollutant linkage has been identified that has the potential to expose receptors to contaminants under the correct circumstances. However, the likelihood of such an event occurring is not a certainty, even in the long term.
Unlikely	There is no / minimal likelihood a pollutant linkage would occur, even over the long term.

10.31 The risk assessment process is a combination of probability and consequence, recognising that it may be possible to have a significant source of contamination beneath a site (such as a large below ground chemical storage tank) that may only present a relatively moderate to low risk (owing to the fact it may be contained within a secure concrete bund). Table 10.3 indicates how the actual nature of risk is established with Table 10.4 illustrating how the risk is interpreted in the context of contaminated land risk assessment.

Table 10.3: Risk Definition

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate / Low Risk
	Likely	High Risk	Moderate Risk	Moderate / Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate / Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate / Low Risk	Low Risk	Very Low Risk	

Table 10.4: Description of risks posed

Risk Definition	Description
Very High	Active pollutant linkages between a significant source of contamination and identified receptors have been established and there is a high likelihood of severe harm occurring to said receptors unless immediate investigation and remediation action is taken.
High Risk	Receptors are likely to be harmed by an identified hazard in the short and long term. Urgent investigation of the contaminant issue will be required, and remedial treatment is likely.
Moderate Risk	The possibility of harm has been identified toward receptors under the right circumstances, although the severity of harm would be relatively mild. Further investigation of identified issues would be prudent and there is possible need for remedial measures in the long term.
Low Risk	It is possible designated receptors could be harmed by an identified hazard, but it is likely (if realised) any harm would be (at worst) mild.
Very Low Risk	No significant pollutant linkages have been identified and the possibility of harm occurring to receptors is low.

10.32 A program of ground investigation works will be required to support the planning application for low rise residential housing. The purpose of completing the investigation is to facilitate the completion of a geo-environmental risk assessment to quantify the risks posed to identified receptors. Broadly speaking, this risk assessment process can be divided based on the receptor group in question between:

1. Risks posed to human health by soil contamination (both construction persons and future site users).
2. Risks posed to human health by hazardous ground gas ingress (both construction persons and future site users).

3. Risks posed to controlled waters by soil or groundwater contamination (both surface water features and bedrock aquifers).
4. Risks posed to new building construction by aggressive ground conditions (namely elevated sulphate concentrations).

Cumulative Effects

- 10.33 A separate cumulative effects chapter will be presented at Chapter 19 of the ES. This will assess the cumulative impacts of the proposed development in conjunction with any committed developments within the vicinity of the sites identified through the scoping process.
- 10.34 Overall, ground conditions is to be included in the scope of the EIA as there is potential for significant effects considering the impact of the proposed development on this topic.

11. Drainage and Flood Risk

- 11.1 The purpose of this assessment will be to assess the likely effects on the wider catchment of drainage of the site as a result of the proposed development. It will also provide an assessment of flood risk and a Flood Risk Assessment (FRA) will form an appendix to the ES. The FRA and ES Chapter will be completed by RoC.

Site Context

- 11.2 The development is in an area that is identified as having a 'low' probability of flooding on the Environment Agency Flood Map and is located in Flood Zone 1.
- 11.3 Mill Brook is located approximately 50m from the western boundary and is a tributary of the River Ribble which itself is located 1.5km north of the site. The River Lostock is located circa 700m southeast of the site beyond Farrington.
- 11.4 There are a number of Ordinary Watercourse features present within the site itself which generally drain south and east of the existing site. These are primarily open channel located along field boundaries adjacent to hedge and fence lines. Mapping also identifies sections of culvert within the site linking these open channels.
- 11.5 Pluvial flood maps identify area of the site at risk of flooding for the 75, 100, 200 and 1000 year return periods; these are generally at low points in the topography. It is considered that existing ground conditions are not conducive to infiltration drainage and therefore it is possible that during intense rainfall events, saturated ground may lead to overland flow across the site. However, it is recognised that the site is generally drained by a series of ordinary watercourses/ drainage ditches and parts of the site do not appear to have any form of runoff interception which would contribute to the issue.
- 11.6 Groundwater Flood Data provided by the British Geological Society suggests that the site is primarily in an area that has the potential for Groundwater Flooding to occur at the surface. It is understood that some residents with property below external ground level have existing issues in relation to groundwater flooding.
- 11.7 Some limited flooding is identified to the south west of the site between Chain House Road and the A582 embankment. Significant flooding is shown to the north west from the tributary drain along the northern boundary which is primarily in culvert. Further flooding is identified downstream outside of the western site boundary.
- 11.8 There is limited existing drainage infrastructure present within and in the vicinity of the site. As identified above surface water runoff from the site is managed through the network of existing ordinary watercourses and limited natural infiltration. There are no foul or combined sewers present within the site boundary and it is expected that the existing properties are served by Septic Tanks and Cesspits.

Planning Policy Context

National Planning Policy and Legislation

National Planning Policy Framework (NPPF)

- 11.9 NPPF Section 10: Meeting the challenge of climate change, flooding and coastal change states that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere. One of the key aims of the NPPF is to ensure that a flood risk is taken into account at all stages of the planning process to avoid inappropriate development in areas at risk of flooding and directing development away from areas of risk of flooding. It advises that where development is necessary in areas of high risk, it should be safe, and that flood resilience should be incorporated into the design. It also advises that new development should not increase flood risk elsewhere and new developments should aid in mitigating flood risk to the wider area.

The Flood and Water Management Act 2010

- 11.10 The assessment considers the requirements of national, regional and local policies relevant to flood risk and drainage. The legislative framework for flood and coastal risk management is set out principally in The Flood and Water Management Act 2010. The legislation endorses the principle of an integrated approach to water and drainage management.

- 11.11 The intentions of the Act are summarised below:

- Deliver improved security, service and sustainability for people and their communities;
- Clarify responsibilities for managing all sources of flood risk;
- Protect essential water supplies by enabling water companies to control more non-essential uses of water during droughts;
- Modernise the law for managing the safety of reservoirs;
- Encourage more sustainable forms of drainage in new developments through new arrangements for adoption and future operation of such features; and
- Make it easier to resolve misconnections to sewers.

Water Framework Directive

- 11.12 The Water Framework Directive 2000/60/EC is a European Union directive designed to improve and integrate the way water, from all sources, is managed throughout Europe. In the UK, much of the implementation work is undertaken by competent authorities such as the Environment Agency and Local Authorities. It came into force in December 2000 and was transposed into UK law in 2003. Member States are required to achieve good chemical and ecological status for their inland and coastal waters by 2015.

Water Resources Act 1991

- 11.13 Protects and improves the quality of controlled waters. It is an offence to "cause or knowingly permit poisonous, noxious or polluting matter or any solid waste to enter controlled waters" unless it is covered by a consent to discharge issued by the Environment Agency. Failure to comply may result in a fine. This includes discharge to surface water drains.

Building Regulations: Part H

- 11.14 Approved Document H looks at the drainage and waste disposal within and around a building including foul water, solid waste and rainwater drainage, the treatment of waste water and separate drainage systems. The document guidelines state that foul water needs to be drained to an existing or private sewer, septic tank or cesspool and that these should be safe and not pose a health and safety risk.

C753 The SuDS Manual

- 11.15 This document provides best practice guidance on the planning, design, construction, operation and maintenance of sustainable drainage systems (SuDS). This document provides detail on all the typical sustainable drainage systems and details on how they can be interconnected to not only provide the required drainage performance but also act as pollution control whilst enhancing the site wide Masterplan proposals.

Local Planning Policy

Lancashire and Blackpool Local Flood Risk Management Strategy

- 11.16 The Lancashire and Blackpool Flood Management Strategy has been jointly produced by Lancashire County Council and Blackpool Council to demonstrate how they intend to manage the risk from local sources of flooding.

Central Lancashire Strategic Flood Risk Assessment

- 11.17 South Ribble Borough Council in partnership with Preston City Council, Chorley Borough Council and Scott Wilson have produced a Level 1 Strategic Flood Risk Assessment (SFRA) for Central Lancashire. The SFRA identifies the flood risk across the Central Lancashire area.

South Ribble District Flood Report

- 11.18 Lancashire County Council have developed a series of district level reports which aim to provide communities affected by flooding with information about what relevant risk management authorities are doing in their areas to help manage the risk of flooding from various sources.

Central Lancashire Core Strategy Policies

- 11.19 Relevant local planning policies with specific relevance to Flood Risk and Drainage include:

- Policy 17 – Design of New Buildings;
- Policy 18 Green Infrastructure;
- Policy 27 – Sustainable Resources and New Developments; and
- Policy 29 – Water Management.

Approach

- 11.20 A desk-based assessment will be undertaken to collate data on drainage & flood risk in the vicinity of the site which could potentially be affected by the development either during construction or during operation.
- 11.21 As with all new development, an assessment of Flood Risk is required in accordance with the National Planning Policy Framework (NPPF). The Flood Risk Assessment will consider the risk of flooding to the site from

all sources and the impact of the proposed development on third party land. The following tasks will be undertaken:

- Consult with the statutory consultees to establish the amount of information which is available regarding flooding at the site such as data on flood levels, data on historic flooding and flood defence details;
- Review the topographical survey to identify existing overland flow routes;
- Collect and review existing and publicly available data relevant to flood risk;
- Hydraulic assessment of the existing ordinary watercourse through the development;
- Assess the risk of flooding due to fluvial, tidal, groundwater, surface water, surcharged sewer and other possible sources;
- Develop mitigation measures for flood risk, if required, and obtain agreement in principle to the proposals from the relevant consultees.

11.22 The assessment will enable an informed decision to be made with regard to flood risk and will identify the constraints associated with the proposed development and ways in which possible flood risk could be mitigated through design.

11.23 Surface and Foul Water drainage associated with the proposed development will be considered within an Outline Drainage Strategy. The strategy will consider the existing drainage of the site and how both foul and surface water will be managed post-development.

11.24 Lancashire County Council as Lead Local Flood Authority (LLFA) are a statutory consultee with respect to flood risk and surface water management on major planning applications. They are responsible for providing advice and guidance on surface water drainage systems associated with new development.

11.25 Approved document Part H of the Building Regulations (2015) sets out a hierarchy for the disposal of surface water which encourages a SUDS approach.

11.26 The Outline Drainage Strategy would identify the drainage constraints, agree design parameters with the regulators and identify points of connection/ discharge for foul and surface water. The strategy would incorporate the provision of Sustainable Drainage to control surface water runoff in conjunction with the Flood Risk Assessment and any proposed flood risk mitigation measures. This would add to the sustainability provision of the development.

Summary of Assessment Scope

11.27 The following table provides a summary of the scoping process, identifying the receptors and impacts to be considered as part of the assessment of water resources and flood risk, during both the construction and operational phases.

Table 11.1: Summary of Drainage and Flood Risk Scoping Process

Receptor	Impact	Potential Effect
Site Users and Properties	Impacts on site users, occupiers and properties within the development arising from the risk of flooding associated with the existing Ordinary Watercourse network present within the site boundary.	Potential increase in flood risk within the site from the existing Ordinary Watercourse network.
Surrounding Property and Residents	Increase in hardstanding areas as a result of the development proposals and provision of a formal drainage network will change surface water run-off/overland flow pathways	Potential to increase the risk of flooding elsewhere if surface water run-off is not controlled within the development
Mill Brook, River Lostock and River Ribble	Impact on the downstream watercourse network through changes in the quality of run-off from the site.	Surface water could potentially become contaminated during both the construction and operational phases of the development if suitable measures are not put in place.
Existing Surface Water Drainage Network	Connection of any existing surface water drainage to the Ordinary Watercourse network within the site will need to be maintained. Relevant statutory approvals and easements to be put in place where existing apparatus is affected by the development proposals.	Impact on surrounding network during construction will need to be mitigated. Potential to increase flood risk during the construction phase.
Groundwater	Groundwater risk to be assessed as part of the ES, in particular contamination risks as a result of site activities.	Potential for temporary and long-term change in groundwater quality during the construction and operational phases of the development if suitable mitigation measures are not put in place.

Cumulative Effects

- 11.28 A separate cumulative effects chapter will be presented at Chapter 19 of the ES. This will assess the cumulative impacts of the proposed development in conjunction with any committed developments within the vicinity of the site.
- 11.29 Overall, drainage and flood risk is to be included in the scope of the EIA as there is potential for significant effects considering the impact of the proposed development on this topic.

12. Transport and Access

- 12.1 This section of the ES will assess the potential impacts of the development on the strategic road network in the surrounding area to the site. The assessment of transport and access will be undertaken by Croft.
- 12.2 The transport and access ES chapter will refer to the detailed Transport Assessment (TA), which will be a separate document to the Environmental Assessment and would form an Appendix to the ES.

Site Context

- 12.3 The site is bordered to the east by the West Coast mainline railway, to the south by agricultural fields, to the west by the A582 Penwortham Way and to the north by existing residential development to the south of Kingsfold Drive.
- 12.4 The design and location of the main vehicular site access from Penwortham Way has been discussed and agreed in principle with Lancashire County Council (LCC), the local highway authority. This junction will be signal controlled to allow:
- (a) formal pedestrian and cycle facilities at this location; and
 - (b) allow LCC more control of the traffic flow along the carriageway as the junctions up and down stream are also signal controlled.
- 12.5 The design of the main internal road infrastructure will allow a vehicular connection between Penwortham Way and Bee Lane. This vehicular route between Penwortham Way and Bee Lane will be phased throughout the wider development.
- 12.6 A further potential vehicular link is proposed to the north-west of the site towards Kingsfold Drive utilising land currently owned, it is understood by SRBC. This is shown to the north-western corner of the draft Masterplan. This will allow a potential vehicular link into the Kingsfold Drive area, together with further key pedestrian and cycle linkages to the surrounding area.

Planning Policy Context

National Planning Policy

- 12.7 The presumption in favour of sustainable development is a central theme running through the NPPF and transport planning policies are seen as a key element of delivering sustainable development as well as contributing to wider sustainability and health objectives. To achieve these objectives paragraph 30 states that when making decisions, local authorities should:

"Support a pattern of development which, where reasonable to do so, facilitate the use of sustainable modes of transport."

12.8 In addition, paragraph 35 states that opportunities for the use of sustainable transport modes for the movement of goods or people should be protected and exploited. On this basis, future developments should be located and designed where practical to:

- Accommodate the efficient delivery of goods and supplies.
- Give priority to pedestrian and cycle movements and have access to high quality public transport facilities.
- Create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones.
- Consider the needs of people with disabilities by all modes of transport.
- Detail any nearby settlements and the associated services needed to take into consideration.
- Give details in relation to car and cycle parking standards accordingly. In particular, reflecting national policy when setting the car parking levels, the developer will take account of:
 - The accessibility of the development;
 - The type, mix and use of the development;
 - The availability of and opportunities for public transport;
 - Local car ownership levels; and
 - An overall need to reduce the use of high emissions vehicles.

Local Planning Policy

12.9 The strategic site as shown in the Central Lancashire Core Strategy (Policies Map Reference EE) and also in Policy C1 of the South Ribble Council (SRBC) Local Plan (Adopted July 2015). SRBC has identified around 79 Ha of the site to be allocated to provide for the development of up to 1350 dwellings.

12.10 Given the scale and strategic importance of the site, the SRBC Local Plan sets out how comprehensive development of the site is crucial to ensure delivery of essential infrastructure and local services. This must be in line / in advance of each phase of development and consistent with other schemes coming forward. The requirements are set out in detail in Policy C1.

12.11 Policy C1 sets out that planning permission will only be granted for the site subject to the submission of:

- a) An agreed Masterplan for the comprehensive development of the site;
- b) A phasing and infrastructure delivery schedule; and
- c) An agreed programme of implementation in accordance with the Masterplan and agreed design code.

12.12 The transport and access ES chapter will have due regard to the provisions of relevant local planning guidance as contained within:

- The Central Lancashire Core Strategy (adopted in July 2012);

- The adopted South Ribble Local Plan 2012 – 2026 (adopted in July 2015); and
- The Penwortham Neighbourhood Plan 2016 – 2026.

Approach

- 12.13 The aim of the assessment will be to identify, as far as reasonably possible, the nature of the transport changes within the area of the proposed development, to assess significance and to make appropriate recommendations. The assessment will include consideration of traffic impacts during construction as well as impacts during the operation of the proposed development.
- 12.14 The key highways and transport elements to be considered will be:
- To examine the existing conditions on the local transport network;
 - To present an outline of the proposed development and describe in detail how the development will be accessed by the main modes of transport;
 - To provide an estimate of the predicted trip generations and distributions and consider the likely impact on the local and strategic road networks; and
 - To provide an analysis of personal injury accident data on the study highway network and consider the potential impact of the proposed development in terms of road safety.
- 12.15 A detailed scoping note for a forthcoming Transport Assessment for a proposed residential development The Lanes, Penwortham has been agreed with LCC (see **Appendix 12.1**). The preparation of this scoping note has followed preliminary discussions between Croft and LCC, with a view to formally progressing the transport and highways elements of the project.

Access by Sustainable Modes of Transport

- 12.16 The TA will consider in detail the accessibility of the site by sustainable modes of transport - walking, cycling and public transport.

Travel Plan

- 12.17 The proposals will be supported by a Travel Plan Framework, which will focus on promoting sustainable modes of travel for employees and visitors of the proposed development.

Assessment Network

- 12.18 The scope of the Transport Assessment will need to assess the impact of the proposals on the surrounding highway network. At this stage LCC have agreed, in principle, that the development impact at the following need assessing:
- A582 Golden Way / A59 Liverpool Road / B5254 Leyland Road;
 - Marshalls Brow / B5254 Leyland Road (3 arm roundabout);
 - B5254 Leyland Road / Bee Lane / The Cawsey (4 arm roundabout);
 - A59 Guild Way / A5072 Strand Way;

- A582 Golden Way / Bank Top Road / Millbrook Way (4 arm roundabout);
- A582 Penwortham Lane / A582 Golden Way / Pope Lane;
- A582 Penwortham Way / Chain House Lane;
- Coote Lane / B5254 Leyland Road;
- Penwortham Way / Flensburg Way A582(Tank Roundabout);
- A582 Flensburg Way /Croston Road / Centurion Way (Dual 4 arm roundabout);
- A582 Farrington Road/A5083 Stanifield Lane / B5254 Watkin Lane (4-arm signalised roundabout);
- A6 London Way / A582 Lostock Lane / A6 Lostock Lane (4 arm signalised Junction);
- A6 Lostock Way / B6256 Station Road / A49 Wigan Road; and
- M65 / M6 Preston Bypass.

12.19 These junctions will be assessed for future operation and capacity during the traditional neutral weekday peak periods. The results of these assessments will inform the need for any off-site highway mitigation measures.

Years of Assessment

12.20 The year of completion for the proposed development has yet to be finalised but is anticipated to be around 2035, therefore, an assessment of 2018 and 2035 will be undertaken and potentially phases in between.

Development Trip Rates

12.21 Development trip rates have been agreed with LCC as the Highway Authority. These trips will be assigned to the local highway network based on a gravity model based around the national census and journey to work data. These flows will then be used to establish the peak hour traffic impact of the proposed development.

Committed Developments

12.22 The assessment would also include an evaluation of the traffic generated by all pertinent consented developments in the vicinity of the site. This would ensure that the EIA appropriately evaluates the cumulative impacts of the scheme in conjunction with other potential developments.

Environmental Effects and Potential Impact

12.23 The approach for the EIA has been undertaken in accordance with the Institute of Environmental Management and Assessment (IEMA) Guidelines for the Environmental Assessment of Road Traffic, referred to as the 'IEMA Guidelines'. The purpose of the guidelines is to provide a systematic, consistent and comprehensive approach to the assessment of the environmental effects of traffic associated with major new development projects.

12.24 The IEMA Guidelines form the basis for the assessment of the effects of the Proposed Development on transport and access, including the consideration of the following:

- Severance;
 - Driver delay;
 - Pedestrian amenity and delay;
 - Fear and intimidation;
 - Accidents and safety; and
 - Hazardous loads.
- 12.25 Given the nature of the Proposed Development, there will not be any increase in hazardous loads and this has therefore been excluded from more detailed consideration.
- 12.26 The IEMA Guidelines refer to the Department for Transport's (DfT's) 'Manual of Environmental Appraisal', which suggests that changes in traffic flow of 30%, 60% and 90% would be likely to produce 'slight', 'moderate' and 'substantial' changes respectively. Potential and residual impacts are therefore described 'beneficial', 'negligible' or 'adverse'.
- 12.27 The guidelines go on to state that any increases in traffic flows of less than 10% are generally accepted as having no discernible environmental impact as daily variance in traffic flows can be of equal magnitude.
- 12.28 The 30% threshold relates to the level at which humans may perceive change and there may therefore be an effect. Impacts above this level therefore do not suggest that there is a significant impact, only that further consideration is required to assess the significance.
- 12.29 The Environmental Effects from the Proposed Development will be assessed in the following terms:
- Beneficial - Meaning that they produce environmental benefits in transportation terms, i.e. where overall traffic flows or percentage HGV decrease, or there are improved facilities for pedestrians, cyclists or public transport users;
 - Negligible - Meaning that changes are too small to meaningfully measure;
 - Adverse - Meaning that they produce environmental disbenefits in transportation terms, i.e. where overall traffic flows or percentage HGV increase, or there are reductions in facilities for pedestrians, cyclists or public transport users.
- 12.30 Beneficial and adverse effects are further characterised as:
- Minor - highly localised changes in traffic flows/patterns of between 10% and 30%.
 - Moderate - Limited change where, changes in traffic flows/patterns are between 30% and 60%; and
 - Major - Considerable change, where changes in traffic flows/patterns are greater than 60%.
- 12.31 Once the assessment of potential effects has been made, appropriate measures to offset the effects will be proposed. This will include the Travel Plan strategy.

- 12.32 The ES chapter will reflect the findings of the TA, whilst assigning levels of significance to the perceived effects. The chapter will set out the requisite mitigation measures and the residual effects once these are incorporated into the proposals.

Cumulative Effects

- 12.33 A separate cumulative effects chapter will be presented at Chapter 19 of the ES. This will assess the cumulative impacts of the proposed development in conjunction with any committed developments within the vicinity of the site identified through the scoping process.
- 12.34 Overall, transport is to be included in the scope of the EIA as there is potential for significant effects considering the impact of the proposed development on this topic.

13. Air Quality and Dust

- 13.1 The planning process is a key means of managing and improving air quality, particularly in the long term, through the strategic location and design of new developments. Any air quality consideration that relates to land use and its development can be a material planning consideration in the determination of planning applications, dependent upon the details of the proposed development. The Air Quality and Dust assessment will be undertaken by REC.

Site Context

- 13.2 The proposed development is located in close proximity to the A582, which is considered to be a significant source of road vehicle exhaust emissions. There is the potential for the development to introduce future site users into an area of poor air quality. Due to the size of the proposals, there is the potential for the development to cause adverse impacts nearby sensitive receptors during the construction and operational phases.

Planning Policy Context

National Planning Policy and Legislation

- 13.3 NPPF states at paragraph 181 that "*Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement*".
- 13.4 Other guidance particularly relevant to air quality assessment is set out in:
- Department for Environment, Food and Rural Affairs (DEFRA) (2007) 'The Air Quality Strategy for England, Scotland, Wales and Northern Ireland';
 - Department for Environment, Food and Rural Affairs (DEFRA) (Feb 2009) 'Part IV The Environment Act 1995';
 - Department for Environment, Food and Rural Affairs (DEFRA) (April 2016) Local Air Quality Management Review and Assessment Technical Guidance LAQM.TG(16);
 - Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) (January 2017) 'Guidance on Land-Use Planning and Development Control: Planning for Air Quality'; and
 - Institute for Air Quality Management (IAQM) (2014) 'Guidance on the Assessment of Dust from Demolition and Construction'.

Local Planning Policy

- 13.5 The South Ribble Borough Council (SRBC) Framework consists of a series of planning documents, of which the Core Strategy is the principal overarching document. The Core Strategy was prepared jointly by Preston City

Council (PCC), Central Lancashire Local Development and Chorley Borough Council (CBC) and was adopted in July 2012. It sets out the spatial vision, objectives, development strategy and a series of key policies that will guide the scale, location and type of development in the area until 2027. As such, the policies contained within the Core Strategy provide the current basis for the determination of planning applications within SRBC's area of administration

- 13.6 A review of the Core Strategy indicated the following policy in relation to air quality that is relevant to this assessment:

"Policy 30: Air Quality

Improve air quality through delivery of Green Infrastructure initiatives and through taking account of air quality when prioritising measures to reduce road traffic congestion."

Approach

- 13.7 The proposed development has the potential to cause air quality impacts during the construction and operational phases in addition to exposing future site users to elevated pollution levels. These issues will be addressed in accordance with the following methodology.

Construction Phase Assessment

- 13.8 There is the potential for fugitive dust emissions to occur as a result of construction phase activities. These have been assessed in accordance with the methodology outlined within the Institute of Air Quality Management (IAQM) document 'Guidance on the Assessment of Dust from Demolition and Construction '.

- 13.9 Activities on the proposed construction site have been divided into three types to reflect their different potential impacts. These are:

- Earthworks;
- Construction; and
- Trackout

- 13.10 The potential for dust emissions was assessed for each activity that is likely to take place and considered three separate dust effects:

- Annoyance due to dust soiling;
- Harm to ecological receptors; and
- The risk of health effects due to a significant increase in exposure to PM₁₀.

- 13.11 The assessment steps are detailed below.

Step 1

- 13.12 Step 1 screens the requirement for a more detailed assessment. Should human receptors be identified within 350m from the site boundary or 50m from the construction vehicle route up to 500m from the site entrance, then the assessment should proceed to Step 2. Additionally, should ecological receptors be identified within

50m of the site boundary or 50m from the construction vehicle route up to 500m from the site entrance, then the assessment should also proceed to Step 2

13.13 Should sensitive receptors not be present within the relevant distances then negligible impacts would be expected and further assessment is not necessary.

Step 2

13.14 Step 2 assess the risk of potential dust impacts. A site is allocated to a risk category based on two factors:

- The scale and nature of the works, which determines the magnitude of dust arising as: small, medium or large (Step 2A); and
- The sensitivity of the area to dust impacts, which can be defined as low, medium or high sensitivity (Step 2B)

13.15 The two factors are combined in Step 2C to determine the risk of dust impacts without mitigation applied.

13.16 Step 2A defines the potential magnitude of dust emission through the construction phase. The relevant criteria are summaries in **Table 13.1**.

Table 13.1: Construction Dust- Magnitude of Emission

Magnitude	Activity	Criteria
Large	Earthworks	<ul style="list-style-type: none"> • Total site area greater than 10,000m² • Potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size) • More than 10 heavy earth moving vehicles active at any one time • Formation of bunds greater than 8m in height • More than 100,000 tonnes of material moved
	Construction	<ul style="list-style-type: none"> • Total building volume greater than 100,000m³ • On site concrete batching • Sandblasting
	Trackout	<ul style="list-style-type: none"> • More than 50 Heavy Duty Vehicle (HDV) trips per day • Potentially dusty surface material (e.g. high clay content) • Unpaved road length greater than 100m
Medium	Earthworks	<ul style="list-style-type: none"> • Total site area 2,500m² to 10,000m² • Moderately dusty soil type (e.g. silt) • 5 to 10 heavy earth moving vehicles active at any one time • Formation of bunds 4m to 8m in height • Total material moved 20,000 tonnes to 100,000 tonnes
	Construction	<ul style="list-style-type: none"> • Total building volume 25,000m³ to 100,000m³ • Potentially dusty construction material (e.g. concrete)

Magnitude	Activity	Criteria
		<ul style="list-style-type: none"> On site concrete batching
	Trackout	<ul style="list-style-type: none"> 10 to 50 HDV trips per day Moderately dusty surface material (e.g. high clay content) Unpaved road length 50m to 100m
Small	Earthworks	<ul style="list-style-type: none"> Total site area less than 2,500m² Soil type with large grain size (e.g. sand) Less than 5 heavy earth moving vehicles active at any one time Formation of bunds less than 4m in height Total material moved less than 20,000 tonnes Earthworks during wetter months
	Construction	<ul style="list-style-type: none"> Total building volume less than 25,000m³ Construction material with low potential for dust release (e.g. metal cladding or timber)
	Trackout	<ul style="list-style-type: none"> Less than 10 HDV trips per day Surface material with low potential for dust release Unpaved road length less than 50m

13.17 Step 2 defines the sensitivity of the area around the development site for construction, earthworks and trackout. The factors influencing the sensitivity of the area are shown in **Table 13.2**.

Table 13.2 Examples of factors Defining Sensitivity of the Area

Sensitivity	Examples	
	Human Receptors	Ecological Receptors
High	<ul style="list-style-type: none"> Users expect of high levels of amenity High aesthetic or value property People expected to be present continuously for extended periods of time Locations where members of the public are exposed over a time period relevant to the AQO for PM₁₀ e.g. residential properties, hospitals, schools and residential care homes 	<ul style="list-style-type: none"> Internationally or nationally designated site e.g. Special Area of Conservation
Medium	<ul style="list-style-type: none"> Users would expect to enjoy a reasonable level of amenity Aesthetics or value of their property could be diminished by soiling People or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land e.g. parks and places of work 	<ul style="list-style-type: none"> Nationally designated site e.g. Sites of Special scientific Interest

Sensitivity	Examples	
	Human Receptors	Ecological Receptors
Low	<ul style="list-style-type: none"> • Enjoyment of amenity would not reasonably be expected • Property would not be expected to be diminished in appearance • Transient exposure, where people would only be expected to be present for limited periods. e.g. public footpaths, playing fields, shopping streets, playing fields, farmland, footpaths, short term car park and roads 	<ul style="list-style-type: none"> • Locally designated site e.g. Local Nature Reserve

13.18 The guidance also provides the following factors to consider when determining the sensitivity of an area to potential dust impacts during the construction phase:

- Any history of dust generation activities in the area;
- The likelihood of concurrent dust generating activity of nearby sites;
- Any pre-existing screening between the sources and the receptors;
- Any conclusions drawn from analysing local meteorological data which accurately represent the area, and if relevant the season during which works will take place;
- Any conclusions drawn from local topography;
- Duration of the potential impact, as a receptor may become more sensitive over time; and
- Any known specific receptor sensitivities which go beyond the classifications given in the document.

13.19 These factors will be considered in the undertaking of this assessment.

13.20 The sensitivity of the area to dust soiling effects on people and property is shown in **Table 13.3**.

Table 13.3 Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		Less than 20	Less than 50	Less than 100	Less than 350
High	More than 100	High	High	Medium	Low
	10 - 100	High	Medium	Low	Low
	1 - 10	Medium	Low	Low	Low
Medium	More than 1	Medium	Low	Low	Low
Low	More than 1	Low	Low	Low	Low

13.21 Table 13.4 outlines the sensitivity of the area to human health impacts.

Table 13.4 Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	Number of Receptors	Distance from the Source (m)				
			Less than 20	Less than 50	Less than 100	Less than 200	Less than 350
High	Greater than 18µg/m ³	More than 100	High	High	High	Medium	Low
		10 - 100	High	High	Medium	Low	Low
		1 - 10	High	Medium	Low	Low	Low
	16 - 18µg/m ³	More than 100	High	High	Medium	Low	Low
		10 - 100	High	Medium	Low	Low	Low
		1 - 10	High	Medium	Low	Low	Low
	14 - 16µg/m ³	More than 100	High	Medium	Low	Low	Low
		10 - 100	High	Medium	Low	Low	Low
		1 - 10	Medium	Low	Low	Low	Low
	Less than 14µg/m ³	More than 100	Medium	Low	Low	Low	Low
		10 - 100	Low	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low	Low
Medium	Greater than 18µg/m ³	More than 10	High	Medium	Low	Low	Low
		1 - 10	Medium	Low	Low	Low	Low
	16 - 18µg/m ³	More than 10	Medium	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low	Low
	14 - 16µg/m ³	More than 10	Low	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low	Low
	Less than 14µg/m ³	More than 10	Low	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low	Low
Low	-	More than 1	Low	Low	Low	Low	Low

13.22 Table 13.5 outlines the sensitivity of the area to ecological impacts

Table 13.5: Sensitivity of the Area to Ecological Impacts

Receptor Sensitivity	Distance from the Source (m)	
	Less than 20	Less than 50
High	High	Medium
Medium	Medium	Low

Receptor Sensitivity	Distance from the Source (m)	
	Less than 20	Less than 50
Low	Low	Low

13.23 Step 2C combines the dust emission magnitude with the sensitivity of the area to determine the risk of unmitigated impacts. Table 13.6 outlines the risk category from earthworks and construction activities.

Table 13.6: Dust Risk Category from Earthworks and Construction

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Medium	Low
Low	Low	Low	Negligible

13.24 Table 13.7 outlines the risk category from trackout.

Table 13.7: Dust Risk Category from Trackout

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Low	Negligible
Low	Low	Low	Negligible

Step 3

13.25 Step 3 requires the identification of site specific mitigation measures within the IAQM guidance to reduce potential dust impacts based upon the relevant risk categories identified in Step 2. For sites with negligible risk, mitigation measures beyond those required by legislation are not required. However, additional controls may be applied as part of good practice.

Step 4

13.26 Once the risk of dust impacts has been determined and the appropriate mitigation measures identified, the final step is to determine the significance of any residual impacts. For almost all construction activity, the aim should be to control effects through the use of effective mitigation. Experience shows that this is normally possible hence the residual effect will normally be 'not significant'.

Operational Phase Assessment

13.27 The development has the potential to impact on existing air quality as a result of road traffic exhaust emissions such as NO₂ and PM₁₀, associated with vehicles travelling to and from the site, as well as expose future site users to elevated pollutant levels. Potential impacts will be defined by predicting pollutant concentrations at sensitive locations using dispersion modelling for the following scenarios:

- Verification;
- Future Year Do-Minimum (DM) (predicted traffic flows in a future year should the proposals not proceed); and
- Future Year Do-Something (DS) (predicted traffic flows in a future year should the proposals be completed).

13.28 Receptors potentially sensitive to changes in NO₂ and PM₁₀ concentrations will be identified within 200m of the affected highway network in accordance with the guidance provided within the Design Manual for Roads and Bridges (DMRB)² on the likely limits of pollutant dispersion from road sources. LAQM (TG16)³ provides the following examples of where annual mean AQOs should apply:

- Residential properties;
- Schools;
- Hospitals; and
- Care homes.

13.29 The sensitivity impact significance of each receptor will be defined in accordance with the criteria shown in Table 13.8. These are based upon the guidance provided with the Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) document 'Land Use Planning and Development Control: Planning for Air Quality'

Table 13.8: Operational Traffic Exhaust Emissions - Significance of Impact

Long Term Average Concentration	% Change in Concentration Relative to AQO			
	1	2-5	6-10	>10
75% or less of AQO	Negligible	Negligible	Slight	Moderate
76 - 94% of AQO	Negligible	Slight	Moderate	Moderate
95 - 102% of AQO	Slight	Moderate	Moderate	Substantial
103 - 109% of AQO	Moderate	Moderate	Substantial	Substantial
110% or more of AQO	Moderate	Substantial	Substantial	Substantial

13.30 The criteria shown in Table 13.8 is adapted from the EPUK and IAQM guidance with sensitivity descriptors included to allow comparisons of various air quality impacts. It should be noted that changes of 0%, i.e. less than 0.5%, will be described as negligible in accordance with the EPUK and IAQM guidance.

² Design Manual for Roads and Bridges Volume 11, Section 3, Part 1, HA207/07, Highways Agency, 2007.

³ Local Air Quality Management Technical Guidance LAQM (TG16), DEFRA, 2016.

13.31 Following the prediction of impacts at discrete receptor locations utilising the criteria in Table 13.8, the EPUK and IAQM document states that this framework is to be used as a starting point to make a judgement on significance of effect but other influences might need to be accounted for. Whilst impacts might be determined as 'slight', 'moderate' or 'substantial' at individual receptors, overall effect might not necessarily be deemed as significant in some circumstances. The following factors may provide some assistance in determining the overall significance of a development:

- Number of properties affected by significant air quality impacts and a judgement on the overall balance;
- Where new exposure is introduced into an existing area of poor air quality, then the number of people exposed to levels above the objective will be relevant;
- The percentage change in concentration relative to the objective and the descriptors of the impacts at the receptors;
- Whether or not an exceedance of an objective is predicted to arise or be removed in the study area due to substantial increase or decrease; and
- The extent to which an objective is exceeded e.g. an annual mean NO₂ concentration of 41µg/m³ should attract less significance than an annual mean of 51µg/m³.

13.32 These factors will be considered and an overall significance determined for the impact of operational phase road traffic emissions. It should be noted that the determination of significance relies on professional judgement and reasoning should be provided as far as practicable. This will be considered throughout the assessment when defining predicted impacts.

Cumulative Effects

13.33 A separate cumulative effects chapter will be presented at Chapter 19 of the ES. This will assess the cumulative impacts of the proposed development in conjunction with any committed developments within the vicinity of the sites as identified throughout the scoping process.

13.34 Overall, air quality and dust are to be included in the scope of the EIA as there is potential for significant effects considering the impact of the proposed development on this topic.

14. Noise and Vibration

14.1 The noise and vibration assessment will assess the impacts of the proposed development on existing local noise and vibration sensitive receptors. The assessment will consider the potential impacts during both the construction and operational phases of the proposed development and where necessary, mitigation measures will be recommended to meet appropriate noise requirements for the scheme. The Noise and Vibration assessment will be undertaken by REC.

Site Context

14.2 The key noise sources impacting upon the site are vehicles using the local road network and train pass-bys. There is also the potential for short term temporary impacts due to noise and vibration associated with construction activities. Furthermore, the site has the potential to increase traffic on the local road network resulting in changes in road traffic noise levels at existing receptors.

14.3 As well as existing sound sources, the development may result in introducing new sources of sound associated with the following proposed uses:

- Food store and petrol filling station;
- Local pub;
- Display suite;
- Community Centre;
- School;
- Doctors, pharmacy and gym; and
- Vets

14.4 All the above existing and proposed sources will be addressed in the assessment wherever sufficient information is available.

Planning Policy Context

National Planning Policy

14.5 The NPPF states at paragraph 180 that:

“Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site of the wider area to impacts that could arise from the development. In doing so they should;

- a) *Mitigate and reduce to a minimum potential adverse impact resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;*

- b) *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and*
- c) *limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.*"

14.6 Other noise and vibration policies and standards which are particularly relevant to the site are:

- ProPG: Planning and Noise (2017);
- National Planning Practice Guidance for Noise (2014);
- British Standard 8233: 2014 Guidance on sound insulation and noise reduction for buildings;
- British Standard 4142: 2014 Method for rating and assessing industrial and commercial sound;
- British Standard 7445-1: 2003 Description and measurement of environmental noise. Guide to quantities and procedures;
- British Standard 5228: 2009+A1: 2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites Parts 1 and 2;
- The Highways Agency (2011) Design Manual for Roads and Bridges (DMRB) Volume 11, Part 3, Section 7;
- Noise Policy Statement for England (2010); and
- Calculation of Road Traffic Noise (1988).

Recognised Guidance

14.7 The assessment will be undertaken in line with best practice guidance documents to inform the approach and impact assessment. Those documents which will be used to inform the assessment are listed below:

- Noise Policy Statement for England (March 2010);
- National Planning Policy Framework (March 2012);
- Planning Practice Guidance (2014);
- ProPG: Planning and Noise, Professional Guidance on Planning and Noise, New Residential Development (May 2017).

Local Planning Policy

South Ribble Local Plan – Adopted July 2015

14.8 The Local Plan provides brief guidance in respect of noise. Excerpts relevant to the assessment are shown below:

"Noise can have a detrimental effect on the quality of the environment. Much of the development required for the creation of jobs and the construction and improvement of essential infrastructure will generate noise. The Council will only permit development that does not cause an unacceptable degree of disturbance."

14.9 The remainder of the Local Plan mirrors the sentiment of NPPF, where it is advised that no adverse impact is expected at the receptors by way of achieving the criteria detailed in the above guidance.

Approach

14.10 REC has undertaken the following Noise and Vibration Surveys at the Site in August 2018:

- Noise Measurement Position 1 (NMP1): Located on the western Site boundary with Penwortham Way where a 24-hour road traffic sound measurement was undertaken during a typical weekday period in accordance with the methodology given in Calculation of Road Traffic Noise (CRTN);
- Noise Measurement Position 2 (NMP2): Located on the southern Site boundary with Chain House Lane/Coote Lane where a road traffic noise measurement in accordance with CRTN was undertaken;
- Noise Measurement Position 3 (NMP3): Located on the north eastern boundary with the railway line, before the line splits, where a 24-hour rail noise survey was undertaken during a typical weekday period;
- Noise Measurement Position 4 (NMP4): Located on the eastern boundary with the railway line, after the line splits, where a 24-hour rail noise survey was undertaken during a typical weekday period;
- Noise Measurement Position 5 (NMP5): Roving measurements along the southern boundary for any existing commercial premises that are to remain where 1-hour measurements was undertaken throughout the day to encompass early morning, afternoon and evening periods, where required;
- Noise Measurement Position 6 (NMP6): Located on the northern boundary with the existing residential dwellings where a full weekday and weekend background sound survey was undertaken;
- Noise Measurement Position 7 (NMP7): Located on the southern boundary or centrally within the Site where a full weekday and weekend background sound survey was undertaken; and,
- Vibration Measurement Position 1 (VMP1): Located on the north eastern Site boundary with the railway line where vibration measurements for a sample number of trains was completed.

14.11 All noise measurements were carried out using sound level meters compliant with Type-1 specification, as set out in BS EN 61672-1:2003: '*Electroacoustics: Sound Level Meters. Specifications*'.

Noise and Vibration ES Chapter

14.12 The following assessments will be undertaken as part of the ES Chapter:

- Road and Rail Traffic: An initial Risk Assessment will be undertaken in accordance with ProPG based on the measured sound levels. Following this, an assessment of the impact of noise from road and rail traffic will be assessed against the criteria presented in BS8233:2014 and ProPG. The assessment will provide advice on Good Acoustic Design, suitable site layout and/or any potential mitigation measures;
- Commercial Sound: An assessment of any existing or proposed commercial or industrial sound will be completed in accordance with the guidance presented in BS4142:2014;
- Train Vibration: An assessment of the potential impact of vibration due to passing trains will be undertaken in accordance with the guidance given in BS6472:2008;
- Construction Noise and Vibration: An assessment of the impact of construction noise and vibration will be assessed in accordance with the guidance given in BS5228:2009+A1:2014; and

14.13 Change in Road Traffic Noise: An assessment of the impact of the change in road traffic noise levels upon existing residential receptors will be carried out in accordance with the guidance given in CRTN and DMRB.

Cumulative Effects

- 14.14 A separate cumulative effects chapter will be presented at Chapter 19 of the ES. This will assess the cumulative impacts of the proposed development in conjunction with any committed developments within the vicinity of the sites as identified through the scoping process.
- 14.15 Overall, noise and vibration are to be included in the scope of the EIA as there is potential for significant effects considering the impact of the proposed development on this topic

15. Socioeconomics

15.1 The purpose of this chapter is to identify and assess the likely significant socio-economic effects of the proposed development. The assessment is concerned with the socioeconomic effects of the proposals relating specifically to job creation, labour supply, implications of the demand for public services, and the effects of housing provision in respect of adopted policy. The socio-economic assessment will be carried out by Hatch Regeneris.

Site Context

15.2 The site is situated south of Penwortham Village (which is south of Preston). It is located within the Charnock ward and the South Ribble local authority area.

15.3 South Ribble's population has grown by 1.3% (+1,400) in the last five years, with a current population of 110,400. The latest ONS sub-national population projections (2014 based) show that the borough's population is forecast to grow to over 112,000 (+2%) by 2041

15.4 Key economic indicators for South Ribble present a fairly positive picture, with high levels of economic activity amongst the resident base (90% compared to 78% nationally), and a lower than average unemployment rate. However, challenges remain in the borough, including improving access to employment opportunities, as South Ribble has a lower than average number of workers employed in higher managerial and senior positions (26% compared to 31% nationally), and improving the skill levels of the workforce (35% are educated to degree level or higher compared to 39% nationally).

15.5 In terms of social and community infrastructure in the local area, there are 14 GP practices within an approximate 2 miles of the site (approximate postcode PR1 9TU), as well as six dentists. The site appears well served in terms of education provision, with 19 primary schools and 5 secondary schools located within 2 miles of the site.

Planning Policy Context

National Planning Policy

15.6 The provision of new homes and the need to significantly boost the housing supply are recognised by the Government as policy objectives of fundamental importance. Housing is 'an integral part of the UK's economic and social infrastructure, supporting labour mobility and providing a direct benefit to growth and jobs as new homes are built'. The Government has introduced a number of policies and strategies in an attempt to bolster house building as well as to re-activate the housing market after a period of relative stagnation:

- The NPPF (2018);
- Investing in Britain's Future (2013);
- Help to Buy;

- Fiscal Benefits to Local Authorities and incentives for House Builders;
- National Infrastructure Delivery Plan (2016); and
- The Housing White Paper (2017).

Local Planning Policy

15.7 A review of local planning policies shall also be undertaken as part of the assessment. These local planning policies include:

- The Central Lancashire Core Strategy (adopted in July 2012);
- The adopted South Ribble Local Plan 2012 – 2026 (adopted in July 2015); and
- The Penwortham Neighbourhood Plan 2016 – 2026.

Approach

15.8 The first stage of the assessment is to establish the baseline conditions through interrogation of published data or other sources for South Ribble. This will include a review of local and national policies and strategies related to economic development and regeneration, which will be used to identify priorities at the local and national level. It will also include establishing the existing demographic, economic and social conditions through reference to a number of published data sources such as Census data, the Office of National Statistics website, NOMIS, the Indices of Deprivation and information published by the NHS and Department for Education. Consultation with local authority officers (e.g. economic development officers) and stakeholders (e.g. healthcare commissioners) will be undertaken as required.

15.9 The baseline analysis will consider the following broad topics:

- Population;
- Local economic conditions;
- Employment, unemployment and worklessness;
- Housing;
- Social and community infrastructure (including health and education facilities)

15.10 The second stage of the assessment is to assess the socio-economic effects during both the construction and operational phases of development. The socio-economic assessment will utilise a range of different data sources including the English Housing Survey, the Family Expenditure Survey, Census 2011, CLG guidance on construction labour ratios.

15.11 During the construction phase the key issues relate to the generation of construction-related employment at a local and regional level. This will consider both the direct employment effect and the indirect/induced effects associated with the supply chain and the impact of construction worker spend on local goods and services.

- 15.12 The construction spend on the scheme will support construction jobs over the lifetime of the build. This will have multiplier effects through induced (supply chains) and indirect (employee spend supporting further jobs) impacts. These will be quantified and their significance evaluated.
- 15.13 In terms of operational impacts, the key issues for assessment are:
- The impact of the proposed residential development on demographics in the area, in particular, population and household size and structure. The ES will include an estimate of the population yield associated with the development based on the residential unit mix and average household size. The ES will also identify the potential age profile and characteristics of the new residents, and their likely occupational profile to identify potential effects on the local labour market.
 - The impact on and relationship with housing supply and demand in the area, taking into account the potential delivery of any affordable housing;
 - The effects of the potential increase in spending by residents in the area and the indirect impact that this has on employment opportunities. The expenditure of residents will support jobs in the geographical area in which they spend money (the impact area) which in turn will support induced and indirect jobs. As well as supporting jobs, which can help to reduce unemployment, increased spending can support regeneration aims to ensure viable local town centres.
 - Wider fiscal effects of housing delivery, such as the New Homes Bonus and Council Tax
 - The effect on demand for local social and community infrastructure (e.g. health and educational facilities)
- 15.14 There are no recognised significance criteria for socio-economic effects and, as such, professional judgement will be used based upon the identified needs of the local population, planning policy objectives and the magnitude of potential impacts in line with the significance criteria set out in Chapter 4. Mitigation measures will be identified as required along with any residual effects.

Cumulative Effects

- 15.15 A separate cumulative effects chapter will be presented at Chapter 19 of the ES. This will assess the cumulative impacts of the proposed development in conjunction with any committed developments within the vicinity of the sites as identified through the scoping process.
- 15.16 Overall, socio-economics is to be included in the scope of the EIA as there is potential for significant effects considering the impact of the proposed development on this topic

16. Climate Change

- 16.1 The EIA Regulations 2017 have introduced the requirement to consider climate as part of the EIA process, and require a consideration of 'the impact of the project on climate' and 'the vulnerability of the project to climate change' (Schedule 4, paragraph 5(f)). The climate change assessment will identify and assess the likely significant effects of the proposed development on climate change mitigation (i.e. greenhouse gas/carbon emissions), and how to minimise these. The assessment also considers how the proposed development adapts to a changing climate, how other EIA topics/receptors could be affected, and how it resilience can be designed into this. The climate change assessment will be carried out by BWB.

Site Context

- 16.2 With respect to features that could affect, or be affected by climate change, the site is largely greenfield in nature, with a number of buildings spread across it. There are also a number of smaller watercourses/drainage ditches and trees/hedgerows at the site, with a number of internal roads to provide access to the buildings (rather than through the site).

Planning Policy Context

National Planning Policy

- 16.3 Section 150 of the NPPF states that new development should be planned for in ways that:
- a) *"avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and*
 - b) *can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government's policy for national technical standards."*
- 16.4 Section 153 of the NPPF goes on to state that local planning authorities should expect new development to:
- a) *"comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and*
 - b) *take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption."*

Local Planning Policy

- 16.5 The South Ribble Core Strategy devotes a whole chapter (K) to tackling climate change. It states that *"Tackling climate change is a cross cutting theme of the Core Strategy. Improving the energy efficiency of new developments and encouraging renewable and low carbon energy generation in the borough are key aims of the Core Strategy"*. It refers to the need for developments to adhere to the following policies:

- Policy 27: Sustainable Resources and New Developments
- Policy 28: Renewable and Low Carbon Energy Schemes
- Policy 29: Water Management
- Policy 30: Air Quality

16.6 It also states that: *“This Plan can also contribute to adapting to the effects of climate change, which may include increased summer temperatures and a higher risk of flooding or droughts. The most appropriate way of achieving this is to direct development away from areas of high flood risk”.*

Recognised Guidance

- 16.7 The assessment will be undertaken in line with best practice guidance documents to inform the approach and impact assessment. This will include:
- IEMA's guidance 'Climate Change Resilience and Adaption' (2015); and
 - IEMA's guidance 'Assessing Greenhouse Gas Emissions and Evaluating Their Significance' (2017).

Approach

- 16.8 The assessment will consider both potential impacts on climate and the resilience/adaptation to climate change.

Potential Impacts on Climate

- 16.9 The approach to assessing the potential impact of the Proposed Development on climate will follow the Institute of Environmental Management and Assessment (IEMA) guidance 'Assessing Greenhouse Gas Emissions and Evaluating Their Significance' (2017). This guidance describes how a proportionate assessment of a development's potential impact on climate can be achieved and how to communicate the results in terms of a notional percentage contribution relative to a carbon budget, accounting for achievable mitigation.
- 16.10 The IEMA guidance states that it is good practice for greenhouse gas (GHG) emissions to be scoped into all EIA projects, on the basis of principles highlighting that all GHG emissions contribute to climate change, and that the cumulative effect of all GHG emissions moves us towards to the scientifically defined environmental threshold for limiting temperature increases associated with climate change. Climate change can also have a potentially significant effect on many EIA topics. As there are no defined thresholds or significance criteria currently, any GHG emissions or reductions from a project should be considered as significant. The guidance also reinforces a key principle of EIA which is to reduce the impact of a project's emissions through mitigation.

Approach to Assessment

- 16.11 The EIA will quantify the 'net GHG emissions' by:
- Producing an inventory of existing activities likely to cause GHG emissions both directly within the project boundary and indirectly from off-site emissions (e.g. grid electricity generation) from the existing baseline conditions (prior to any construction works commencing)

- Considering a future year of 2030 (to reflect targets associated with the Fifth Carbon Budget), and applying assumptions as to what this future baseline might look like;
- Creating an inventory of direct and indirect emissions associated with the proposed development (quantified for the construction and operational stages, with a qualitative description of the 'end of life' stage due to inherent uncertainties associated with predicting the distant future);
- Identifying those sources of emissions that are not expected to result in a material contribution to the overall, and excluding them from further assessment;
- For those GHG residual GHG emissions, apply a set of robust GHG 'emissions factors' (i.e. the amount of GHG resulting from a given source), to enable a like for like comparison to be made;
- Present measures that will be adopted as mitigation, following the principles of the carbon management hierarchy (i.e. avoid, reduce, off-set), to show how the anticipated GHG emissions of the proposed development will be reduced as far as reasonably practicable;
- Taking into account the points above, the residual GHG emissions (following mitigation) will be compared against an existing carbon budget (likely to be defined at a local level) in order to view the proposed development's GHG contribution in the context of this. This will enable professional judgement to determine the significance of the effect.

Resilience and Adaptation to Climate Change

- 16.12 The aim of the assessment will be to consider whether the effect on receptors that are sensitive to climate in the exiting situation are likely to be different under a future climate which is different to that now. It is important to understand whether the potential impacts of/upon the proposed development could manifest themselves differently (or be better or worse) under a future baseline, if this could change the significance of effects in the future, and if so, how should the scheme futureproof itself or plan for adaptation.
- 16.13 IEMA's guidance 'Climate Change Resilience and Adaption' (2015) presents a methodology for the consideration of climate change resilience and adaption in the EIA process, which will be followed in the EIA.

Future Climate Scenario

- 16.14 The first stage of the assessment is to select a future climate scenario to base the assessment on. This is determined by reviewing the future climate projections published by the Met Office (through the UK Climate Projections (UKPC09) website), which includes variables such as annual mean temperatures and annual changes in summer and winter precipitation.
- 16.15 In the case of the proposed development, it is proposed that the 'medium emissions scenario' (A1B) for the 2080s will be utilised as the future baseline, as this gives a more likely set of projections, given known trends and technological developments. The 2080s covers the years 2070 – 2099 and this is the timeframe considered most relevant to the proposed development, due to its anticipated design life. A range of probability levels are available, although this study will use the 50% probability level (i.e. a central estimate with less uncertainty).

Assessment Method

- 16.16 The principal steps that will be undertaken are to:

- Identify any sensitive receptors identified across all EIA topics that could be affected by climate change, and categorise them in terms of their relative sensitivity;
- Apply the future climate scenario described above to qualitatively or quantitatively assess, using professional judgement, how each receptor is likely to be affected by the 2080s;
- Consider and present the alternatives considered with respect to resilience and adaptive measures associated with the scheme's design or management, and clearly identify those which for part of the proposed development;
- Assess whether these adopted measures are likely to be sufficient, or whether further interventions are likely to be required in the future;
- Create an outline Climate Change Adaptation Plan, which explains those measures that should be kept under review, and/or passive provision be made for their incorporation, and suggests a mechanism for how the impacts from climate change can be monitored in the future, and the plan implemented and updated over the project's lifespan.

Cumulative Effects

- 16.17 A separate cumulative effects chapter will be presented at Chapter 19 of the ES. This will assess the cumulative impacts of the proposed development in conjunction with any committed developments within the vicinity of the sites as identified through the scoping process.
- 16.18 Overall, climate change is to be included in the scope of the EIA as there is potential for significant effects considering the impact of the proposed development on this topic.

17. Health

17.1 This section of the ES will present an assessment of the likely significant effects of the proposed development on a range of health determinants as appropriate to the characteristics of the proposed development. The assessment will be undertaken by Peter Brett Associates (part of Stantec).

Site Context

17.2 The site is approximately 100 hectares and is located in Penwortham, in South Ribble, to the south of the city of Preston. The site is bounded by agricultural fields to the south and the A582 Penwortham Way to the west. Immediately to the north of the site lies the residential areas of Penwortham and to the east residential areas Lostock Hall, although separated from the site by the West Coast Mainline railway that links London to Scotland, which runs along the site's eastern boundary.

17.3 The site is and has largely remained as undeveloped agricultural land, with some residential properties and employment uses including a dairy farm and garages. A number of lanes run through the site, of which, Bee Lane, Flag Lane, Nib Lane, Moss Lane, and Lords Lane will be retained. The masterplan for the site proposes to retain the majority of existing buildings / businesses will be on site, as well as existing roads and roads and pedestrian routes.

17.4 The site is located within the administrative boundary of SRBC and within the Wards of Charnock and Farington West.

17.5 A preliminary review of the characteristics of the population of the borough, nearby Wards and LSOAs has been undertaken at this time. This will be supplemented using additional information as set out in paragraph 17.18 in the ES.

17.6 The South Ribble Public England Health Profile 2018 identifies the following characteristics for the borough:

- Life expectancy in the borough is above average, in comparison to North-West and England average, with male life expectancy being almost two years higher than average;
- Only 5.2% of the South Ribble population are from ethnic minorities, much lower than the England average of 13.6%;
- General health profile of the area is similar to the regional and England averages, however with slightly more numbers of people being killed or seriously injured on roads;
- Child obesity (aged 10-11) is significantly lower than the North West and England average, although still high at 14.3%;
- The employment rate is high at 83.7%, in comparison to regional and national rates; and
- Deprivation levels are low for the region and nationally.

17.7 For the local area the preliminary data review has highlighted the following for the Charnock, Farington West and surrounding Wards (www.localhealth.org.uk):

- Both wards are in an area have similar levels of child obesity than the borough and the England average – with approximately 17-19% obese at Year 6 and although slightly lower than the England averages approximately 18-20% of adults are obese;
- Farnington West Ward has a very similar population profile to England, whereas Charnock Ward has a greater proportion of people aged 65-84 than England and fewer aged 16-24 years;
- Life expectancy is similar to the England and the local area at 78.5 for males and 85.3 for females in Charnock Ward and 78.4 for males and 82.4 for females in Farnington West Ward;
- Both Wards have significantly higher than average emergency admissions for children under 5 than the England average, with Charnock Ward also having higher than average emergency admissions for all causes, coronary heart disease and chronic obstructive pulmonary disease;
- Farnington West and Charnock Wards also have several measures that are significantly better than the England average including lower levels of deprivation and child poverty, with people in Farnington West Ward also reporting significantly lower levels of people reporting they are bad or very bad health and living with a long-term disability than for England;
- Most 'causes of death' indicators are not significantly different than the average for England for both Wards, with the exception of Farnington West Ward where there is a significantly worse than average death from all causes for those aged under 65. Ward; and
- The indices of deprivation 2015 shows that although the site itself has relatively low levels of deprivation an LSOA immediately to the west of the site is one of the 30% most deprived nationally (multiple deprivation) and 20% most deprived nationally (income deprivation, income deprivation affecting older people and children).

Planning Policy Context

National Planning Policy

- 17.8 The revised NPPF acknowledges the importance of considering health impacts during the planning process and covers many issues that are directly related to the determinants of health.
- 17.9 The NPPF identifies the three mutually dependent roles that the planning system needs to consider to deliver the "*presumption in favour of sustainable development*". The role of particular relevance to health is the 'social role'. Paragraph 7 of the NPPF states the planning system should support "*strong, vibrant and healthy communities... by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being.*"
- 17.10 The NPPF also acknowledges that planning policies and decisions should aim to achieve healthy, inclusive and safe places which:
- "a) promote social interaction, including opportunities for meetings between people who might not otherwise come into contact with each other – for example through mixed-use developments, strong neighbourhood centres, street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods, and active street frontages.*

b) are safe and accessible, so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion – for example through the use of clear and legible pedestrian routes, and high quality public space, which encourage the active and continual use of public areas; and

c) enable and support healthy lifestyles, especially where this would address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling.”
(Paragraph 91)

Local Planning Policy

- 17.11 Policy 23 of the Central Lancashire Core Strategy (2012) states: “*Health Impact Assessments are required on all strategic development proposals on Strategic Sites and Locations*”.

Approach

Overarching Approach

- 17.12 The health impact assessment (HIA) will use a systematic approach to identify the differential health and wellbeing impacts, both positive and negative, of the proposed development. The approach is particularly concerned with the distribution of effects within a population, as different groups are likely to be affected in different ways, and therefore how health and social inequalities might be reduced or widened by the proposed development.
- 17.13 The methodology for HIA will be based around the London Healthy Urban Development Unit (HUDU) ‘*Healthy Urban Planning Checklist*’ (April 2017). Although the checklist was developed for London it is equally applicable to residential led development elsewhere in the UK. The checklist aims to promote healthy urban planning by ensuring that the health and wellbeing implications of major planning applications are consistently taken into account, though providing a set of themes and planning issues that can be used to assess development proposals.

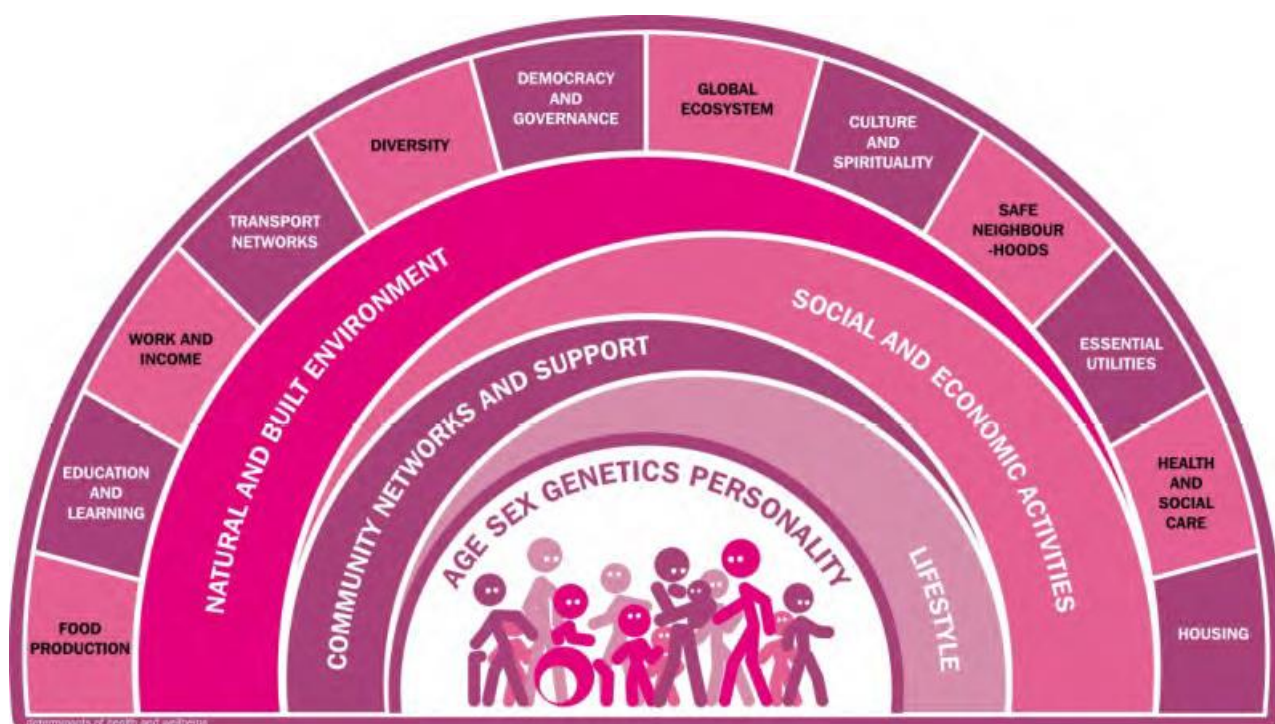


Figure 17.1 The Determinants of Health and Wellbeing⁴

17.14 The HIA methodology recognises that health and wellbeing can be affected by multiple determinants as indicated in **Figure 1**. Changes in certain determinants caused by development may affect the health and wellbeing of existing and new residents. The HUDU checklist interprets these determinants into a set of themes that can be used to assess housing development. These themes are:

- Healthy housing;
- Active travel;
- Healthy environment; and
- Vibrant neighbourhoods.

17.15 Specific criteria sit under each of these themes to cover a fuller range of determinants. These include access to health and social care, healthy food, freedom from pollution, open space, reducing crime and fear of crime, and access to employment and services.

17.16 The checklist and criteria will provide the basis for the assessment stage of the HIA, where the proposals (including embedded mitigation) are compared to each of the relevant criteria in turn identifying the receptors that would be affected and whether any vulnerable groups are likely to be affected. Where necessary, additional mitigation or enhancement recommendations will be identified.

17.17 Effects will be considered at both the construction and operational phases of the proposed development. The assessment will be predominantly qualitative except where data is available to enable quantification, or where quantification of health impacts is undertaken in other technical or environmental assessments, in particular as part of the EIA.

⁴ Adapted from Dahlgren G and Whitehead (1991). Policies and strategies to promote social equity in health; Institute of Future Studies; Stockholm.

17.18 It should be noted that whilst our approach to HIA will consider provision of any health care services proposed as part of the development, it is not a Health Needs Assessment and does not attempt to quantify health care contributions. However, the Socio-Economic Impact Assessment will be cross-referenced as necessary, to include the effects of the proposed development on healthcare provision.

Geographical Scope

17.19 The geographical scope of the HIA will be determined by receptor groups which are likely to be significantly affected by the proposed development. The scope of the HIA is therefore in part dependent upon the study areas and potential receptors identified in other technical assessment (such those on air quality, noise effects).

17.20 The HIA will also define a study area based on the potential for effects on the local resident population. It is proposed to include as part of this the baseline health and wellbeing characteristics of:

- South Ribble borough;
- the Wards in which the site falls: Charnock and Farington West Wards as well as neighbouring wards (or parts of wards); and
- the Lower Super Output Area (LSOA) statistical areas in which the site falls and borders, including 006A, 005A, 006D, 012C Healthy housing.

Research and Surveys

17.21 The assessment will be informed by a baseline drawing on existing local health and wellbeing objectives and strategies, and baseline health characteristics. The health baseline will include both local health profile and local health priorities will be identified through:

- A review of local policies and strategies of relevance e.g. the Joint Strategic Needs Assessment;
- Review of local health data e.g. Public Health England health profiles;
- Review of relevant baseline established through the EIA e.g. capacity of local facilities and labour market statistics to be identified in the socio-economics assessment; and
- Consultation undertaken as part of wider planning application. No consultation specific to the HIA is proposed given the desk-top assessment proposed.

17.22 When undertaking the HIA applicable plans and strategies related to health and wellbeing will be drawn on that cover the area to identify the priorities for health that will need to be addressed. From a preliminary review of relevant documents, the following have been identified for review:

- Lancashire County Council Health and Wellbeing Dashboard;
- Lancashire Insight 2017;
- Lancashire Joint Strategic Needs Assessment, Annual Commentary 2017/18;
- Working-age population (WAP) final report (recommendations) 2017;
- Lifestyle behaviours in the WAP;

- Long-term conditions in the WAP;
- The 50+ working-age population;
- Mental health in the WAP;
- Local Authority Profile, South Ribble, 2018;
- Local Authority Health Profile, South Ribble;
- NHS Chorley and South Ribble, Annual Report 2017/18;
- Our Strategy for Commissioning Better Health 2014-2019;
- 2011 Census data and Local Health Profiles;
- Relevant baseline from environmental assessments; and
- Outputs of public and stakeholder consultation.

17.23 In addition, the review of baseline information will identify vulnerable groups whose health and wellbeing could be disproportionately affected by the proposed development, for instance the elderly, children, people with pre-existing health conditions etc.

17.24 The receptors which we propose to consider in the HIA are:

- Construction workers;
- Existing residents/businesses/communities around the site;
- Existing residents/businesses on land and in buildings within the site that are proposed to be retained; and
- Future users and residents of the site as set out within the relevant section of ES Assessing the Significance of Effects

Assessing significance of effect

17.25 The IEMA 'Health in Environmental Impact Assessment – A Primer for a Proportionate Approach' notes the complexities to defining significance for population and human health. There is therefore an absence of specific significance criteria or a defined threshold for determining significance for population and health in UK EIA practice.

17.26 Given the multitude of factors (determinants) that contribute to an individual's health outcomes, it is difficult to draw a quantified conclusion regarding the contribution of a particular development to an increase or decrease in the number of additional cases of a particular physical or mental health outcome. A matrix methodology is therefore not proposed in favour of a general significance table. A significant effect will be reported in the assessment where, based on professional judgement, the Proposed Development is likely to contribute to a material change in health outcomes associated with the health issue being assessed and, in determining this, the following questions have been considered:

- Have significant effects been identified in other assessment undertaken as part of the EIA which are linked to human health (i.e. are environmental or health standards threatened)?
- Are vulnerable groups affected?

- Is the effect reversible or irreversible?
- Does the effect occur over the short (less than one year), medium (one to five years) or long (over five years) term?
- Is the effect permanent or temporary?
- Does it increase or decrease with time?
- Is the effect at an individual or population level? and
- Are mitigating measures available and is it reasonable to require these?

17.27 Effects that are described as 'minor' or 'negligible' are determined to be 'Not Significant' and effects that are described as 'moderate' or 'major' are determined to be 'Significant'. Table 17.1 sets out the general significance criteria used in this assessment.

Table 17.1: Generic Significance Criteria

Major	These effects are likely to be important considerations at a local or district scale but, if adverse, are potential concerns to the project and may become key factors in the decision-making process.
Moderate	These effects, if adverse, while important at a local scale, are not likely to be key decision-making issues. Nevertheless, the cumulative effect of such issues may lead to an increase in the overall effects on a particular receptor.
Minor	These effects may be raised as local issues but are unlikely to be of importance in the decision-making process. Nevertheless, they are of relevance in enhancing the subsequent design of the project and consideration of mitigation or compensation measures.
Negligible	No effect or effect which is beneath the level of perception, within normal bounds of variation or within the margin of forecasting error.

Proposed Mitigation and Residual Effects

17.28 Where necessary, additional mitigation or enhancement recommendations will be identified. Residual effects will be identified as those effects remaining with implementation of any additional measures.

References

17.29 A list of references used to inform the assessment will be provided.

Cumulative Effects

17.30 A separate cumulative effects chapter will be presented at Chapter 19 of the ES. This will assess the cumulative impacts of the proposed development in conjunction with any committed developments within the vicinity of the sites as identified through the scoping process.

17.31 Overall, health is to be included in the scope of the EIA as there is potential for significant effects considering the impact of the proposed development on this topic.

18. Non – Significant Issues

18.1 This section sets out those environmental issues deemed to be insignificant for the purposes of EIA, and as such have been 'scoped out' of the EIA process.

Lighting

18.2 Artificial lighting is provided to encourage a safe environment for a range of activities including driving, cycling and walking. It is also used to enhance the environment by means of decorative and flood lighting of areas, features and buildings. Any new lighting proposed as part of the development at the sites will be in accordance with British Standards, The Institution of Lighting Professionals (ILP) and The Chartered Institution of Building Services Engineers (CIBSE) which prescribes required lighting levels. This would be referenced in Chapter 5: Description of the Development, within the ES. The proposed lighting will be selected with reference to the following design standards and codes of practice:

- BS EN 5489-1: 2003 +A2 (2008) Code of Practice for the design of road lighting: Part 1 Lighting of roads and public amenity areas;
- BS EN 13201-2: 2003 Road lighting – Part 2: Performance requirements;
- ILE GN01: Guidance notes for the reduction of obtrusive light;
- ILE TR12: Lighting of pedestrian crossings (2007); and
- ILE TR25: Lighting for traffic calming features.

18.3 Lighting will be designed in conjunction with the design team and landscape consultant to ensure that lighting is appropriate in terms of the potential effects on public realm and surroundings of the site. As this mitigation can be 'designed-in' to the proposals and secured through appropriate planning controls, it is considered that a detailed assessment of lighting is not required as part of the EIA.

Daylight, Sunlight and Overshadowing

18.4 Development in densely urbanised locations or of a high-rise nature can cause impacts to the levels of light received by adjacent properties. The proposed development sites are self-enclosed areas of land. Therefore, there would be no potential for issues of overshadowing or light obstruction to adjacent properties such that an assessment would need to be undertaken to quantify the impact and propose mitigation. It is therefore proposed that this be scoped out of the EIA.

Wind

18.5 The proposed development will not comprise buildings of sufficient size and scale to affect wind flow and dynamics such that significant environmental effects could result. As such, a wind assessment would not need to be undertaken for the proposed site and it is proposed that this be scoped out of the EIA.

Waste

- 18.6 Given the nature of the proposed development, materials required for the construction of the proposed development are unlikely to be particularly scarce or environmentally sensitive, nor is the proposed development likely to result in materials becoming scarce. Consideration will be given throughout the design process to the specification of suitable materials, including their sustainability and environmental implications, to support an environmentally sensitive and high quality development. As a result, the proposed development is not likely to have any significant effects in relation to materials.
- 18.7 Waste will be generated during the construction phase, as a result of the construction of the new buildings. Waste management will be considered carefully throughout the design and construction of the proposed development, to ensure compliance with legislation, and to minimise costs associated with waste disposal. The volume of construction waste likely to be generated by the development would be in line with what would be expected from a development of this size and will not significantly affect the capacity of local waste infrastructure.
- 18.8 During the operation of the development, waste (including recyclables) generated by dwellings will be managed by the local waste authority, while waste from the commercial uses will be managed by commercial operators. None of the proposed users are anticipated to be major generators of waste and the wastes generated by the proposed development should not significantly affect the capacity of local waste infrastructure.
- 18.9 A Site Waste Management Plan, along with standard tried and tested working methods, will ensure that construction waste arisings can be minimised.

Accidents and Disasters

- 18.10 The new EIA Regulations 2017 require that an ES needs to include a description of the expected effects of the proposed development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters that are relevant to the project concerned. In this case, the nature of the proposed development is not considered to pose risk of major accidents and/or disasters. As such, accidents and disasters are not proposed to be included as part of this EIA.

19. Proposed Structure of the Environmental Statement

Volume 1: The Non-Technical Summary

19.1 A Non-Technical Summary is required under the 2017 EIA Regulations and presents the findings of the ES in a manner suitable for use by non-experts.

Volume 2: Environmental Statement

19.2 This Volume will contain the main text of the ES. The proposed topics for consideration and their respective chapter headings are set out below:

- (1) Introduction
- (2) Approach
- (3) Site Description
- (4) Alternatives
- (5) The Proposed Development
- (6) Planning Policy Context
- (7) Ecology and Nature Conservation
- (8) Heritage and Archaeology
- (9) Ground Conditions
- (10) Landscape and Visual
- (11) Drainage and Flood Risk
- (12) Transport and Access
- (13) Air Quality
- (14) Noise and Vibration
- (15) Socioeconomics
- (16) Climate Change
- (17) Health
- (18) Cumulative Impacts
- (19) Summary of Mitigation and Residual Effects

Volume 3: Appendices

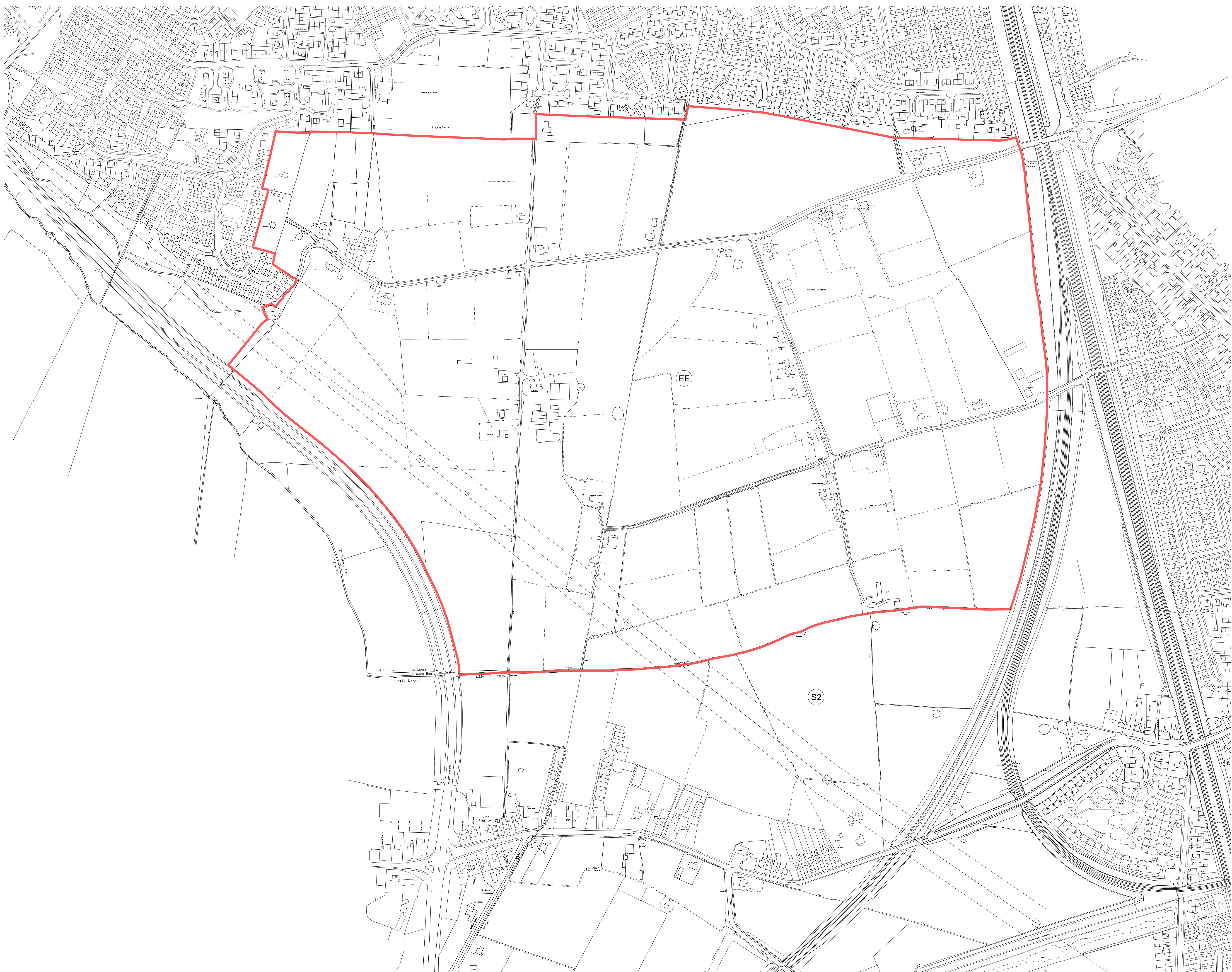
- 19.3 This volume will contain supporting information and a collection of technical reports upon which the conclusions of the ES are based.

20. Summary and Conclusions

- 20.1 The Scoping Report has been prepared to support a formal request to SRBC for a Scoping Opinion under the 2017 EIA Regulations regarding the scope of the EIA and the likely content of the ES which will accompany the Planning Application.
- 20.2 The Scoping Report provides:
- An overview of the baseline environmental conditions;
 - Details of the proposed development;
 - An overview of the likely environmental issues associated with the development; and
 - Methodologies proposed to undertake the specialist assessments
- 20.3 We would welcome feedback on the proposed approach to the EIA and would be grateful if SRBC would respond by way of a formal Scoping Opinion within the requisite 5 weeks in accordance with Regulation 15(4) of the 2017 EIA Regulations. If the Local Planning Authority require any additional information in order to make a decision, please do not hesitate to contact GVA HOW Planning.

Appendix 1.1

Site Location Plan



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 All Contractors must refer to the site and are responsible for verifying and checking all dimensions before starting work. 5plus Architects are to be advised of any variation between drawings and site conditions.
 Electronic files should be saved as they are and should not be downloaded for amendments. All dimensions and levels should be 'read' only from those values stated in text on the drawings.
 CONSTRUCTION - It is considered that the proposed works are within the scope of a competent Contractor and no such or unusual hazards have been identified, other to relevant Risk Stratification/Design Risk Assessment.

KEY PLAN:
 Application Boundary Line

REV.	DATE	DETAILS
-	21/05/18	FOR INFORMATION
A	23/05/18	FOR INFORMATION
B	10/10/18	SAFEGUARDED LAND REMOVED FROM APPLICATION BOUNDARY

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 London
 N1 6FA
 t. +44 (0)207 253 7644
www.5plusarchitects.com

PROJECT:
Pickerings Farm
Penwortham
 TITLE:
Masterplan Red Line
 SCALE: 1:2500@A1 ORIGIN DATE: 10/10/18 DRAWN: JP CHECKED: AT
 STATUS:
For Information
 PROJECT: 05745 DRAWING NO.: MP_00_0000 REV: B
 Architecture | Masterplanning | Interiors | Graphics | Branding

Appendix 7.1

Desk Based Ecology Assessment Report



PICKERINGS FARM PENWORTHAM DESK BASED ECOLOGY ASSESSMENT

TEP
Genesis Centre
Birchwood Science Park
Warrington
WA3 7BH

Tel: 01925 844004
Email: tep@tep.uk.com
www.tep.uk.com

Offices in Warrington, Market Harborough, Gateshead, London and Cornwall

Document Title	Pickerings Farm Desk Based Ecology Assessment
Prepared for	Taylor Wimpey North West / Homes England
Prepared by	TEP - Warrington
Document Ref	6900.007

Author	Lizi Langston
Date	June 2018
Checked	Mike Walker
Approved	Mike Walker

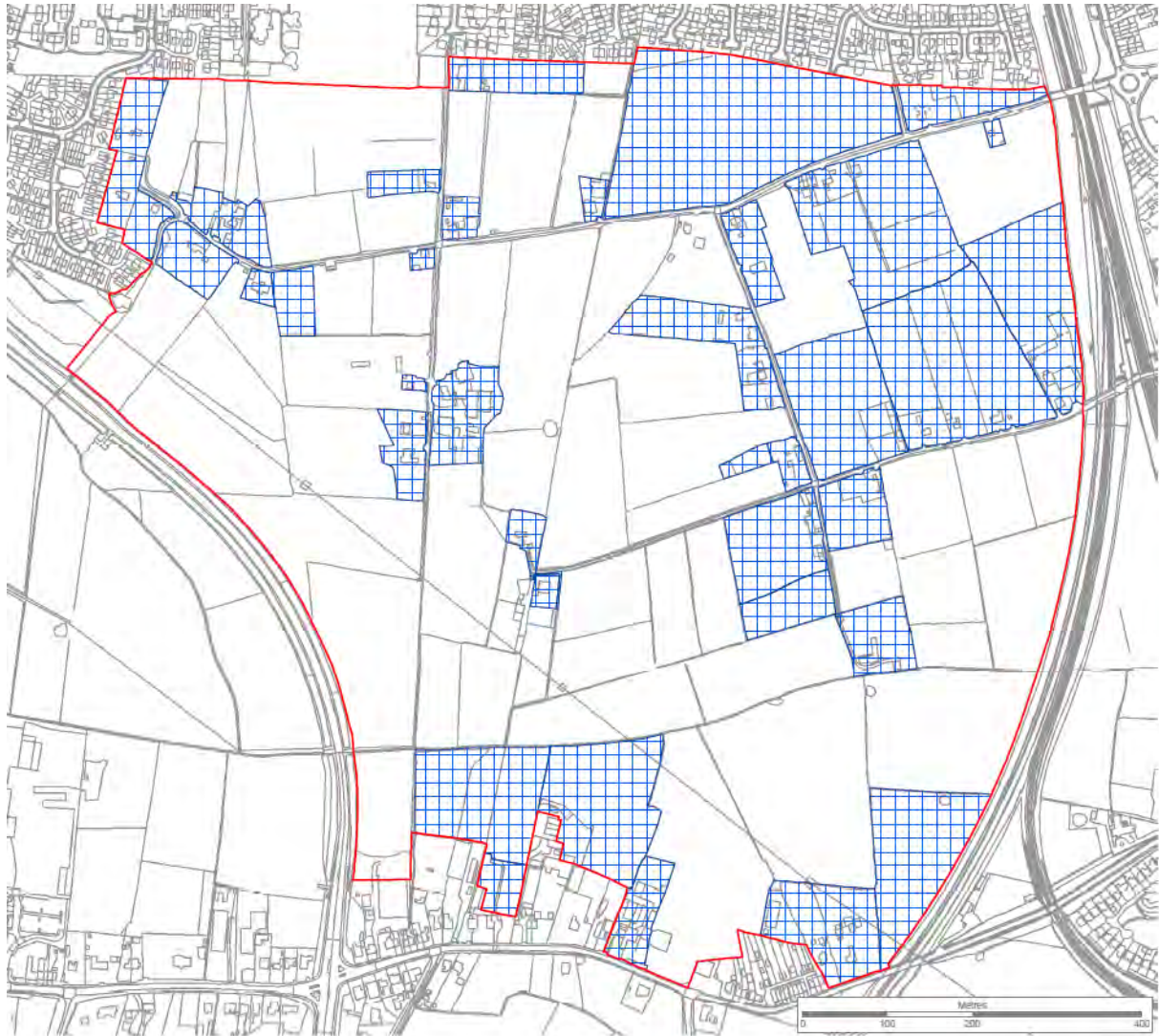
Amendment History					
Version	Date	Modified by	Check / Approved by	Reason(s) issue	Status

Contents

- Site Location Plan
- Relevant Local Planning Policies
- Site Designations
- Notable Habitats
- Notable Species
- Local BAP Habitats and Species

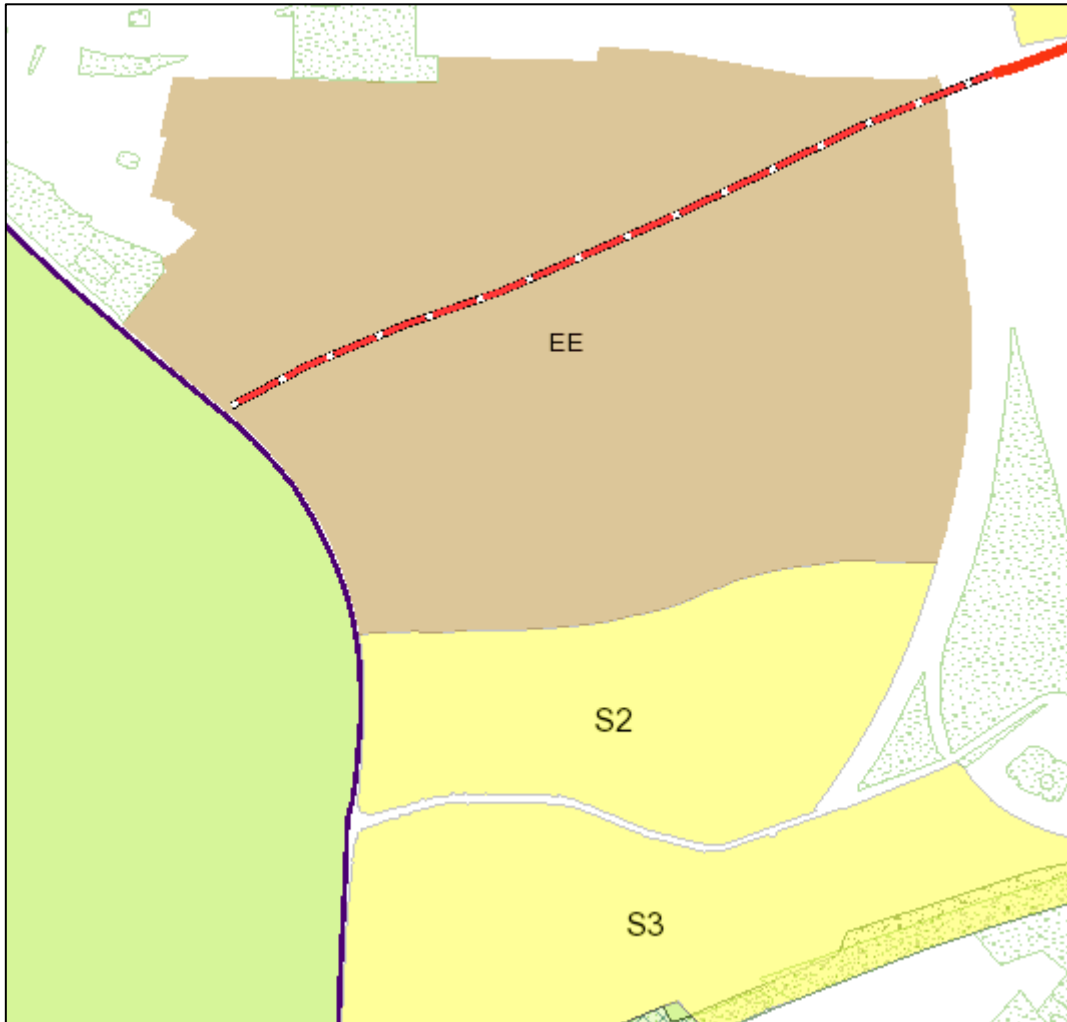
Area Subject to Desk Based Assessment

Approximate Central Grid Reference: SD 53329 25884



Relevant Local Planning Policies

South Ribble Borough Council (adopted July 2015)



A2 Potential Extension to
Cross Borough Link Rd



A3_Penwortham_Bypass_Route



G1 Green Belt



G7 Green Infrastructure



G3 Safeguarded Land



C1 - C2 - C3 Major Sites for
Development - Residential
Led



Policy G8 – Green Infrastructure and Networks – Future Provision

All developments should provide:

- a) Appropriate landscape enhancements;
- b) Conservation of important environmental assets, natural resources, biodiversity and geodiversity;
- c) For the long-term use and management of these areas; and
- d) Access to well-designed cycleways, bridleways and footways (both off and on road), to help link local services and facilities.

Policy G13 – Trees, Woodlands and Development

- a) Planning permission will not be permitted where the proposal adversely affects trees, woodlands and hedgerows which are:
 - i Protected by a Tree Preservation Order (TPO);
 - ii Ancient Woodlands including individual ancient and veteran trees and those defined in Natural England's inventory of ancient woodlands;
 - iii In a Conservation Area; or
 - iv Within a recognised Nature Conservation Site.
- b) There will be a presumption in favour of the retention and enhancement of existing tree, woodland and hedgerow cover on site;
- c) Where there is an unavoidable loss of trees on site, replacement trees will be required to be planted on site where appropriate at a rate of two new trees for each tree lost;
- d) Tree survey information should be submitted with all planning applications, where trees are present on site. The tree survey information should include protection, mitigation and management measures;
- e) Appropriate management measures will be required to be implemented to protect newly planted and existing trees, woodlands and/or hedgerows.

Policy G16 – Biodiversity and Nature Conservation

The borough's Biodiversity and Ecological Network resources will be protected, conserved and enhanced. The level of protection will be commensurate with the site's status and proposals will be assessed having regard to the site's importance and the contribution it makes to wider ecological networks:

Regard will be had to:

- Protecting and safeguarding all designated sites of international, national, regional, county and local level importance including all Ramsar, Special Protection Areas, Special Areas of Conservation, national nature reserves, Sites of Special Scientific Interest and Biological Heritage Sites, Geological Heritage Sites, Local Nature Reserves, wildlife corridors together with any ecological network approved by the Council;
- Protecting, safeguarding and enhancing habitats for European, nationally and locally important species;
- When considering applications for planning permission, protecting, conserving and enhancing the borough's ecological network and providing links to the network from and/or through a proposed development site.

In addition development should have regard to the provisions set out below:

- a) The need to minimise impacts on biodiversity and providing net gains in biodiversity where possible by designing in wildlife and by ensuring that significant harm is avoided or, if unavoidable, is reduced or appropriately mitigated and/or, as a last resort, compensated;
- b) The need to promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations;
- c) Where there is reason to suspect that there may be protected habitats/species on or close to a proposed development site, planning applications must be accompanied by a survey undertaken by an appropriate qualified professional;
- d) Where the benefits for development in social or economic terms are considered to outweigh the impact on the natural environment, appropriate and proportionate mitigation measures and/or compensatory habitat creation of an equal or greater area will be required through planning conditions and/or planning obligations.

Policy G17 – Design Criteria for New Development

Planning permission will be granted for new development, including extensions and free standing structures, provided that, where relevant to the development:

- a) The proposal does not have a detrimental impact on the existing building, neighbouring buildings or on the street scene by virtue of its design, height, scale, orientation, plot density, massing, proximity, or use of materials. Furthermore, the development should not cause harm to neighbouring property by leading to undue overlooking, overshadowing or have an overbearing effect;
- b) The layout, design and landscaping of all elements of the proposal, including any internal roads, car parking, footpaths and open spaces, are of a high quality and will provide an interesting visual environment which respects the character of the site and local area;
- c) The development would not prejudice highway safety, pedestrian safety, the free flow of traffic, and would not reduce the number of on-site parking spaces to below the standards stated in Policy F1, unless there are other material considerations which justify the reduction such as proximity to a public car park. Furthermore, any new roads and/or pavements provided as part of the development should be to an adoptable standard;
- d) The proposal would sustain, conserve and where appropriate enhance the significance, appearance, character and setting of a heritage asset itself and the surrounding historic environment. Where a proposed development would lead to substantial harm or loss of significance of a designated heritage asset, planning permission will only be granted where it can be demonstrated that the substantial public benefits of the proposal outweigh the harm or loss to the asset; and
- e) The proposal would not have a detrimental impact on landscape features such as mature trees, hedgerows, ponds and watercourses. In some circumstances where, on balance, it is considered acceptable to remove one or more of these features, then mitigation measures to replace the feature/s will be required either on or off-site.

Site Designations

SSSI Impact Risk Zones for Site Only

Source: *MAGIC Maps*

The site is located within the Impact Risk Zone for Ribble Estuary SSSI which is located approximately 6.79km to the west of the survey area.

Site Check Report Report generated on Fri Feb 23 2018
You selected the location: Centroid Grid Ref: SD531259
The following features have been found in your search area:

SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW? 2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

All Planning Applications

Infrastructure

Airports, helipads and other aviation proposals.

Wind & Solar Energy

Solar schemes with footprint > 0.5ha, all wind turbines.

Minerals, Oil & Gas

Rural Non Residential

Residential

Rural Residential

Air Pollution

Pig & poultry units, slurry lagoons > 4000m².

Combustion

General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

Waste

Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.

Composting

Discharges

Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).

Water Supply

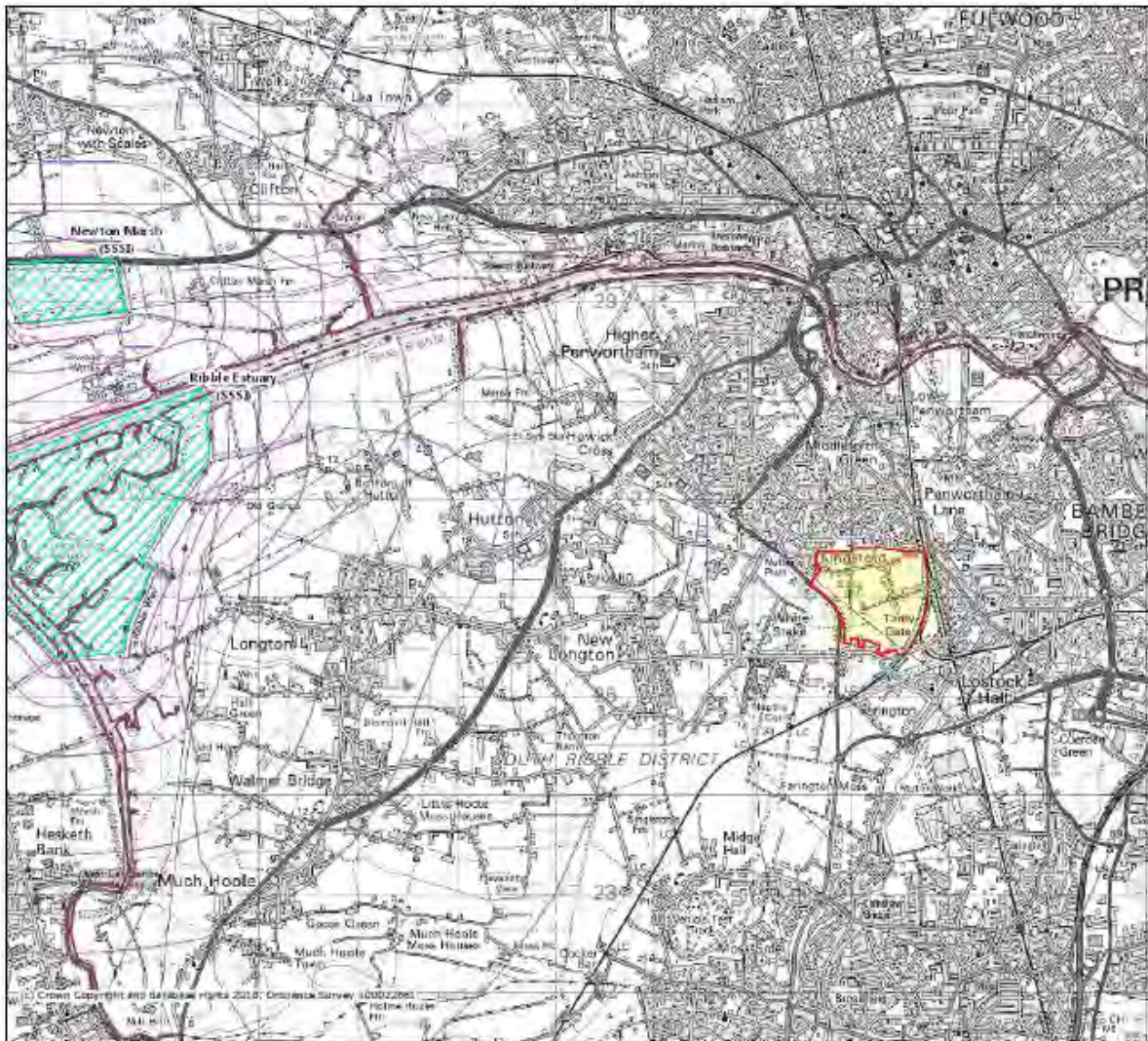
Notes

GUIDANCE - How to use the Impact Risk Zones



[/Metadata_for_magic/SSSI_IRZ_User_Guidance_MAGIC.pdf](#)

Sites of Special Scientific Interest (England)

No Features found



Legend

-  Sites of Special Scientific Interest (England)
-  SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/GACs/SPAs & Ramsar sites (England)

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 datum = 201700
 WPM = 421360
 WNSM = 362000
 WNSM = 422200

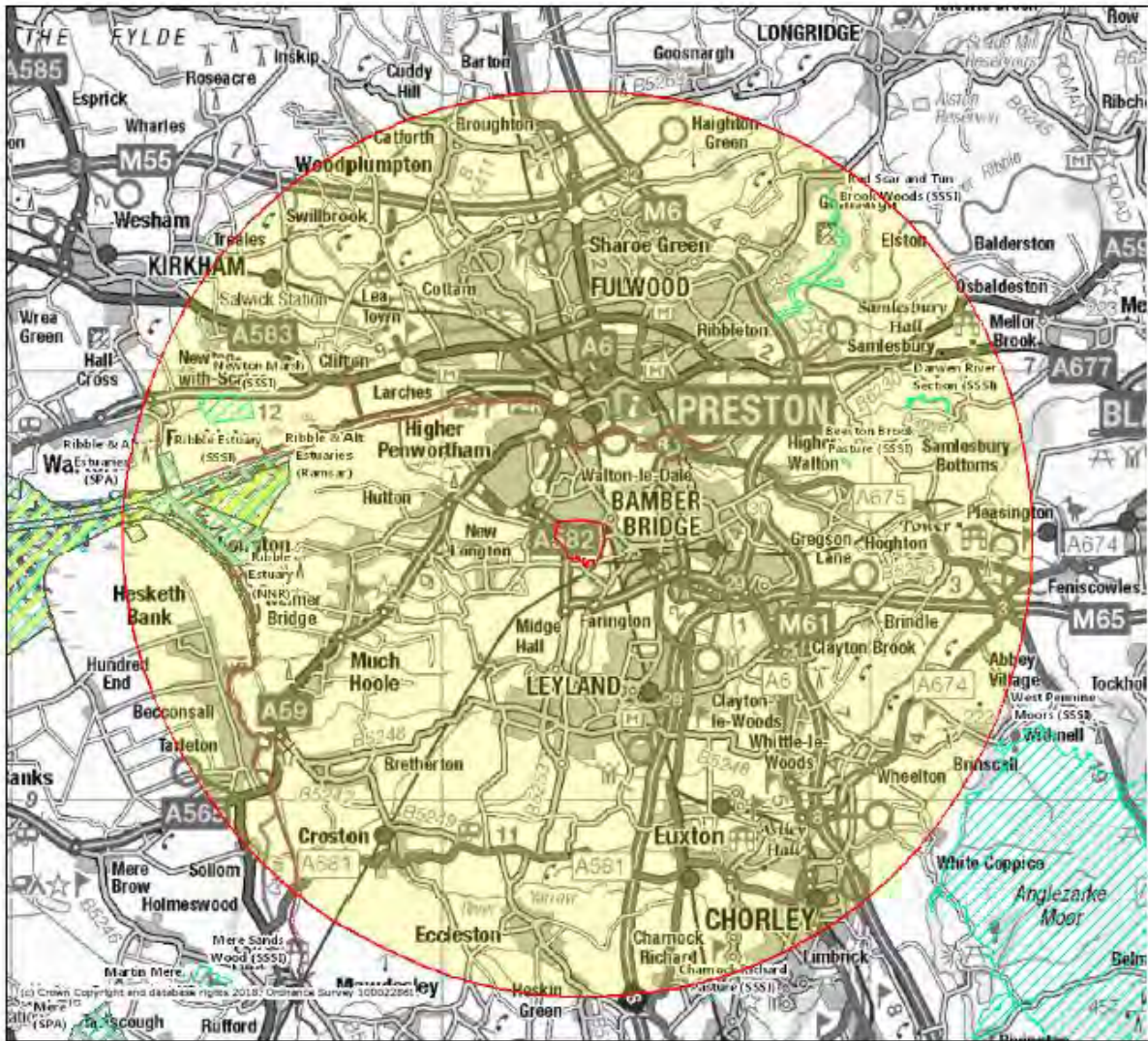
Map produced by MAGIC on 23 February, 2016.
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Statutory Designated Wildlife Sites within 10km of the Survey Area

Source: *MAGIC Maps*

Name of Site	Designation	Distance from Survey Area	Reason for Designation
Beeston Brook Pasture	SSSI	5.77km E	Habitats
Ribble and Alt Estuaries	Ramsar, SPA	6.79km W	Bird assemblage
Ribble Estuary	NNR, SSSI	6.79km W	Habitats
Red Scar and Tun Brook Woods	SSSI	7.41km NE	Habitats
Darwen River Section	SSSI	7.58km E	Geology
Newton Marsh	SSSI	7.5km NW	Habitats and bird assemblage



Legend

- National Nature Reserves (England)
- Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- Special Protection Areas (England)

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 ymax = 428300

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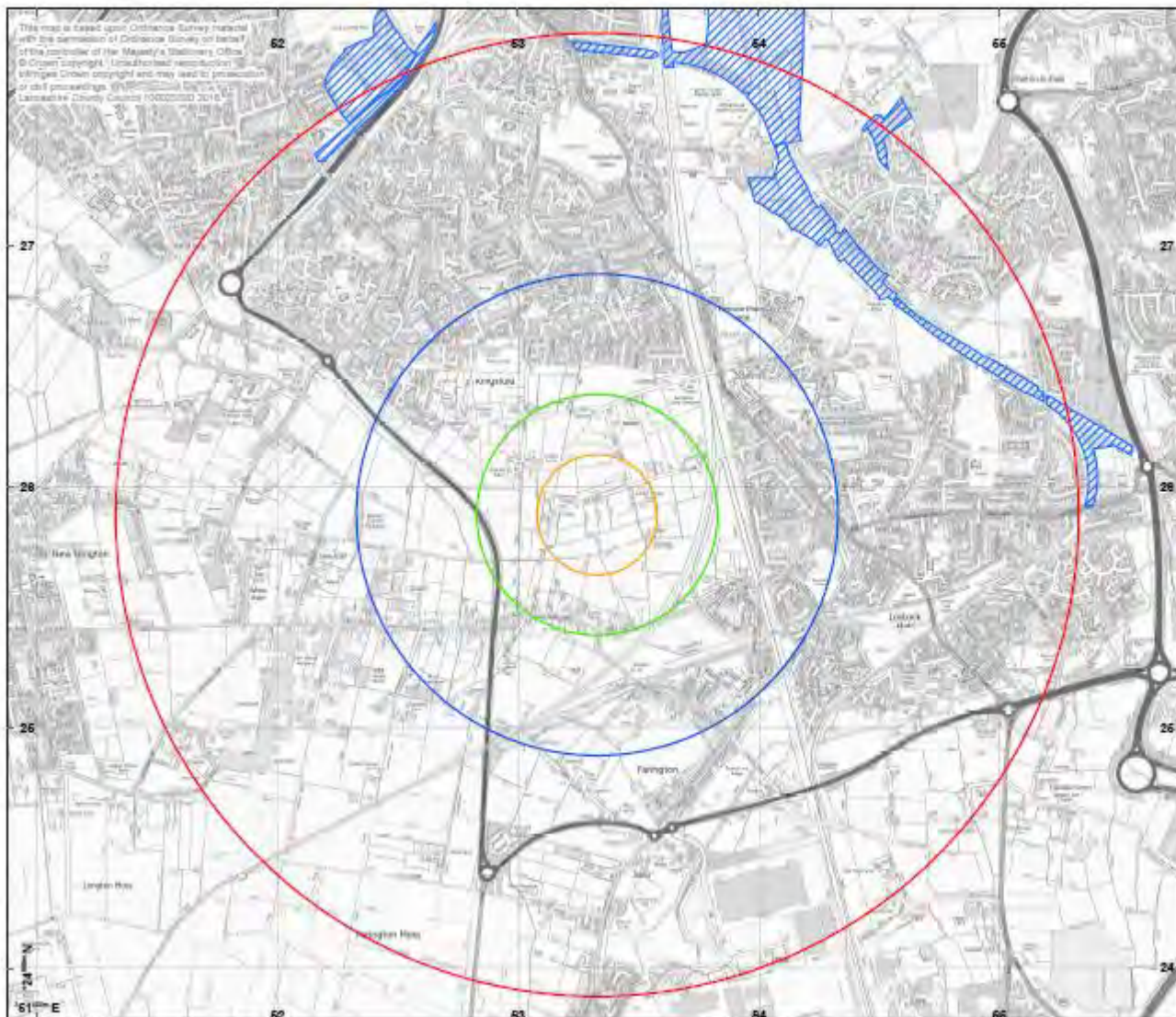


Non-Statutory Site Designations within 2km of the Survey Area

Source: Magic Maps and LERN

Note: The map inserted below shows non-statutory site designations from the central grid reference for the survey area, however the measurements in the table below are taken from the boundary of the survey area.

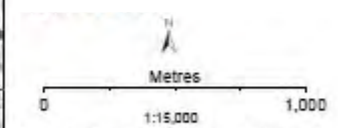
Name of Site	Designation	Distance from Survey Area	Reason for Designation
Preston Junction	BHS, LNR	850m NE	Invertebrate assemblage
Cop Lane Cutting	BHS	1.09km NW	Habitats
Hurst Grange Park	BHS	1.1km NW	Habitats and amphibian assemblage
Carr Wood	BHS	1.25km NE	Habitats



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Project:
Pickering's Farm
Client:
TEP
Grid Ref: 353329 425884

- Legend**
- 250 m Buffer
 - 500 m Buffer
 - 1 km Buffer
 - 2 km Buffer
 - Biological Heritage Sites



Boundaries of statutory designations (Nature 2000, SSSI) and are included for information only. Definitive information for these designations should be obtained from Natural England.

Lancashire Key Species records are plotted at the centre of the area to which they relate (the precision of each record is given in the accompanying attribute data and spreadsheet)

NBW Atlas occurrence download at <https://hbwatlas.org> accessed on 19 Oct 20 12:46:41 UTC 2017. See supporting documentation for details and further information.

Lancashire Environment Record Network:
C/O Planning Group
Environment Directorate,
Lancashire County Council,
PO Box 152,
County Hall,
Crewe, CW1 0LZ



lern@lancashire.gov.uk <http://www.lancashire.gov.uk/about-us>

Lancashire County Heritage Sites

Biological Heritage Site

Hurst Grange Park



Site Boundary

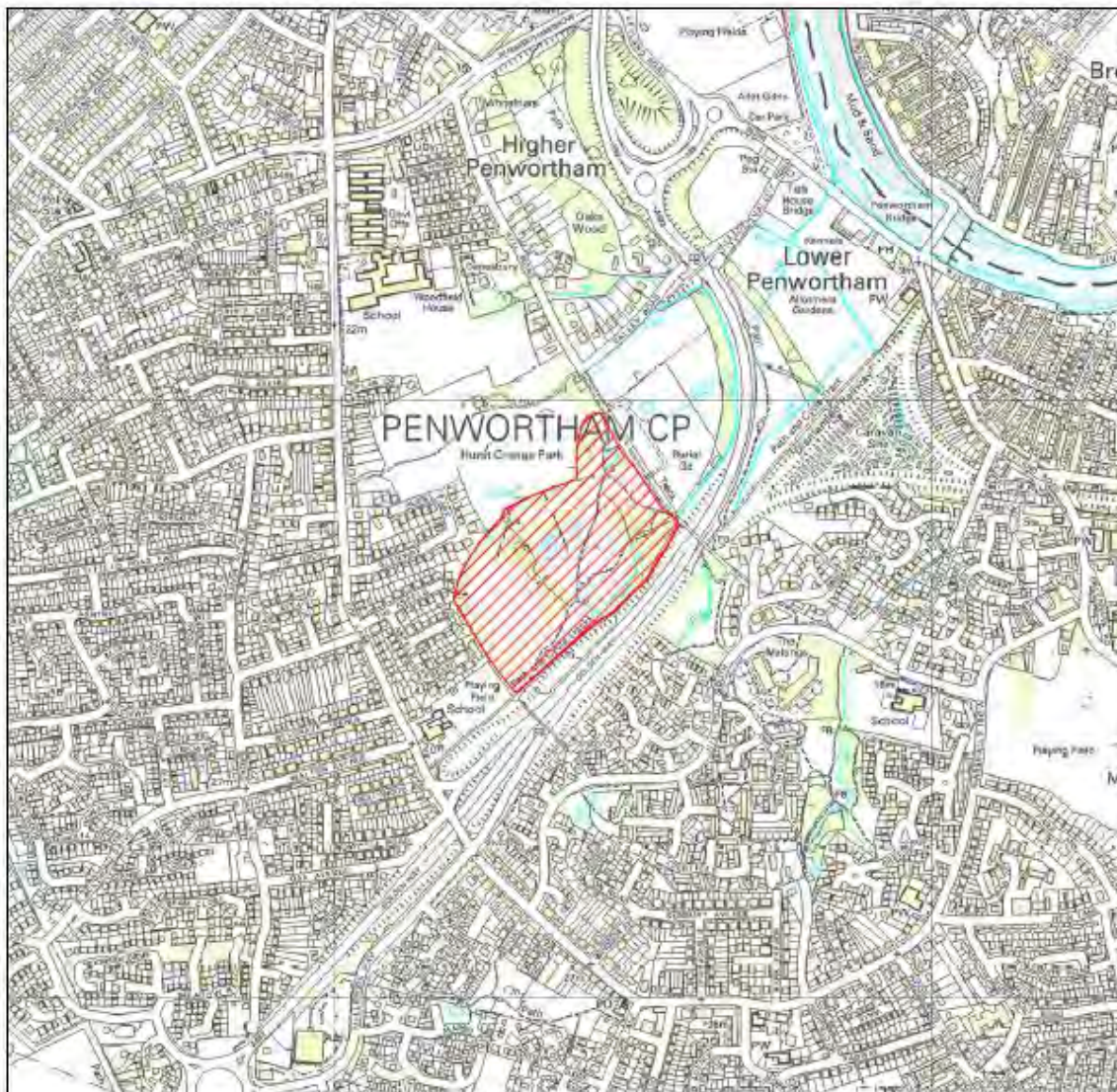
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This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 52NW10

Biological Heritage Sites Partnership

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- Natural England



Grid ref. SD523277

Scale 1:10,000

Site approved

Map 1 of 1

Boundary revised

Date of Map 29/09/14



Lancashire
County Council



Lancashire County Heritage Sites Biological Heritage Site

Biological Heritage Sites
Partnership:
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Natural England

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Site Name: Hurst Grange Park

Site Ref: 52NW10

Approved: 01 December 1996

Area (ha): 8.82

Date written/last updated: 01 December 2003

Grid Ref: SD524277

Owner/Occupier: Public

Districts:

South Ribble

Parishes:

Penwortham

Description:

The site comprises an area of former agricultural grassland and a cluster of five field ponds now managed as public open space within a municipal park.

Whilst parts of the site have been 'landscaped' with areas of amenity tree and shrub plantings of predominantly native species, much of the semi-natural habitats survive.

The grassland supports a rich diversity of species including common bird's-foot-trefoil, meadow vetchling, zigzag clover, selfheal, yellow-rattle, common knapweed, cat's-ear, autumnal hawkbit, eyebright, common spotted-orchid, quaking grass and glaucous sedge.

The ponds provide additional interest to the site. Although the four permanent ponds are fished, they support a variety of plants and animals including frog, toad, smooth newt and palmate newt. The fifth pond has existed for many years as a seasonal pond, with water only present over the winter months. The pond cluster supports a high diversity of plant species including small pondweed, nodding Bur-marigold, Cyperus sedge, water-cress, fool's water-cress, fleabane, bittersweet and tufted forget-me-not. Three uncommon plants, pennyroyal, greater spearwort and water soldier are established here but are not native to the site.

An associated aquatic invertebrate assemblage of over sixty species includes the regionally local species brown hawker dragonfly, ear pond snail, horse leech and noterus beetle.

Guideline(s) for Site Selection:

Grassland (Gr3)

Amphibians (Am3a)?

Other Information/Comments:

The site adjoins Cop Lane Cutting Biological Heritage Site (BHS 52NW05).



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:

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Site Name: Carr Wood

Site Ref: 52NW09

Approved: 01 September 1993

Area (ha): 1.87

Date written/last updated: 01 February 2002

Grid Ref: SD546275

Owner/Occupier: Private

Districts: South Ribble
Parishes: Walton-le-Dale

Description:

The site comprises ancient, semi-natural woodland listed in the *Lancashire Inventory of Ancient Woodland (Provisional)*, (English Nature, 1994). The site is unusual in being largely on level ground, as the majority of the semi-natural woodlands in the area are on the sloping banks of rivers and brooks.

The site consists of predominantly oak woodland over level ground that slopes away to the north. Together with abundant oak, sycamore and ash are occasional with rare wild cherry and English elm. The shrub layer is dominated by hazel with whitebeam, guelder rose and a wild rose species also present. Brambles form locally abundant thickets and in the more open areas bluebells are abundant with wood anemone, dog's mercury and the grass, Yorkshire fog all locally abundant. Other ground layer species include lady fern, ramsons and pendulous sedge with some damper, flushed areas containing meadow sweet, opposite-leaved golden saxifrage and yellow flag iris.

Guideline(s) for Site Selection:

Woodland and Scrub (Wd1)

Other Information/Comments:

Lancashire County Heritage Sites

Biological Heritage Site

Preston Junction LNR and Adjacent Habitats



Site Boundary

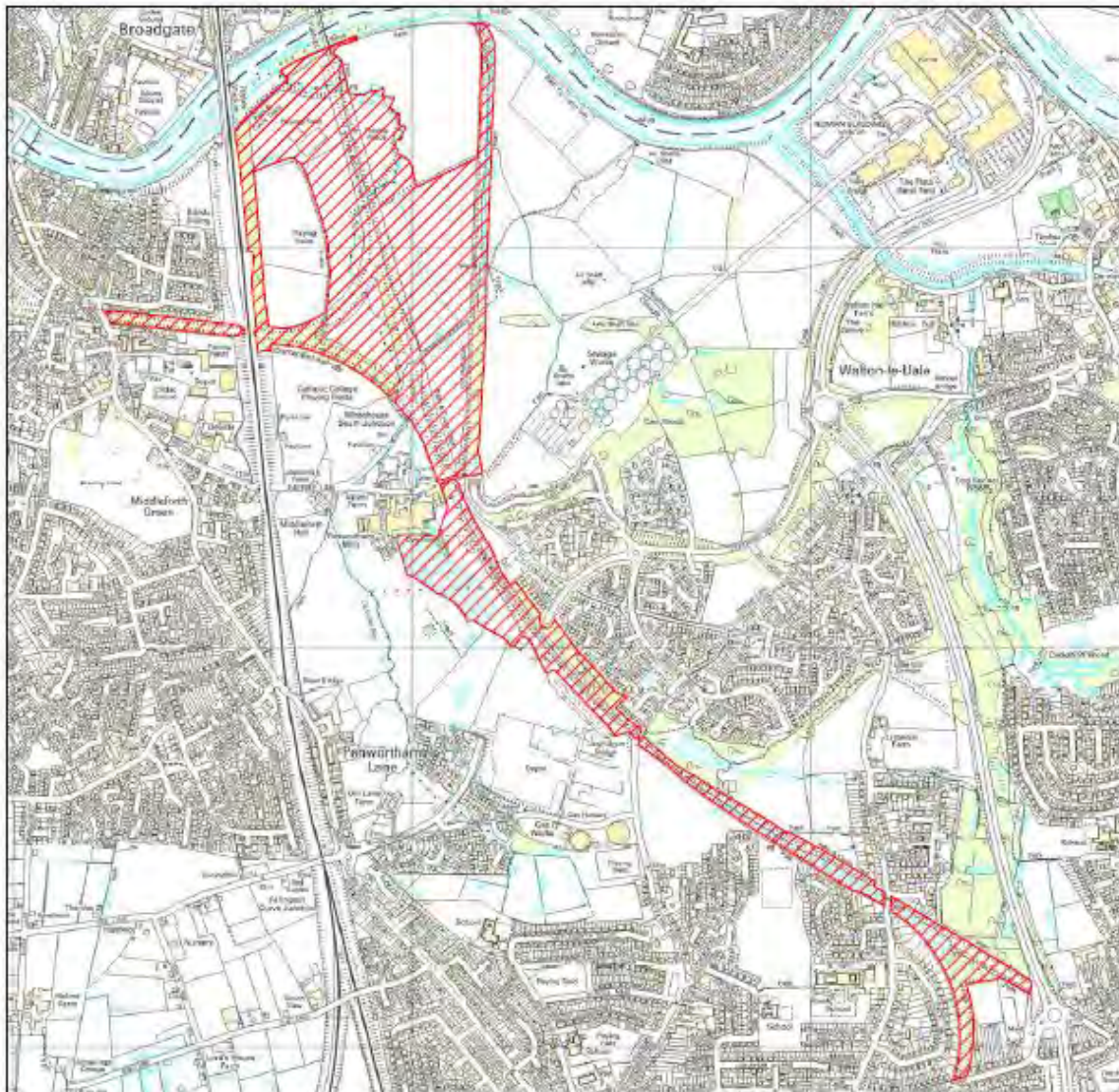
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Ref No. 52NW08

Biological Heritage Sites Partnership

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- Natural England



Grid ref. SD538280

Scale 1:15,000

Site approved

Map 1 of 1

Boundary revised

Date of Map 29/09/14





Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
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Site Name: Preston Junction LNR and Adjacent Habitats

Site Ref: 52NW08

Approved: 01 September 1993

Area (ha): 54.49

Date written/last updated: 21 April 2008

Grid Ref: SD538280

Owner/Occupier:

Districts:

South Ribble

Parishes:

Penwortham, Walton-le-Dale

Description:

The site comprises a length of disused railway line; an old tramway; a number of low lying, semi-improved fields; woodland adjacent to the current railway line and a reservoir. The intimate mixture of grassland, woodland, scrub, waste ground and aquatic habitats create a rich and varied mosaic that is an important reservoir for wildlife in the area. This predominantly linear site (over 3km) also creates an important wildlife corridor in South Ribble District.

Mature woodland is found predominantly in the north of the site. Here it occurs along the embankments of the disused railway lines, the present day main line and the Old Tram Road. These woods comprise mainly sycamore, ash, wych elm and oak together with planted species such as horse-chestnut and white poplar. Ramsons and dog's mercury often dominate the ground flora.

Scrub is present to varying extents over most of the site. The predominant species are hawthorn and willow with birch and wild rose. In the north of the site the non-native garden privet occurs. Grey willow and goat willow dominate in places, notably in the central portion of the site. Scattered scrub and regenerating woodland species occur throughout the open areas and must be managed if grassland and tall herb species are to persist.

Open areas of grassland and tall herb vegetation occur throughout the site. In the wooded areas grassland is confined to the path edges. Further south the old railway embankments hold large areas of species rich grassland that include the meadow species: meadow crane's-bill, greater burnet, ox-eye daisy, yarrow, yellow rattle and fairy flax. Other areas contain species more associated with wet grassland, rocky substrates or waste ground. The damp meadow in the south is of particular note. The fields in the north contain semi-improved neutral grasslands, a small stream and a ditch. Notable species in open areas include: Dyer's greenweed, hoary cinquefoil, southern marsh & common spotted orchids and greater burnet saxifrage.

Aquatic habitats include a reservoir at Mill Lodge and two small ponds to the south of the site. The reservoir holds breeding great crested grebe and good emergent vegetation. The ponds are rich in emergent vegetation and hold a diverse dragonfly fauna. Eight species of dragonflies and damselflies have been recorded for the ponds including records for ruddy darter, an uncommon species for Lancashire.

The site as a whole has records for fourteen species of butterfly.

Guideline(s) for Site Selection:

Habitat Mosaics (Hm1)

Other Information/Comments:

The site adjoins BHS 52NW09 River Ribble, Upper Tidal Section, Penwortham/Walton-le-Dale/Preston.

Lancashire County Heritage Sites

Biological Heritage Site

Cop Lane Cutting



Site Boundary

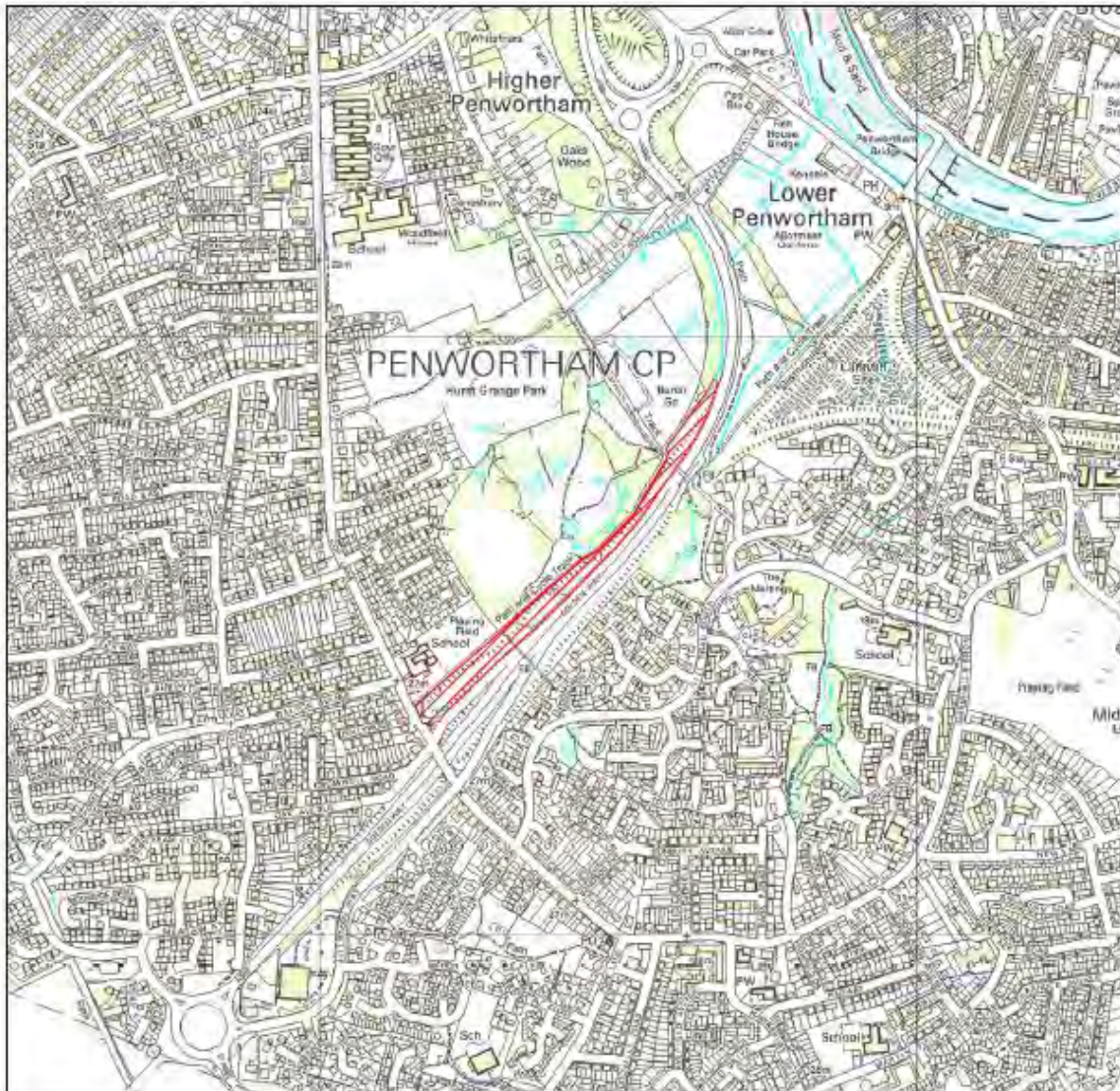
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This map shows only the boundary of the Biological Heritage Site named above. It does not show any other designated sites which may occur within the area covered by the map.

Ref No. 52NW05

Biological Heritage Sites Partnership

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- Natural England



Grid ref. SD524275

Scale 1:10,000

Site approved

Map 1 of 1

Boundary revised

Date of Map 29/09/14





Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
Partnership:
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Site Name: Cop Lane Cutting

Site Ref: 52NW05

Approved: 01 September 1993

Area (ha): 2.26

Date written/last updated: 01 February 2002

Grid Ref: SD524276

Owner/Occupier: Public

Districts:

South Ribble

Parishes:

Penwortham

Description:

The site comprises a length of south-east facing roadside verge embankment. The embankment holds species rich, neutral grassland with trees and scrub toward the top of the bank.

The banks are mostly dry, although several areas appear subject to seasonal flushing. Species frequency differs for the length of the verge though diversity is sustained throughout. Generally, grasses dominate the majority of the verge with species including red fescue, sweet vernal-grass and tufted hair-grass. Meadowsweet and common sedge are locally dominant. Common knapweed, meadow vetchling, carnation sedge, common twayblade, ragged robin, common spotted-orchid, quaking-grass and devil's-bit scabious all occur in abundance with adder's-tongue fern locally abundant. Other herbs include: frequent selfheal, oxeye daisy, field wood-rush, lesser stitchwort, common bird's-foot-trefoil, sneezewort and cat's ear with occasional glaucous sedge, lady's mantle and yellow rattle.

The upper slopes and bank top comprise alder, ash, lime, willow and oak with bramble, wild rose and hawthorn scrub. Hawthorn occurs frequently in parts of the grassland sward.

Guideline(s) for Site Selection:

Artificial Habitats (Ar2)

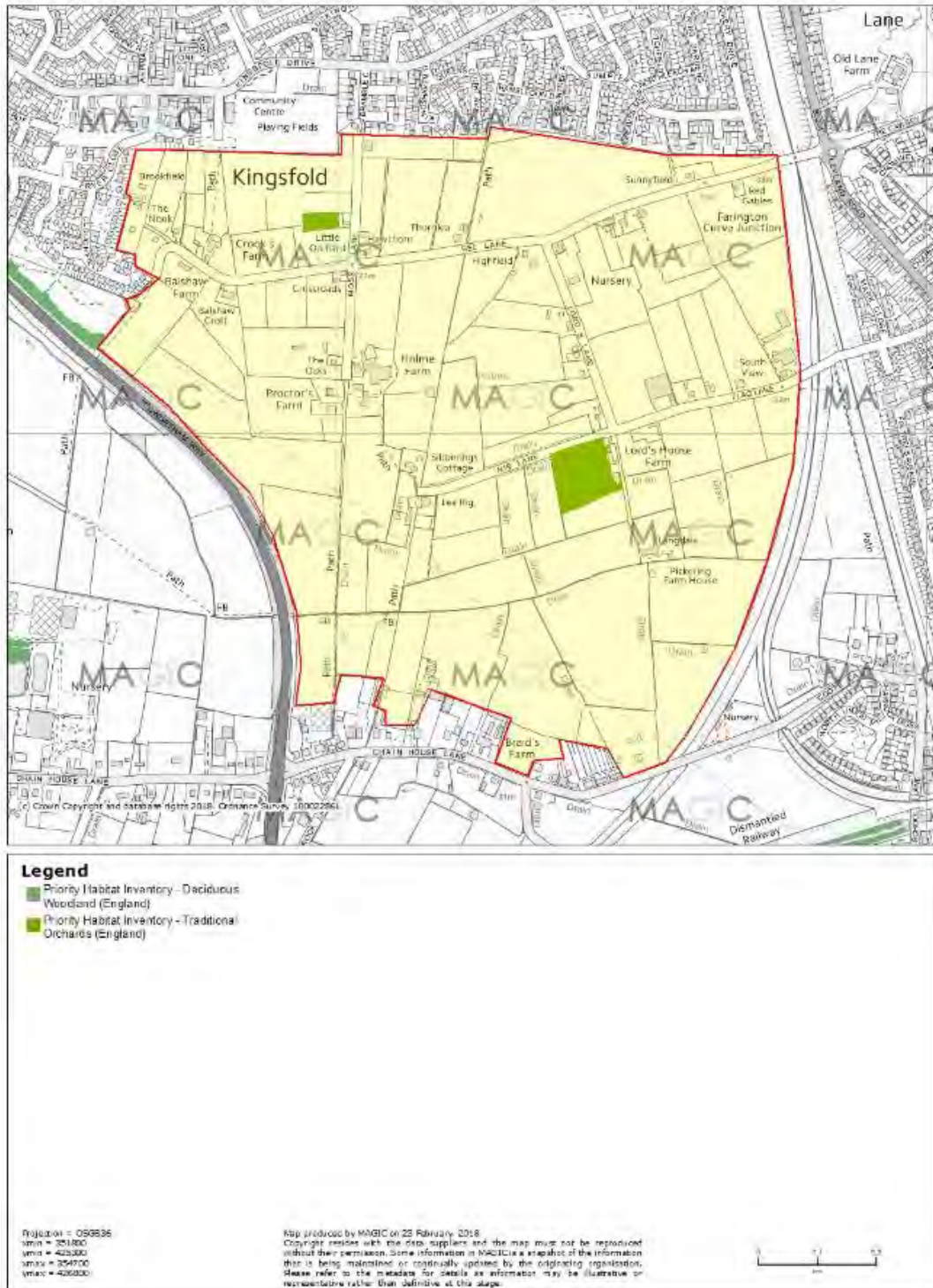
Other Information/Comments:

The site adjoins BHS 25NW10, Hurst Grange Park, Penwortham.

Notable Habitats

Habitat Inventory Data within or Adjacent to the Survey Area

Source: MAGIC Maps



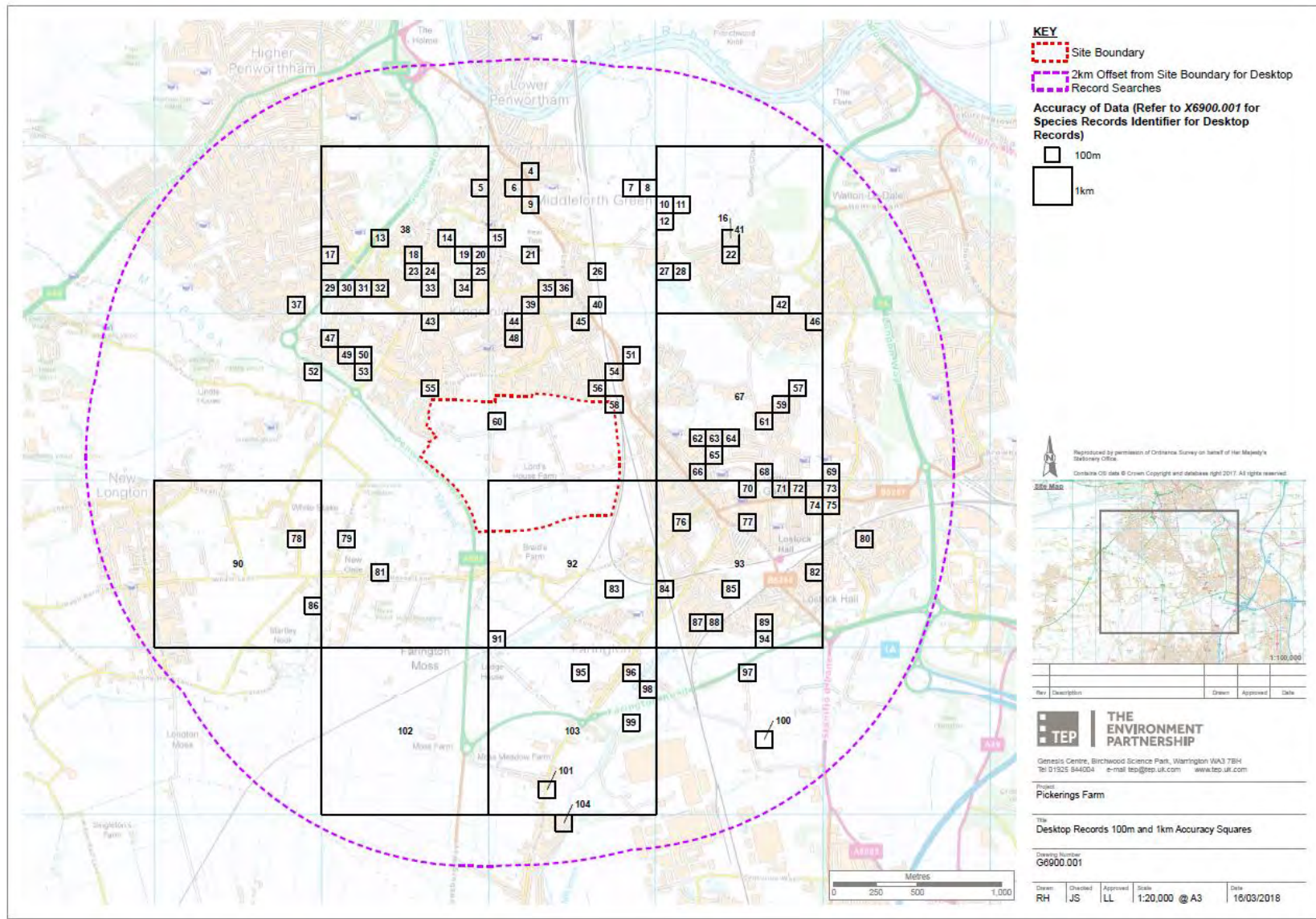
Notable Species

Extract of Species Data within 2km of the Survey Area

Source: LERN

Species records which are listed under the following have been included:

- European Protected Species (EPS);
- Protected bird species under Schedule 1 of the Wildlife and Countryside Act 1981, as amended (WCA1);
- Protected animal species under Schedule 5 of the Wildlife and Countryside Act 1981, as amended (WCA5);
- Protected plant species under Schedule 8 of the Wildlife and Countryside Act 1981, as amended (WCA8);
- Invasive non-native species under Schedule 9 of the Wildlife and Countryside Act 1981, as amended (WCA9);
- Species of principal importance under Section 41 of the Natural Environment and Rural Communities Act 2006 (S41); and
- Red and Amber listed Birds of Conservation Concern (BRd/BAm).



Grid Square	CommonName	TxGroup	Year	WCA_Sch1	WCA_Sch5	MERC_S41	BoCC4_Red	BHS_Specie	Lancs_BAP
1	Bullfinch	bird	1999	No	No	No	No	No	Yes
1	Dunnoch	bird	1999	No	No	No	No	No	Yes
1	Grey Wagtail	bird	1999	No	No	No	Yes	No	No
1	House Sparrow	bird	1999	No	No	Yes	Yes	No	Yes
1	Lesser Redpoll	bird	2004	No	No	Yes	Yes	No	No
1	Lesser Redpoll	bird	2003	No	No	Yes	Yes	No	No
1	Mistle Thrush	bird	1999	No	No	No	Yes	No	No
1	Song Thrush	bird	1999	No	No	No	Yes	No	Yes
1	Starling	bird	1999	No	No	No	Yes	No	Yes
1	Willow Warbler	bird	1999	No	No	No	No	No	Yes
2	Barn Owl	bird	1999	Yes	No	No	No	No	No
2	Corn Bunting	bird	2005	No	No	No	Yes	No	Yes
2	Corn Bunting	bird	2004	No	No	No	Yes	No	Yes
2	Corn Bunting	bird	2003	No	No	No	Yes	No	Yes
2	Corn Bunting	bird	1999	No	No	No	Yes	No	Yes
2	Dunnoch	bird	1999	No	No	No	No	No	Yes
2	Grey Partridge	bird	2005	No	No	Yes	Yes	No	Yes
2	Grey Partridge	bird	2004	No	No	Yes	Yes	No	Yes
2	Grey Partridge	bird	2003	No	No	Yes	Yes	No	Yes
2	Grey Partridge	bird	1999	No	No	Yes	Yes	No	Yes
2	House Sparrow	bird	1999	No	No	Yes	Yes	No	Yes
2	Lapwing	bird	2004	No	No	Yes	Yes	No	Yes
2	Lapwing	bird	2003	No	No	Yes	Yes	No	Yes
2	Lapwing	bird	1999	No	No	Yes	Yes	No	Yes
2	Linnet	bird	1999	No	No	No	Yes	No	No
2	Mistle Thrush	bird	1999	No	No	No	Yes	No	No
2	Skylark	bird	1999	No	No	Yes	Yes	No	Yes
2	Song Thrush	bird	1999	No	No	No	Yes	No	Yes
2	Starling	bird	1999	No	No	No	Yes	No	Yes
2	Willow Warbler	bird	1999	No	No	No	No	No	Yes
3	Dunnoch	bird	1999	No	No	No	No	No	Yes
3	House Sparrow	bird	1999	No	No	Yes	Yes	No	Yes
3	Mistle Thrush	bird	1999	No	No	No	Yes	No	No
3	Song Thrush	bird	1999	No	No	No	Yes	No	Yes
3	Starling	bird	1999	No	No	No	Yes	No	Yes
3	Willow Warbler	bird	1999	No	No	No	No	No	Yes
4	Dunnoch	bird	2009	No	No	No	No	No	Yes
4	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
5	Dunnoch	bird	2009	No	No	No	No	No	Yes
6	House Sparrow	bird	2008	No	No	Yes	Yes	No	Yes
7	Common Toad	amphibian	2015	No	Yes	Yes	No	Yes	Yes
8	Song Thrush	bird	2015	No	No	No	Yes	No	Yes
8	Willow Warbler	bird	2015	No	No	No	No	No	Yes
9	Bullfinch	bird	2009	No	No	No	No	No	Yes
9	Dunnoch	bird	2009	No	No	No	No	No	Yes
9	Song Thrush	bird	2009	No	No	No	Yes	No	Yes
9	Starling	bird	2009	No	No	No	Yes	No	Yes
10	Willow Warbler	bird	2015	No	No	No	No	No	Yes
11	Dunnoch	bird	2015	No	No	No	No	No	Yes
11	Song Thrush	bird	2015	No	No	No	Yes	No	Yes
11	Willow Warbler	bird	2015	No	No	No	No	No	Yes
12	Song Thrush	bird	2015	No	No	No	Yes	No	Yes
13	Dunnoch	bird	2009	No	No	No	No	No	Yes
14	Song Thrush	bird	2009	No	No	No	Yes	No	Yes
15	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
15	Song Thrush	bird	2009	No	No	No	Yes	No	Yes
15	Starling	bird	2009	No	No	No	Yes	No	Yes
16	Dunnoch	bird	2009	No	No	No	No	No	Yes
16	Starling	bird	2009	No	No	No	Yes	No	Yes
17	Dunnoch	bird	2009	No	No	No	No	No	Yes
17	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
18	House Sparrow	bird	2008	No	No	Yes	Yes	No	Yes
18	Starling	bird	2008	No	No	No	Yes	No	Yes
19	Grey Wagtail	bird	2010	No	No	No	Yes	No	No
20	House Sparrow	bird	2008	No	No	Yes	Yes	No	Yes
20	Starling	bird	2008	No	No	No	Yes	No	Yes
21	Dunnoch	bird	2009	No	No	No	No	No	Yes
21	Starling	bird	2009	No	No	No	Yes	No	Yes
22	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
22	Starling	bird	2009	No	No	No	Yes	No	Yes
23	Dunnoch	bird	2009	No	No	No	No	No	Yes
23	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
23	Starling	bird	2009	No	No	No	Yes	No	Yes

Grid Square	CommonName	TxGroup	Year	WCA_Sch1	WCA_Sch5	NERC_541	BoCC4_Red	BHS_Specie	Lancs_BAP
24	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
24	Starling	bird	2009	No	No	No	Yes	No	Yes
25	Duncock	bird	2009	No	No	No	No	No	Yes
25	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
25	Song Thrush	bird	2009	No	No	No	Yes	No	Yes
26	Duncock	bird	2009	No	No	No	No	No	Yes
26	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
26	Song Thrush	bird	2009	No	No	No	Yes	No	Yes
26	Starling	bird	2009	No	No	No	Yes	No	Yes
27	Grey Heron	bird	2015	No	No	No	No	Yes	Yes
28	Willow Tit	bird	2009	No	No	No	Yes	Yes	Yes
29	Duncock	bird	2009	No	No	No	No	No	Yes
29	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
29	Starling	bird	2009	No	No	No	Yes	No	Yes
30	Bullfinch	bird	2009	No	No	No	No	No	Yes
30	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
31	Bullfinch	bird	2009	No	No	No	No	No	Yes
32	House Sparrow	bird	2008	No	No	Yes	Yes	No	Yes
33	House Sparrow	bird	2008	No	No	Yes	Yes	No	Yes
33	Starling	bird	2008	No	No	No	Yes	No	Yes
34	Duncock	bird	2009	No	No	No	No	No	Yes
34	Starling	bird	2009	No	No	No	Yes	No	Yes
35	Swift	bird	2014	No	No	No	No	No	Yes
36	Duncock	bird	2009	No	No	No	No	No	Yes
36	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
36	Song Thrush	bird	2009	No	No	No	Yes	No	Yes
36	Starling	bird	2009	No	No	No	Yes	No	Yes
37	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
38	Common Frog	amphibian	2011	No	Yes	No	No	Yes	Yes
38	Herring Gull	bird	2015	No	No	No	Yes	No	Yes
39	Swift	bird	2011	No	No	No	No	No	Yes
40	Duncock	bird	2009	No	No	No	No	No	Yes
40	Starling	bird	2009	No	No	No	Yes	No	Yes
41	Mistle Thrush	bird	2015	No	No	No	Yes	No	No
41	Song Thrush	bird	2011	No	No	No	Yes	No	Yes
42	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
43	Duncock	bird	2009	No	No	No	No	No	Yes
43	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
43	Starling	bird	2009	No	No	No	Yes	No	Yes
44	Bullfinch	bird	2009	No	No	No	No	No	Yes
44	Song Thrush	bird	2009	No	No	No	Yes	No	Yes
45	Duncock	bird	2009	No	No	No	No	No	Yes
45	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
45	Song Thrush	bird	2009	No	No	No	Yes	No	Yes
45	Starling	bird	2009	No	No	No	Yes	No	Yes
46	Duncock	bird	2009	No	No	No	No	No	Yes
47	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
48	Common Frog	amphibian	2011	No	Yes	No	No	Yes	Yes
49	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
50	Herring Gull	bird	2009	No	No	No	Yes	No	Yes
50	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
51	Duncock	bird	2009	No	No	No	No	No	Yes
51	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
51	Starling	bird	2009	No	No	No	Yes	No	Yes
52	Duncock	bird	2009	No	No	No	No	No	Yes
52	Grey Heron	bird	2009	No	No	No	No	Yes	Yes
52	Grey Wagtail	bird	2009	No	No	No	Yes	No	No
52	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
52	Starling	bird	2009	No	No	No	Yes	No	Yes
53	Bullfinch	bird	2009	No	No	No	No	No	Yes
53	Mistle Thrush	bird	2009	No	No	No	Yes	No	No
53	Song Thrush	bird	2009	No	No	No	Yes	No	Yes
53	Starling	bird	2009	No	No	No	Yes	No	Yes
54	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
54	Starling	bird	2009	No	No	No	Yes	No	Yes
55	House Sparrow	bird	2008	No	No	Yes	Yes	No	Yes
55	Starling	bird	2008	No	No	No	Yes	No	Yes
56	Duncock	bird	2009	No	No	No	No	No	Yes
56	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
56	Starling	bird	2009	No	No	No	Yes	No	Yes
57	House Sparrow	bird	2015	No	No	Yes	Yes	No	Yes
58	West European Hedgehog	terrestrial mammal	2016	No	No	Yes	No	No	Yes
59	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes

Grid Square	CommonName	TxGroup	Year	WCA_Sch1	WCA_Sch5	NERC_S41	BoCC4_Red	BHS_Specie	Lancs_BAP
59	Starling	bird	2009	No	No	No	Yes	No	Yes
60	Dunnock	bird	2009	No	No	No	No	No	Yes
60	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
60	Starling	bird	2009	No	No	No	Yes	No	Yes
61	Dunnock	bird	2009	No	No	No	No	No	Yes
61	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
62	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
63	Pipistrelle	terrestrial mammal	2005	No	Yes	No	No	Yes	Yes
64	House Sparrow	bird	2008	No	No	Yes	Yes	No	Yes
65	House Sparrow	bird	2008	No	No	Yes	Yes	No	Yes
65	Starling	bird	2008	No	No	No	Yes	No	Yes
66	Bullfinch	bird	2009	No	No	No	No	No	Yes
66	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
66	Starling	bird	2009	No	No	No	Yes	No	Yes
67	House Sparrow	bird	2011	No	No	Yes	Yes	No	Yes
67	House Sparrow	bird	2007	No	No	Yes	Yes	No	Yes
68	Dunnock	bird	2009	No	No	No	No	No	Yes
68	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
68	Starling	bird	2009	No	No	No	Yes	No	Yes
68	Swift	bird	2014	No	No	No	No	No	Yes
69	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
69	Starling	bird	2009	No	No	No	Yes	No	Yes
70	Pipistrelle	terrestrial mammal	2005	No	Yes	No	No	Yes	Yes
71	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
72	Starling	bird	2009	No	No	No	Yes	No	Yes
73	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
74	House Sparrow	bird	2008	No	No	Yes	Yes	No	Yes
75	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
76	House Sparrow	bird	2008	No	No	Yes	Yes	No	Yes
77	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
77	Starling	bird	2009	No	No	No	Yes	No	Yes
78	Dunnock	bird	2009	No	No	No	No	No	Yes
78	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
78	Pipistrelle	terrestrial mammal	2015	No	Yes	No	No	Yes	Yes
78	Starling	bird	2009	No	No	No	Yes	No	Yes
79	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
79	Song Thrush	bird	2009	No	No	No	Yes	No	Yes
79	Starling	bird	2009	No	No	No	Yes	No	Yes
80	Dunnock	bird	2009	No	No	No	No	No	Yes
80	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
80	Starling	bird	2009	No	No	No	Yes	No	Yes
81	Starling	bird	2008	No	No	No	Yes	No	Yes
82	Dunnock	bird	2009	No	No	No	No	No	Yes
82	Starling	bird	2009	No	No	No	Yes	No	Yes
83	European Water Vole	terrestrial mammal	2000	No	Yes	Yes	No	Yes	Yes
84	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
84	Starling	bird	2009	No	No	No	Yes	No	Yes
85	Bullfinch	bird	2009	No	No	No	No	No	Yes
85	Dunnock	bird	2009	No	No	No	No	No	Yes
85	Song Thrush	bird	2009	No	No	No	Yes	No	Yes
85	Starling	bird	2009	No	No	No	Yes	No	Yes
86	European Water Vole	terrestrial mammal	2001	No	Yes	Yes	No	Yes	Yes
87	Dunnock	bird	2009	No	No	No	No	No	Yes
88	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
88	Starling	bird	2009	No	No	No	Yes	No	Yes
89	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
90	Herring Gull	bird	2012	No	No	No	Yes	No	Yes
90	House Sparrow	bird	2012	No	No	Yes	Yes	No	Yes
90	Lapwing	bird	2012	No	No	Yes	Yes	No	Yes
90	Mistle Thrush	bird	2012	No	No	No	Yes	No	No
91	Lapwing	bird	2012	No	No	Yes	Yes	No	Yes
92	House Sparrow	bird	2011	No	No	Yes	Yes	No	Yes
92	Mistle Thrush	bird	2012	No	No	No	Yes	No	No
92	Starling	bird	2012	No	No	No	Yes	No	Yes
93	Kingfisher	bird	2011	Yes	No	No	No	No	No
94	European Water Vole	terrestrial mammal	2001	No	Yes	Yes	No	Yes	Yes
95	European Water Vole	terrestrial mammal	2000	No	Yes	Yes	No	Yes	Yes
96	House Sparrow	bird	2008	No	No	Yes	Yes	No	Yes
96	Starling	bird	2008	No	No	No	Yes	No	Yes
97	Dunnock	bird	2009	No	No	No	No	No	Yes
97	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
98	European Water Vole	terrestrial mammal	2000	No	Yes	Yes	No	Yes	Yes
99	European Water Vole	terrestrial mammal	2000	No	Yes	Yes	No	Yes	Yes

Grid Square	CommonName	TxGroup	Year	WCA_Sch1	WCA_Sch5	NERC_S41	BoCC4_Red	BHS_Specie	Lancs_BAP
100	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
100	Song Thrush	bird	2009	No	No	No	Yes	No	Yes
101	Common Frog	amphibian	2011	No	Yes	No	No	Yes	Yes
102	Lapwing	bird	2013	No	No	Yes	Yes	No	Yes
102	Lapwing	bird	2010	No	No	Yes	Yes	No	Yes
102	Oystercatcher	bird	2013	No	No	No	No	No	Yes
102	Skylark	bird	2013	No	No	Yes	Yes	No	Yes
103	House Sparrow	bird	2013	No	No	Yes	Yes	No	Yes
103	Lapwing	bird	2012	No	No	Yes	Yes	No	Yes
103	Oystercatcher	bird	2012	No	No	No	No	No	Yes
104	House Sparrow	bird	2009	No	No	Yes	Yes	No	Yes
104	Song Thrush	bird	2009	No	No	No	Yes	No	Yes
104	Starling	bird	2009	No	No	No	Yes	No	Yes

Local BAP Habitats and Species

Lancashire Biodiversity Partnership

Habitats

- Acid grasslands
 - Arable and horticulture
 - Bogs
 - Boundary and linear features
 - Broadleaved, mixed and yew woodland
 - Dwarf scrub-heath
 - Montane habitats
 - Rivers and streams
 - Blanket bog
 - Cereal field margins
 - Coastal sand dunes
 - Limestone pavements
 - Lowland calcareous grassland
 - Lowland heathland
 - Lowland meadows
 - Lowland raised bog
 - Reedbeds
 - Upland calcareous grassland
 - Upland hay meadows
 - Upland heathland
 - Upland mixed ashwoods
 - Upland oakwood
 - Wet woodland
- Doros profuges
 - Twite
 - Large heath
 - Bats
 - Lancaster whitebeam
 - Lapwing
 - Wall whorl snail
 - Mountain whorl snail
 - Water vole
 - Brown hare
 - Otter
 - Pipistrelle bat
 - Red squirrel
 - Freshwater pearl mussel
 - Belted beauty
 - Lady's slipper orchid
 - Purple ramping-fumitory
 - Rock sea-lavender
 - Freshwater nemertean

Species

- Natterjack toad
- Great crested newt
- Southern wood ant
- Shining guest ant
- Osmia parietina
- Skylark
- Reed bunting
- Grey partridge
- Song thrush
- High brown fritillary
- Northern brown argus
- Pearl-bordered fritillary
- Freshwater white-clawed crayfish

Appendix 7.2

Phase 1 Habitat Survey Report



THE
ENVIRONMENT
PARTNERSHIP



PICKERINGS FARM PENWORTHAM PHASE 1 HABITAT SURVEY REPORT

TEP
8 Trinity Street
London
SE1 1DB

Tel: 020 3096 6050
E-mail: london@tep.uk.com
www.tep.uk.com

Offices in Warrington, Market Harborough, Gateshead, London and Cornwall

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Figure 1: Survey Area Plan	1

DRAWING

G6900.005 – Phase 1 Habitat Survey Map

1.0 Introduction

- 1.1 TEP was commissioned by Taylor Wimpey North West and Homes England, in February 2018, to undertake a Phase 1 habitat survey at the site known as Pickerings Farm in Penwortham.
- 1.2 Taylor Wimpey and Homes England are proposing a joint venture for the construction of a large-scale housing development with associated infrastructure and community facilities at the site.

Description of Survey Area

- 1.3 The central grid reference of the survey area is SD 53329 25884 and the location of the survey area is shown in Figure 1 below. Hatched areas within the red line in Figure 1 represent land owned by third parties and these were not subject to surveys.
- 1.4 The survey area comprises pasture and arable fields bounded by hedgerows with residential housing and farm buildings and fragments of other habitats including woodland, scrub, grassland and water bodies. Existing residential development within Penwortham bounds the survey area to the north with Penwortham Way to the west, railway to the east and residential development along Chain House Lane to the south.

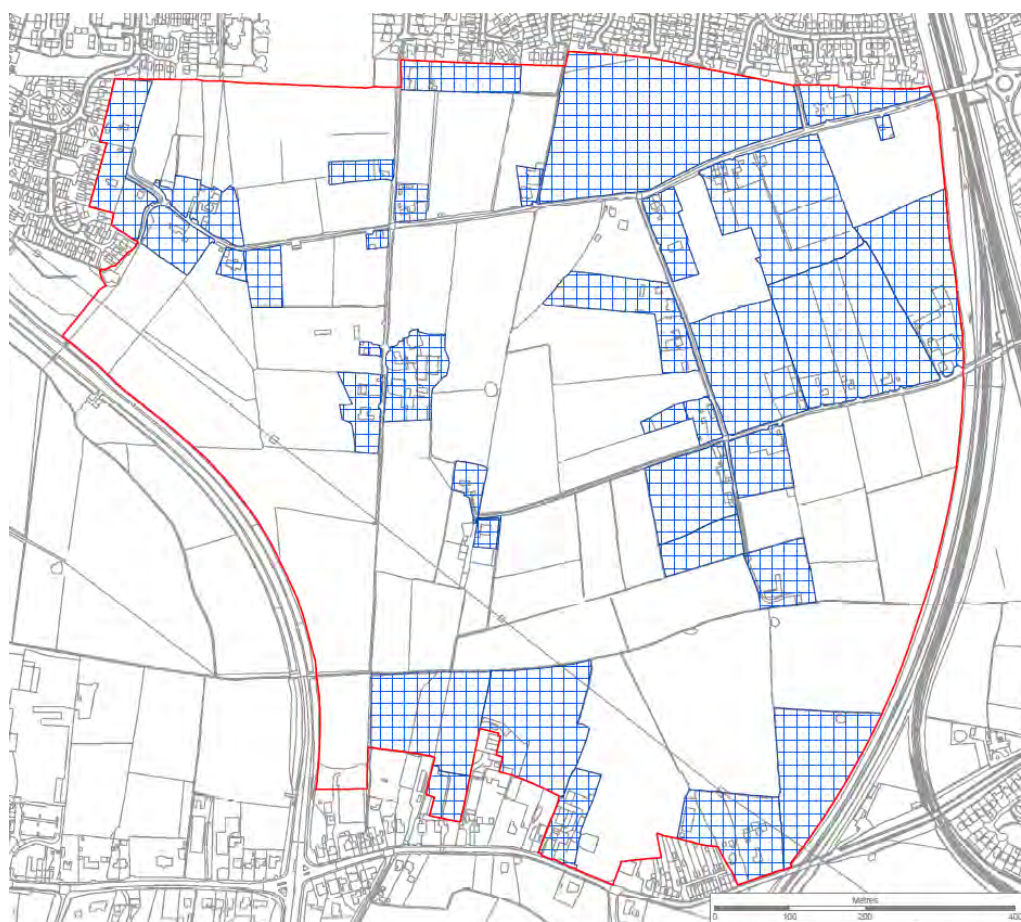


Figure 1: Survey Area Plan. Contains Ordnance Survey data © Crown copyright and database right 2018

2.0 Methods

- 2.1 A Phase 1 habitat survey was carried out by experienced botanists Lynsey Crellin (FISC Level 5), Val Gateley (FISC Level 5) and Lindsey Roberts (FISC Level 4) on 19th and 20th April, and 14th, 15th and 18th May 2018. The survey was carried out in accordance with the Phase 1 habitat assessment methods (JNCC 2010¹) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2017²). The method records the habitat types present in and immediately surrounding the site, based on the JNCC descriptions. Plant species were identified in accordance with Stace (2010) and recorded as target notes using the DAFOR scale. Weather conditions during the survey were dry and bright.

¹ JNCC 2010. Handbook for Phase 1 Habitat Survey: A technique for environmental audit.

² CIEEM 2017. Guidelines for Preliminary Ecological Appraisal.


3.0 Results



3.1 Table 1 below provides a broad description and photographs of the habitats present within the survey area. More details are provided in the Target Note (TN) report in Appendix A. These are illustrated on the Phase 1 Habitat Map (G6900.005).


3.2 The following habitats are present within, or adjoining, the survey area:



- Improved grassland;
- Poor semi-improved grassland;
- Arable;
- Marsh/marshy grassland;
- Swamp;
- Standing water;
- Ditches;
- Running water;
- Hedgerows;
- Tall ruderal;
- Dense/continuous scrub;
- Plantation broad-leaved woodland;
- Amenity grassland;
- Scattered trees/scrub;
- Buildings;
- Bare ground; and
- Hardstanding.



Table 1: Habitats Present in Pickerings Farm



Habitat Type	Habitat Description and Photographs
Improved grassland	<p>The majority of the survey area is formed of improved grassland fields, many of which have been grazed to a very short sward by cattle (TN8 and TN10).</p> <p>Floral diversity is minimal in these areas, perennial ryegrass <i>Lolium perenne</i> is dominant with rare herbaceous species such as broad-leaved dock <i>Rumex obtusifolius</i> and creeping thistle <i>Cirsium arvense</i>.</p> 



Habitat Type	Habitat Description and Photographs
<p>Poor semi-improved grassland</p>	<p>There are several poor semi-improved grassland fields scattered throughout the survey area, most of which have been heavily grazed by horses or sheep.</p> <p>Again, floral diversity is limited although a few more grass species are evident such as rough meadow-grass <i>Poa trivialis</i>, cock's-foot <i>Dactylis glomerata</i> and Yorkshire fog <i>Holcus lanatus</i>.</p>  <p>An unmanaged field of poor semi-improved grassland is present in the north west corner of the survey area (TN4).</p>
<p>Arable</p>	<p>A few arable fields are present in the centre of the survey area, to the south of Bee Lane. These are managed to produce cereal crop.</p> 

Habitat Type	Habitat Description and Photographs
Marsh/ marshy grassland	<p>An area of marshy grassland are present in a damp corner of the field (TN6). These are likely to dry out during the summer months.</p> <p>Vegetation composition is similar to that of the surrounding grassland with dominant soft rush <i>Juncus effusus</i>.</p> 
Swamp	<p>A small patch of swamp is present within improved grassland to the south of Nib Lane (TN2). This is likely to dry out during the summer months.</p> <p>Aquatic vegetation including common duckweed <i>Lemna minor</i>, water starwort <i>Callitriche stagnalis</i> and floating sweet-grass <i>Glyceria fluitans</i> have begun to colonise.</p>

Habitat Type	Habitat Description and Photographs
Standing water	<p>There are two field ponds present within the survey area. One is adjacent to the west site boundary and is colonised by willow scrub and some aquatic vegetation (TN1). The second is a shallow muddy pond in the centre of the site adjacent to a pile of recently tipped material (TN3).</p>  

Habitat Type	Habitat Description and Photographs
Ditches	<p>A large number of ditches are present along field boundaries which are likely in place for irrigation purposes. The majority of these ditches were found to be dry or partially damp with limited aquatic vegetation (TN7).</p> 
Running water	<p>A small stream is present in the north part of the survey area, adjacent to a public footpath (TN11).</p> 

Habitat Type	Habitat Description and Photographs
Hedgerows	<p>The majority of the field boundaries comprise native hedgerows including intact, defunct and hedgerows with trees.</p> <p>These are largely species-rich with abundant hawthorn <i>Crataegus monogyna</i> and blackthorn <i>Prunus spinosa</i> and frequent elder <i>Sambucus nigra</i> and hazel <i>Corylus avellana</i>. Mature trees include English oak <i>Quercus robur</i>, alder <i>Alnus glutinosa</i>, ash <i>Fraxinus excelsior</i> and sycamore <i>Acer pseudoplatanus</i>.</p> <p>These hedgerows were subject to a Hedgerow Assessment by TEP, concurrently with the Phase 1 habitat survey, to determine whether they are “Important” under the Hedgerow Regulations 1997. The results are detailed within the Hedgerow Assessment report (ref 6900.008).</p>  

Habitat Type	Habitat Description and Photographs
Tall ruderal	<p>Small stands of tall ruderal vegetation are present adjacent to field boundaries and ditches. These are generally dominated by nettle <i>Urtica dioica</i> with abundant great willowherb <i>Epilobium hirsutum</i> and occasional cow parsley <i>Anthriscus sylvestris</i>.</p> 
Dense/ continuous scrub	<p>Small areas of dense/continuous scrub are present along field boundaries and adjacent to pond (TN5). They are dominated by bramble <i>Rubus fruticosus</i> agg. with frequent willow <i>Salix</i> sp.</p>
Plantation broad-leaved woodland	<p>A band of semi-mature plantation broad-leaved woodland screens the south-west boundary of the survey area from the A582 Penwortham Way (TN9).</p> 
Amenity grassland	<p>Amenity grassland is present along road edges and associated with residential gardens.</p>
Scattered trees/scrub	<p>There are many scattered mature trees, mostly broad-leaved with the occasional conifer, within site along with stands of scattered scrub. Species composition is similar to that of nearby hedgerows and the plantation woodland, with some ornamental species also present.</p> <p>An Arboricultural Impact Assessment has been undertaken of the survey area (TEP Report Ref: 6900.011).</p>

Habitat Type	Habitat Description and Photographs
Buildings	There are a small number of buildings within the survey area including a house and several outbuildings used for agricultural purposes or storage.
Bare ground	Small areas of bare ground are present within the survey area where land has recently been cleared.
Hardstanding	There are a number of roads including Bee Lane, Moss Lane, Lord's Lane, Nib Lane and Flag Lane which run through the survey area.

Protected and invasive plant species

3.3 The following notable plant species were recorded within the survey area:

- Japanese knotweed *Fallopia japonica* - adjacent to Hedgerow 56;
- Japanese rose *Rosa rugosa* - within Hedgerow 63; and
- Native bluebell *Hyacinthoides non-scripta* - within Hedgerows 19 and 32.

Connectivity with the wider landscape

3.4 Connectivity between the survey area and the wider landscape to the north and east is limited by residential development. To the south and west lies agricultural land, similar to that within the survey area. There is some connectivity between the survey area and these areas via the railway which borders the east boundary and curves in a westerly direction along the south boundary. This forms a commuting route for species such as bats. However green linkages within the landscape are limited to hedgerows and small groups of trees. The nearest high quality habitat is the River Ribble approximately 1.75km to the north of the survey area, with connectivity via the railway.

Fauna

3.5 The habitats in the survey area have the potential to support protected and notable species such as amphibians, badgers, bats, birds and water vole. Detailed surveys for these species have been undertaken and separate technical reports have been produced, as follows:

- 6900.001 Amphibian survey report
- 6900.002 Water vole survey report
- 6900.003 Bat activity survey report
- 6900.004 Winter bird survey report
- 6900.005 Badger survey report
- 6900.006 Bat roost survey report
- 6900.010 Breeding bird survey report

4.0 Conclusion

- 4.1 The majority of the survey area is formed of intensively managed agricultural land which is of low conservation value and therefore there are opportunities to significantly enhance the site for local wildlife within the scheme. There are, however, several habitats which are of higher quality including hedgerows, wet ditches, ponds and mature trees. The loss of these habitats would reduce the overall ecological value of the site and could have detrimental impacts to the protected species they may support.
- 4.2 Hedgerows and ponds are listed as a Priority Habitat under Section 41 of the NERC Act 2006. Hedgerows are also listed under the Lancashire Biodiversity Action Plan.
- 4.3 Japanese knotweed and Japanese rose are present in the survey area. These are listed as a non-native invasive species under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to cause the spread of these species in the wild.
- 4.4 Native bluebell has been recorded in the survey area. This is listed as a protected species under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended).

5.0 Recommendations

- 5.1 Hedgerows within the site should be retained where possible and protected from development in accordance with the recommendations made in the Hedgerow Assessment Report (TEP Report Ref: 6900.003).
- 5.2 Mature trees should also be retained where possible and protected in accordance with the Arboricultural Impact Assessment (TEP Report Ref: 6900.011).
- 5.3 Ponds and other water bodies within the site should be retained, protected and enhanced where possible. Best practice pollution and siltation prevention measures should be implemented to minimise impacts to these areas.
- 5.4 An invasive and protected plant species management plan should be produced which should include the removal of the Japanese knotweed and Japanese rose from the site and the protection of the native bluebell.
- 5.5 Recommendations within the protected species survey reports should be implemented within the site.
- 5.6 Opportunities for the enhancement of the site should be considered. This could include new habitat creation, strengthening of green linkages within the site and native species planting.

APPENDIX A: Target Note Report

Target Notes Report

Target Note 1

Shallow pond with surrounding trees.

<i>Alnus glutinosa</i>	Alder	D
<i>Juncus effusus</i>	Soft Rush	F
<i>Salix</i> species	Willow species	F
<i>Calystegia</i> sp.	Bindweed species	O
<i>Equisetum</i> sp.	Horsetail species	O
<i>Glyceria fluitans</i>	Floating Sweet-grass	O
<i>Glyceria maxima</i>	Reed Sweet-grass	O

Target Note 2

Very shallow flooded depression in field, dominated by blanket weed, likely to dry out.

<i>Lemna minor</i>	Common Duckweed	F
<i>Callitriche</i> sp.	Water Starwort species	O
<i>Glyceria fluitans</i>	Floating Sweet-grass	O

Target Note 3

Shallow muddy pond in corner of field. Much tipped material.

<i>Iris pseudacorus</i>	Yellow Flag Iris	O
<i>Oenanthe crocata</i>	Hemlock Water-dropwort	O

Target Note 4

Unmanaged tussocky field.

<i>Alopecurus pratensis</i>	Meadow Foxtail	D
<i>Holcus lanatus</i>	Yorkshire-fog	A
<i>Galium aparine</i>	Cleavers	F
<i>Ranunculus repens</i>	Creeping Buttercup	F
<i>Rumex crispus</i>	Curled Dock	F
<i>Urtica dioica</i>	Nettle	F
<i>Anthriscus sylvestris</i>	Cow Parsley	O
<i>Cynosurus cristatus</i>	Crested Dog's-tail	O
<i>Epilobium hirsutum</i>	Great Willowherb	O
<i>Geranium pyrenaicum</i>	Hedgerow Cranesbill	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Juncus effusus</i>	Soft Rush	O
<i>Juncus inflexus</i>	Hard Rush	O
<i>Plantago lanceolata</i>	Ribwort Plantain	O
<i>Potentilla anserina</i>	Silverweed	O
<i>Ranunculus acris</i>	Meadow Buttercup	O
<i>Rumex acetosa</i>	Common Sorrel	O
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O
<i>Senecio jacobaea</i>	Common Ragwort	O
<i>Taraxacum</i> sp.	Dandelion species	O
<i>Salix</i> species	Willow species	R

Target Note 5

Area of dense bramble scrub with band of woodland around, possibly planted.

<i>Rubus fruticosus</i> agg.	Bramble	D
<i>Crataegus monogyna</i>	Hawthorn	F
<i>Anthriscus sylvestris</i>	Cow Parsley	O
<i>Hedera helix</i>	Ivy	O
<i>Prunus avium</i>	Wild Cherry	O
<i>Acer platanoides</i>	Norway Maple	R
<i>Fagus sylvatica</i>	Beech	R
<i>Hyacinthoides hispanica</i>	Spanish Bluebell	R
<i>Ilex aquifolium</i>	Holly	R
<i>Quercus robur</i>	English Oak	R
<i>Sambucus nigra</i>	Elder	R
<i>Symphoricarpos albus</i>	Snowberry	R
<i>Tilia</i> sp.	Lime species	R
<i>Ulmus procera</i>	English Elm	R

Target Note 6

Patch of rush.

<i>Juncus effusus</i>	Soft Rush	D
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Target Note 7

A ditch located between individual horse-grazed fields. The ditch banks were fenced, steep and approximately 1m high. The channel was less than 1m wide and the water depth was shallow. The bank- side vegetation was a mixed mosaic of tall ruderal including great willow-herb and common nettle; and semi-improved grassland species including annual meadow grass creeping bent.

<i>Arrhenatherum elatius</i>	False Oat-grass	A
<i>Epilobium hirsutum</i>	Great Willowherb	A
<i>Urtica dioica</i>	Nettle	A
<i>Agrostis stolonifera</i>	Creeping Bent	F
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Lolium perenne</i>	Perennial Ryegrass	F
<i>Poa annua</i>	Annual Meadow-grass	F
<i>Ranunculus acris</i>	Meadow Buttercup	F
<i>Ranunculus repens</i>	Creeping Buttercup	F
<i>Rumex obtusifolius</i>	Broad-leaved Dock	F
<i>Trifolium repens</i>	White Clover	F
<i>Alopecurus pratensis</i>	Meadow Foxtail	O
<i>Cerastium fontanum</i>	Common Mouse-ear	O
<i>Elytrigia repens</i>	Common Couch	O
<i>Lathyrus pratensis</i>	Meadow Vetchling	O
<i>Plantago major</i>	Greater Plantain	O
<i>Stachys sylvatica</i>	Hedge Woundwort	O
<i>Taraxacum officinale</i> agg.	Dandelion	O
<i>Vicia cracca</i>	Tufted Vetch	O
<i>Dactylis glomerata</i>	Cock's-foot	R

Target Note 8

A fenced field boundary located to the east of improved grassland. Viewed from the west side only due to no access to the land to the east. The associated features include a dry ditch, semi-mature scattered trees, tall ruderal and semi-improved, neutral grassland species as well as bramble scrub. The ditch contained water, running from east to west, with a poor semi-improved grassland field to the north and an improved grassland field to the south. The ditch channel was less than 1m wide, with a shallow water depth, steep banks with a height of approximately 2m, a sediment base and a fence running the entire length. Associated species include hemlock water dropwort.

<i>Urtica dioica</i>	Nettle	A
<i>Fraxinus excelsior</i>	Ash	F
<i>Galium aparine</i>	Cleavers	F
<i>Oenanthe crocata</i>	Hemlock Water-dropwort	F
<i>Rubus fruticosus</i> agg.	Bramble	F
<i>Salix caprea</i>	Goat Willow	F
<i>Acer pseudoplatanus</i>	Sycamore	O
<i>Alnus glutinosa</i>	Alder	O
<i>Calystegia sepium</i>	Hedge Bindweed	O
<i>Cirsium arvense</i>	Creeping Thistle	O
<i>Crataegus monogyna</i>	Hawthorn	O
<i>Elytrigia repens</i>	Common Couch	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Sambucus nigra</i>	Elder	O
<i>Lathyrus pratensis</i>	Meadow Vetchling	R
<i>Vicia cracca</i>	Tufted Vetch	R

Target Note 9

A plantation with a species-rich hedgerow running along its length, located between the side of the A582 – Penwortham Way and the survey site boundary.

<i>Rubus fruticosus</i> agg.	Bramble	F
<i>Cornus sanguinea</i>	Dogwood	O
<i>Crataegus monogyna</i>	Hawthorn	O
<i>Fraxinus excelsior</i>	Ash	O
<i>Urtica dioica</i>	Nettle	O
<i>Acer</i> sp.	Maple species	R
<i>Epilobium hirsutum</i>	Great Willowherb	R
<i>Tilia cordata</i>	Small-leaved Lime	R
<i>Ulmus procera</i>	English Elm	R
<i>Vicia sepium</i>	Bush Vetch	R

Target Note 10

A fenced field boundary located to the east of improved grassland. Viewed from the west side only due to no access to the land to the east. The associated features include a dry ditch, semi-mature scattered trees, tall ruderal and semi-improved, neutral grassland species as well as bramble scrub.

<i>Fraxinus excelsior</i>	Common Ash	F
<i>Urtica dioica</i>	Common Nettle	F
<i>Salix caprea</i>	Goat Willow	F
<i>Alnus glutinosa</i>	Common Alder	O

<i>Sambucus nigra</i>	Elder	R
<i>Heracleum sphondylium</i>	Hogweed	R
<i>Acer pseudoplatanus</i>	Sycamore	R

Target Note 11

A slow-flowing ditch located alongside a hedgerow to the north of Bee Lane. The heavily shaded ditch was approximately 2m wide, 1m deep with a water depth of 10cm.

<i>Rubus fruticosus</i> agg	Bramble	A
<i>Urtica dioica</i>	Nettle	A
<i>Calystegia sepium</i>	Hedge bindweed	A
<i>Holcus lanatus</i>	Yorkshire fog	A
<i>Dactylis glomerata</i>	Cock's-foot	O
<i>Epilobium hirsutum</i>	Great willowherb	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Juncus effuses</i>	Soft rush	R
<i>Myosotis scorpioides</i>	Water forget-me-not	R

Drawing

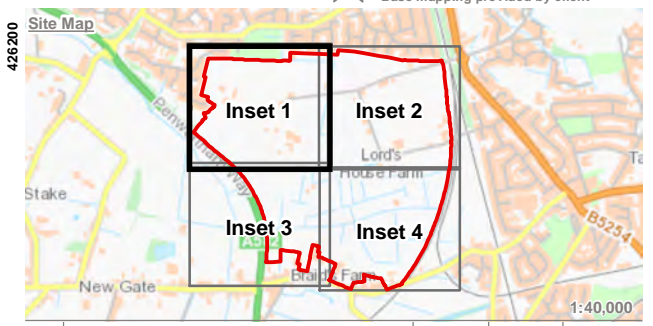
G6900.005 – Phase 1 Habitat Survey Map



KEY

- Survey boundary
- Target note
- BB Bluebell
- X Scattered scrub
- Scattered broad-leaved tree
- Scattered coniferous tree
- Standing water
- Running water
- Dry ditch
- Species-poor intact hedge
- Conifer hedge
- Species-poor defunct hedge
- Species-poor hedge and trees
- Native species-rich intact hedge
- Native species-rich defunct hedge
- Native species-rich hedge and trees
- Native species-rich hedge and trees with dry ditch
- Fence
- Plantation broad-leaved woodland
- Dense/continuous scrub
- Improved grassland
- Marsh/marshy grassland
- Poor semi-improved grassland
- Tall ruderal
- Standing water
- Arable
- Amenity grassland
- Buildings
- Bare ground
- Hardstanding
- Not surveyed

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A	Habitat areas update.	MK	VG	31/08/2018
Rev	Description	Drawn	Approved	Date

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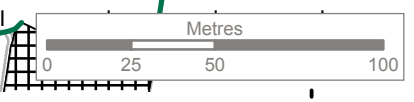
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Project
Pickerings Farm, Penwortham

Title
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Drawing Number
G6900.005A Sheet 1 of 4

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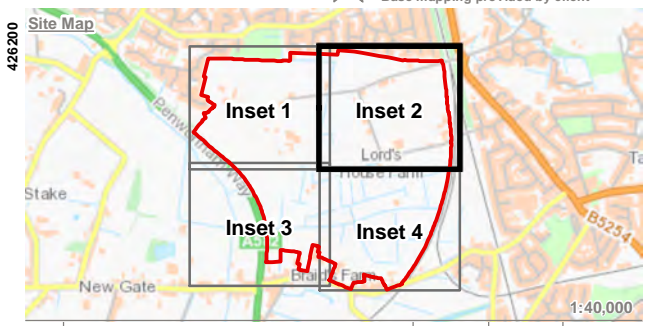




KEY

- Survey boundary
- Target note
- BB Bluebell
- X Scattered scrub
- ⊕ Scattered introduced shrub
- Scattered broad-leaved tree
- Scattered coniferous tree
- Standing water
- ▶ Running water
- - - Dry ditch
- Species-poor intact hedge
- Species-poor hedge and trees
- Native species-rich intact hedge
- Native species-rich hedge and trees
- Native species-rich hedge and trees with dry ditch
- Fence
- Improved grassland
- Poor semi-improved grassland
- Standing water
- Arable
- Amenity grassland
- Buildings
- Hardstanding
- Not surveyed

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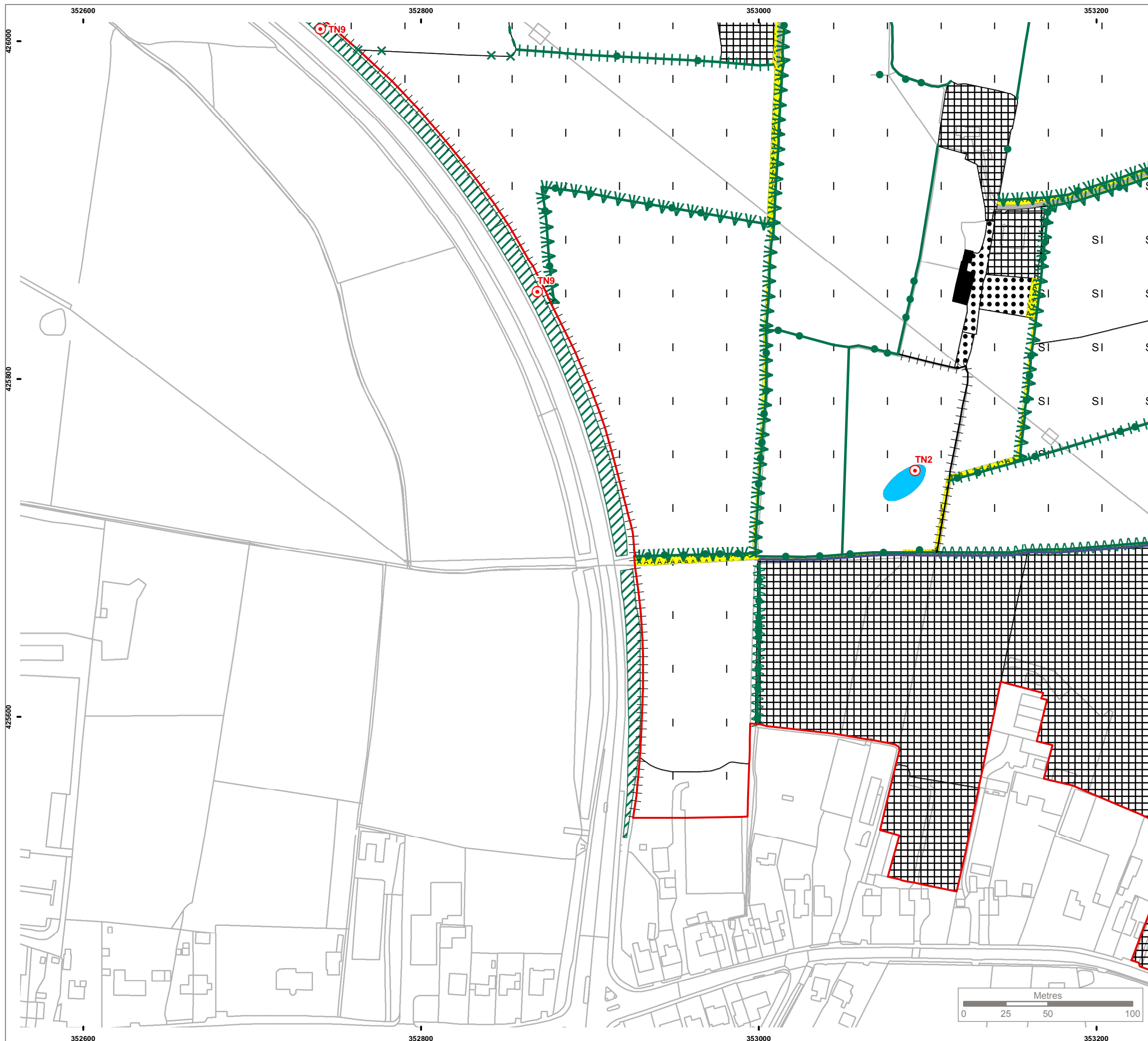
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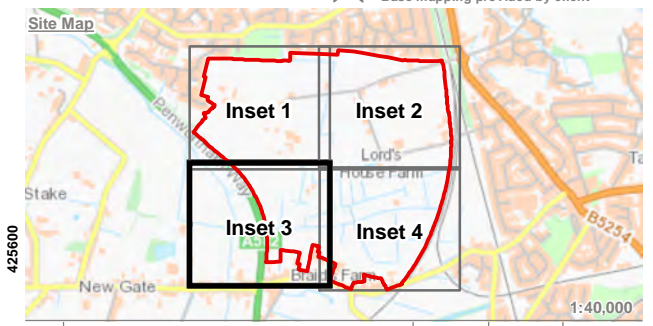
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- KEY**
- Survey boundary
 - ⊙ Target note
 - × Scattered scrub
 - Scattered broad-leaved tree
 - Standing water
 - Species-poor intact hedge
 - Species-poor defunct hedge
 - Species-poor hedge and trees
 - Native species-rich intact hedge
 - Native species-rich hedge and trees
 - Fence
 - Plantation broad-leaved woodland
 - Improved grassland
 - Poor semi-improved grassland
 - Swamp
 - Amenity grassland
 - Buildings
 - Bare ground
 - Hardstanding
 - Not surveyed

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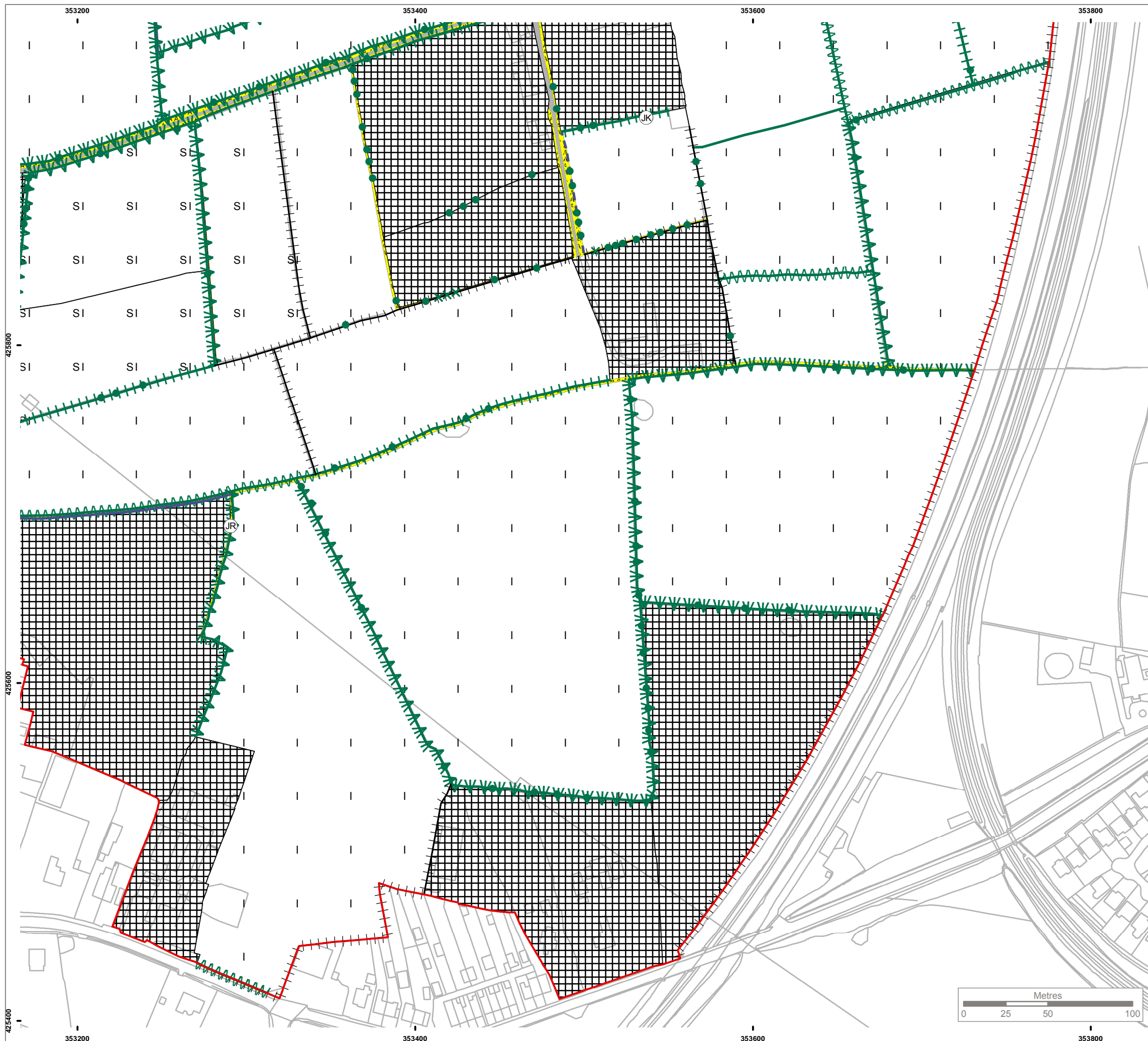
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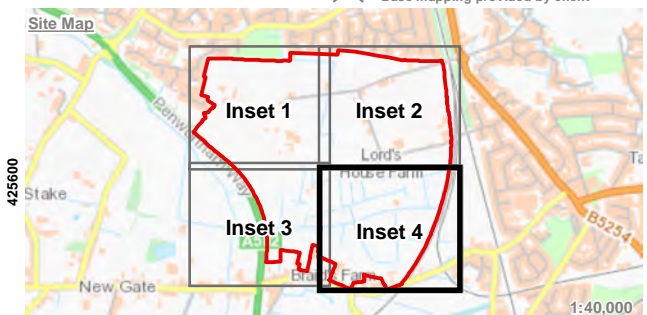
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KEY

- Survey boundary
- JK Japanese Knotweed
- JR Japanese Rose
- X Scattered scrub
- Scattered broad-leaved tree
- Standing water
- - - Dry ditch
- Species-poor intact hedge
- + + + Species-poor hedge and trees
- ~ ~ ~ Native species-rich intact hedge
- ~ ~ ~ Native species-rich hedge and trees
- + + + Fence
- Improved grassland
- SI SI Poor semi-improved grassland
- A A Amenity grassland
- Hardstanding
- Not surveyed

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Appendix 7.3

Hedgerow Assessment Report



THE
ENVIRONMENT
PARTNERSHIP



PICKERINGS FARM PENWORTHAM HEDGEROW ASSESSMENT

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Appendix B – Hedgerow Target Notes

DRAWING

G6900.012 (1-5) Hedgerow Assessment

G6900.013 Important Hedgerows

1.0 Introduction

- 1.1 TEP was commissioned by Taylor Wimpey North West and Homes England, in February 2018, to undertake a hedgerow assessment at the site known as Pickerings Farm in Penwortham. The aim of the hedgerow assessment was to identify whether any of the hedgerows qualify as being “Important” under the wildlife and landscape criteria outlined in the Hedgerow Regulations (1997). For clarity, the scope of the survey and assessment does not cover the archaeology and history criteria set out in the Hedgerow Regulations.
- 1.2 Taylor Wimpey and Homes England are proposing a joint venture for the construction of a large-scale housing development with associated infrastructure and community facilities at the site.

Description of Survey Area

- 1.3 The central grid reference of the survey area is SD 53329 25884 and the location of the survey area is shown in Figure 1 below. Hatched areas within the red line in Figure 1 represent land owned by third parties and these were not subject to surveys.
- 1.4 The survey area comprises pasture and arable fields bounded by hedgerows with residential housing and farm buildings and fragments of other habitats including woodland, scrub, grassland and water bodies. Existing residential development within Penwortham bounds the survey area to the north with Penwortham Way to the west, railway to the east and residential development along Chain House Lane to the south.

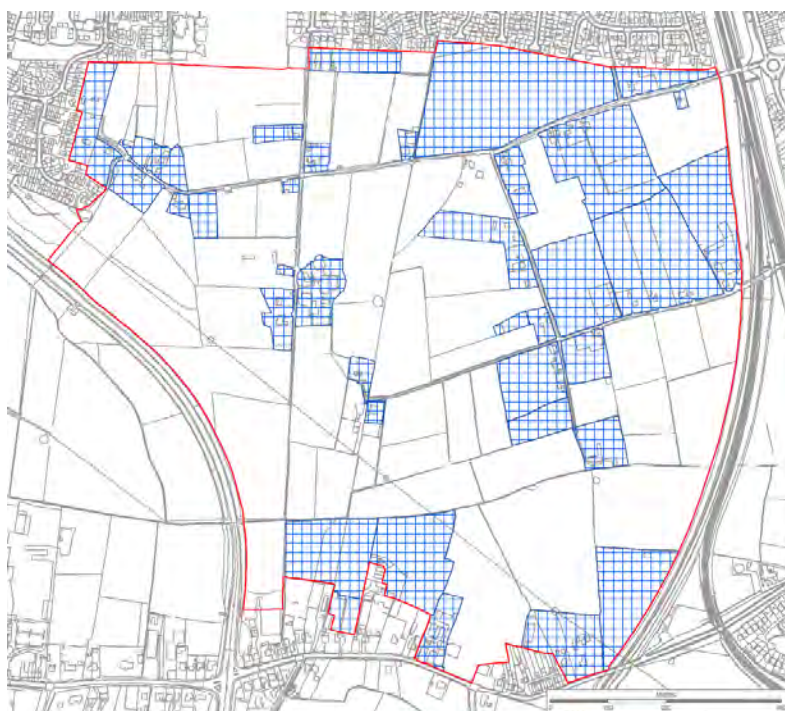


Figure 1: Survey Area Plan. Contains Ordnance Survey data © Crown copyright and database right 2018

2.0 Methods

- 2.1 The hedgerow assessment was carried out of the survey area by experienced botanists Lynsey Crellin (FISC Level 5), Val Gateley (FISC Level 5) and Lindsey Roberts (FISC Level 4) on 19th and 20th April 2018, and 14th, 15th and 18th May 2018.
- 2.2 Native hedgerows in the survey area were subject to a detailed sampling survey in accordance with the criteria set out in the Hedgerow Regulations (1997) in terms of wildlife and landscape criteria for determining “important” hedgerows. This entailed recording the number of woody species (as listed on Schedule 3 of the Hedgerow Regulations) within 30m sample sections¹ as well as any features within 2m associated with the hedge. These features include the presence of any bank or wall, ditch, standard trees and ground flora species (as listed on Schedule 2 of the Hedgerow Regulations). Also, the number of connections with adjacent hedgerows was recorded. Hedgerow target notes were made on standard data recording forms. For each hedgerow this included a description of the hedge and detailed plant species list.
- 2.3 As the survey area falls within Lancashire it should be noted that the number of woody species per hedgerow required for it to be “important” is reduced by one (six woody species are required).
- 2.4 For the purposes of this assessment a hedgerow is defined as a boundary line of native shrubs or a mix of native shrubs and trees over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m wide. Any bank, wall, ditch or tree within 2m of the centre of the hedgerow is considered to be part of the hedgerow habitat, as is the herbaceous vegetation within 2m of the centre of the hedgerow. Only hedgerows consisting predominantly (80% or more cover) of at least one woody UK native species (listed on Schedule 3 of the Hedgerow Regulations) are considered to be native and covered by this assessment.
- 2.5 The above definition of a hedgerow is largely based on the UK Biodiversity Action Plan (UKBAP) definition of a hedgerow but it also takes into account details from the Hedgerow Regulations 1997 and Handbook for Phase 1 Habitat survey (JNCC 2010) in order to ensure all hedgerow features considered native are assessed.
- 2.6 Further factors which are considered during this assessment include the proximity of public by-ways and footpaths, parallel hedgerows, semi-natural woodland and ponds. The presence of these features adjacent to a hedgerow increases the likelihood that it could qualify as “important”.
- 2.7 In addition, presence of or field signs of any legally protected species or species which are listed on Section 41 of the NERC Act 2006 or are included in the Local BAP were mapped and noted. This includes species which form part of Schedule 1, 5 & 8 of the Wildlife and Countryside Act (WCA), as amended (1981).

¹ The length of the hedge determines the number of samples required. For hedgerows 30m-100m in length, species in the central 30m were recorded. For hedgerows 100m-200m, species in the central 30m of each half of the hedge were recorded. For hedgerows >200m species in the central 30m of each third of the hedge were recorded.

- 2.8 A link to wildlife and landscape criteria for determining “important” hedgerows under the Hedgerow Regulations 1997 is given below:

<http://www.legislation.gov.uk/uksi/1997/1160/schedule/1/made>

Limitations

- 2.9 Four hedgerows (H58, H59, H60 and H63) were not subject to a hedgerow assessment due to access restrictions at the time of the surveys.

3.0 Results

- 3.1 The hedgerows surveyed, assessed and mapped as a result of this hedgerow assessment are illustrated in Drawing G6900.012. The survey results including species composition and details of further sampling (if identified as having potential importance) are provided in Appendix A.
- 3.2 A total of 38 hedgerows from within the survey area were identified as requiring further survey following the Hedgerow Regulations method in order to ascertain whether any qualify as “important”. Of these hedgerows four (H58, H59, H61 and H63) were not subject to a hedgerow assessment due to access restrictions.
- 3.3 The remaining hedgerows within the survey area were not subject to the hedgerow assessment as the surveyors concluded that hedgerows were not “Important” under Hedgerow Regulations 1997 due to containing less than six woody species and/or qualifying features. Target notes for these hedgerows are included in Appendix B.
- 3.4 A total of 20 hedgerows in the survey area were found to have sufficient species diversity and associated features to qualify as “important” under the Hedgerow Regulations in terms of the wildlife and landscape criteria. The location of these hedgerows is set out at Drawing G6900.013. Table 2 below sets out more detail on these hedges.

Table 1: Important Hedgerows within the Pickerings Farm Site

Hedgerow Ref	Start Grid Ref	End Grid Ref	Hedgerow Type
1	SD 52877 25864	SD 53001 25895	Hedgerow with trees
3	SD 52778 26407	SD 52774 26353	Hedgerow with trees
5	SD 52817 26338	SD 52919 26354	Hedgerow with trees
6	SD 52828 26271	SD 53024 26351	Hedgerow with trees
7	SD 52921 25697	SD 52997 25700	Hedgerow with trees
8	SD 53042 26469	SD 53034 26298	Hedgerow with trees
9	SD 53080 26301	SD 53189 26320	Hedgerow with trees
11	SD 52920 26271	SD 52993 26281	Intact hedgerow

Hedgerow Ref	Start Grid Ref	End Grid Ref	Hedgerow Type
15	SD 52920 26271	SD 52993 26281	Hedgerow with trees
19	SD 52841 26190	SD 53014 26185	Intact hedgerow
22	SD 53016 25991	SD 52999 25702	Hedgerow with trees
32	SD 53012 26118	SD 53012 26095	Intact hedgerow
36	SD 53351 26329	SD 53387 26223	Hedgerow with trees
42	SD 53593 26412	SD 53668 26432	Hedgerow with trees
44	SD 53687 26439	SD 53748 26456	Hedgerow with trees
48	SD 53632 26050	SD 53786 26093	Hedgerow with trees
57	SD 53581 25797	SD 53732 25796	Hedgerow with trees
69	SD 53167 25896	SD 53271 25935	Hedgerow with trees
72	SD 53369 25970	SD 53467 26005	Intact hedgerow
73	SD 53167 25896	SD 53158 25759	Hedgerow with trees

- 3.5 Of the 20 hedgerows eight (H3, H7, H8, H9, H42, H44, H48 and H73) were assessed to be “important” for having six or more woody species.
- 3.6 Two hedgerows (H19 and H32) were assessed to be “important” due to the presence of native bluebell *Hyacinthoides non-scripta* which is protected under Schedule 5 of the Wildlife and Countryside Act 1981.
- 3.7 Seven hedgerows (H1, H6, H15, H36, H57, H69 and H72) were assessed to be “important” due to having at least five woody species and three qualifying features.
- 3.8 The remaining three hedgerows (H5, H11 and H22) were assessed to be “important” due to having at least four woody species, two qualifying features and being adjacent to a public footpath.

4.0 Conclusions

- 4.1 All native hedgerows qualify as S41 and LBAP. 20 of the hedgerows have been assessed to qualify as “important” under the Hedgerow Regulations. Many of the hedges are species-rich and provide foraging, commuting and refuge habitat for range of faunal species and form part of a network of hedgerows across the wider landscape. As such, the hedges are considered to have local importance within the landscape.

5.0 Recommendations

- 5.1 Where possible, detailed design should seek to retain all native hedgerows within and appropriate setting in the final design. Best practice pollution prevention measures should be implemented to protect retained hedgerows within and adjacent to the site from construction activities, including dust, airborne debris and run-off.
- 5.2 Where hedgerow retention is not possible, priority for retention should be placed upon the important and species rich hedgerows, and on hedgerows which provide an important connectivity function.
- 5.3 Where hedgerow loss cannot be avoided, losses will be mitigated or compensated for. All important hedgerows and, as far as practical, other native hedgerows which cannot be retained in situ should be translocated to appropriate alternative location(s). Any remaining hedgerow losses will be compensated for through new planting. New planting and gap-planting of hedgerows will also be implemented to further enhance ecological networks within the site and local landscape and to deliver net biodiversity gain, both in terms of habitat quantity and ecological function.
- 5.4 Retained and new hedgerows (including those translocated) within the site should be within a setting appropriate to the maintenance of the ecological function i.e. avoiding private boundaries, road margins etc. New hedgerows proposed in such situations should not contribute to the balance of existing hedgerows to be lost.
- 5.5 All new hedgerows should be planted with a diverse (species rich) native mix to mitigate and improve this habitat resource within the local area.

APPENDIX A: Hedgerow Regulations Assessment Data

Hedgerow 1			
Date of survey	19/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 52877 25864	GPS end of hedgerow	SD 53001 25895
Hedge height	3m	Hedge width	2m
Length	230m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Ash Hawthorn Dog rose Blackthorn Elder	Hawthorn Ash Hazel Holly Elder Field rose English oak	Hawthorn Elder English oak Alder Ash	Lords-and-ladies
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	1				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
Total score for connections:	1				
Total number of features:	3	Average number of woody species = 5			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important due to containing five woody species and three qualifying features
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Hedgerow 2

Date of survey	20/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 52746 26481	GPS end of hedgerow	SD 52742 26361
Hedge height	4m	Hedge width	4m
Length	120m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Elder Ash Hawthorn	English oak Ash Hawthorn Elder Blackthorn		
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	N				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
Total score for connections:	0				
Total number of features:	3	Average number of woody species = 4			

Does this hedge meet the wildlife and countryside criteria for importance?	No	Does not meet the criteria for important
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Hedgerow 3			
Date of survey	20/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 52778 26407	GPS end of hedgerow	SD 52774 26353
Hedge height	10m	Hedge width	4m
Length	50m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	Y	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Wild cherry Cherry sp Elder Hawthorn Ash Blackthorn			
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	N				
Ditch along at least half of the hedgerow?	N				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	N				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
Total score for connections:	0				
Total number of features:	2	Average number of woody species = 6			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important due to containing six woody species
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Hedgerow 5

Date of survey	20/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 52817 26338	GPS end of hedgerow	SD 52919 26354
Hedge height	4m	Hedge width	3m
Length	160m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	Y	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Apple sp Blackthorn Ash Hawthorn Alder	Elder Ash Hawthorn Oak		
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	1				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
Total score for connections:	1				
Total number of features:	3	Average number of woody species = 4.5			

Does this hedge meet the wildlife and countryside criteria for importance?	Yes	Does meet the criteria for important due to having more than four woody species, two qualifying features and being adjacent to a public footpath
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Hedgerow 6			
Date of survey	20/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 52828 26271	GPS end of hedgerow	SD 53024 26351
Hedge height	1.5m	Hedge width	1.5m
Length	250m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Alder Cherry sp Hawthorn Ash Elder	Ribes sp Hawthorn Ash Alder Blackthorn Dog rose	Hazel Elder Hawthorn Ash	Wood avens
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	N				
Ditch along at least half of the hedgerow?	N				
Parallel hedge within 15m of the hedgerow?	Y				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	6				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
Total score for connections:	6				
Total number of features:	4	Average number of woody species = 5			

Does this hedge meet the wildlife and countryside criteria for importance?	Yes	Does meet the criteria for important due to containing five woody species and at least three qualifying features
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Hedgerow 7			
Date of survey	19/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 52921 25697	GPS end of hedgerow	SD 52997 25700
Hedge height	2m	Hedge width	3m
Length	75m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	Y	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Dog rose English oak Hawthorn Wild cherry Alder Field rose	Hawthorn Alder Wild cherry Ash Blackthorn Dog rose		
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	2				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	2				
Total number of features:	3	Average number of woody species = 6			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important due to containing six woody species
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Hedgerow 8			
Date of survey	20/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 53042 26469	GPS end of hedgerow	SD 53034 26298
Hedge height	4m	Hedge width	3m
Length	170m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Blackthorn Goat willow Ash Alder Elder	Elder Hawthorn Willow Hazel Ash Blackthorn		
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	Y				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	5				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
Total score for connections:	5				
Total number of features:	5	Average number of woody species = 6			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important due to containing six woody species
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Hedgerow 9			
Date of survey	18/05/2018	Surveyor	LR
GPS start of hedgerow	SD 53080 26301	GPS end of hedgerow	SD 53189 26320
Hedge height	3.5m	Hedge width	3m
Length	85m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Ash Hawthorn Alder Blackthorn Elder Grey willow			
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	Y				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	3				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
Total score for connections:	3				
Total number of features:	4	Average number of woody species = 6			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important due to containing six woody species
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Hedgerow 11			
Date of survey	18/05/2018	Surveyor	LR
GPS start of hedgerow	SD 52920 26271	GPS end of hedgerow	SD 52993 26281
Hedge height	3m	Hedge width	2m
Length	75m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	Y	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Alder Blackthorn Elder			Herb Robert
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	Y				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	0				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	0				
Total number of features:	4	Average number of woody species = 4			

Does this hedge meet the wildlife and countryside criteria for importance?	Yes	Does meet the criteria for important due to having four woody species, two qualifying features and being adjacent to a public footpath
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Hedgerow 15			
Date of survey	19/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 52794 26166	GPS end of hedgerow	SD 52993 26281
Hedge height	3m	Hedge width	2m
Length	150m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Alder Blackthorn Elder Oak	Hawthorn Elder Dog rose Blackthorn Oak		
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	3				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	3				
Total number of features:	3	Average number of woody species = 5			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important due to containing five woody species and three qualifying features
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Hedgerow 18			
Date of survey	19/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 52846 26102	GPS end of hedgerow	SD 53011 26095
Hedge height	4m	Hedge width	3m
Length	100m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Ash English oak Holly	Hawthorn Ash Elder Field Rose		
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	4				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	4				
Total number of features:	4	Average number of woody species = 4			

Does this hedge meet the wildlife and countryside criteria for Importance?	No	Does not meet the criteria for important
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Hedgerow 19			
Date of survey	16/05/2018	Surveyor	VG
GPS start of hedgerow	SD 52841 26190	GPS end of hedgerow	SD 53014 26185
Hedge height	4m	Hedge width	4m
Length	100m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	Y	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Elder Hawthorn Holly Ash	Ash Hawthorn Elder		Broad buckler fern Native bluebell Wood avens
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	3				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	3				
Total number of features:	3	Average number of woody species = 3.5			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important
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Hedgerow 22			
Date of survey	19/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 53016 25991	GPS end of hedgerow	SD 52999 25702
Hedge height	3m	Hedge width	3m
Length	290m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	Y	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Blackthorn Dog rose Cherry sp	Hawthorn Blackthorn Ash Field rose	Hawthorn Blackthorn Ash Field rose	Common dog violet Hart's tongue fern
Average of at least one standard tree per 50m?	N				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	Y				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	N				
Connection (within 10m) with another hedgerow?	N				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	0				
Total number of features:	2	Average number of woody species = 4			

Does this hedge meet the wildlife and countryside criteria for importance?	Yes	Does meet the criteria for important due to having four woody species, two qualifying features and being adjacent to a public footpath
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Hedgerow 29			
Date of survey	19/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 53240 26132	GPS end of hedgerow	SD 53252 25941
Hedge height	3m	Hedge width	2m
Length	250m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Ash Blackthorn Hawthorn	English oak Blackthorn Hawthorn Elder	Hawthorn Blackthorn Ash Elder Field Rose	Broad buckler fern
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	Y				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	7				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	7				
Total number of features:	5	Average number of woody species = 4			

Does this hedge meet the wildlife and countryside criteria for Importance?	No	Does not meet the criteria for important
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Hedgerow 31			
Date of survey	15/05/2018	Surveyor	VG
GPS start of hedgerow	SD 53150 25906	GPS end of hedgerow	SD 53465 26008
Hedge height	3m	Hedge width	2m
Length	150m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	Y	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Ash Blackthorn	Ash Dog rose Hawthorn		Broad buckler fern
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	N				
Connection (within 10m) with another hedgerow?	2				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	2				
Total number of features:	3	Average number of woody species = 3			

Does this hedge meet the wildlife and countryside criteria for Importance?	No	Does not meet the criteria for important
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Hedgerow 32			
Date of survey	15/05/2018	Surveyor	LR
GPS start of hedgerow	SD 53012 26118	GPS end of hedgerow	SD 53012 26095
Hedge height	1.5m	Hedge width	1m
Length	45m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	Y	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Ash			Native bluebell Broad buckler fern
Average of at least one standard tree per 50m?	N				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	N				
Connection (within 10m) with another hedgerow?	0				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
Total score for connections:	0				
Total number of features:	1	Average number of woody species = 2			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important
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Hedgerow 34			
Date of survey	15/05/2018	Surveyor	VG
GPS start of hedgerow	SD 53266 26235	GPS end of hedgerow	SD 53308 26321
Hedge height	3m	Hedge width	2m
Length	100m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Ash Blackthorn Alder			Male fern
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	3				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	3				
Total number of features:	3	Average number of woody species = 4			

Does this hedge meet the wildlife and countryside criteria for Importance?	No	Does not meet the criteria for important
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Hedgerow 35			
Date of survey	15/05/2018	Surveyor	VG
GPS start of hedgerow	SD 53269 26233	GPS end of hedgerow	SD 53383 26220
Hedge height	3m	Hedge width	2m
Length	210m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Elder Ash Dogwood	English oak Hawthorn Ash Elder Blackthorn Hazel Field Rose		Broad buckler fern Herb robert
Average of at least one standard tree per 50m?	N				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	3				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	3				
Total number of features:	2	Average number of woody species = 5			

Does this hedge meet the wildlife and countryside criteria for Importance?	No	Does not meet the criteria for important
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Hedgerow 36			
Date of survey	18/05/2018	Surveyor	LR
GPS start of hedgerow	SD 53351 26329	GPS end of hedgerow	SD 53387 26223
Hedge height	1.5m	Hedge width	1m
Length	80m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Ash Dog rose English oak Blackthorn			Herb Robert
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	N				
Ditch along at least half of the hedgerow?	N				
Parallel hedge within 15m of the hedgerow?	Y				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	2				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
Total score for connections:	2				
Total number of features:	3	Average number of woody species = 5			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important due to containing five woody species and three qualifying features
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Hedgerow 41			
Date of survey	18/05/2018	Surveyor	LR
GPS start of hedgerow	SD 53577 26424	GPS end of hedgerow	SD 53743 26467
Hedge height	2m	Hedge width	1m
Length	110m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Ash	Hawthorn English oak Dog rose Elder		
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	N				
Parallel hedge within 15m of the hedgerow?	Y				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	1				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	1				
Total number of features:	3	Average number of woody species = 3			

Does this hedge meet the wildlife and countryside criteria for Importance?	No	Does not meet the criteria for important
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Hedgerow 42			
Date of survey	18/05/2018	Surveyor	LR
GPS start of hedgerow	SD 53593 26412	GPS end of hedgerow	SD 53668 26432
Hedge height	4m	Hedge width	1.5m
Length	80m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Holly Hazel Alder Elder Ash			Dog's Mercury
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	N				
Parallel hedge within 15m of the hedgerow?	Y				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	5				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	5				
Total number of features:	4	Average number of woody species = 6			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important due to containing six woody species
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Hedgerow 43			
Date of survey	15/05/2018	Surveyor	VG
GPS start of hedgerow	SD 53592 26414	GPS end of hedgerow	SD 53640 26290
Hedge height	2m	Hedge width	3m
Length	130m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	Y	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Blackthorn Dog Rose	Hawthorn Blackthorn Dog Rose Oak		
Average of at least one standard tree per 50m?	N				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	N				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	2				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	2				
Total number of features:	1	Average number of woody species = 3.5			

Does this hedge meet the wildlife and countryside criteria for Importance?	No	Does not meet the criteria for important
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Hedgerow 44			
Date of survey	18/05/2018	Surveyor	LR
GPS start of hedgerow	SD 53687 26439	GPS end of hedgerow	SD 53748 26456
Hedge height	4.5m	Hedge width	3m
Length	75m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hazel Hawthorn Ash Blackthorn Elder Dog rose			
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	N				
Parallel hedge within 15m of the hedgerow?	Y				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	2				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	2				
Total number of features:	3	Average number of woody species = 6			

Does this hedge meet the wildlife and countryside criteria for importance?	Yes	Does meet the criteria for important due to containing six woody species
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Hedgerow 48			
Date of survey	18/05/2018	Surveyor	LR
GPS start of hedgerow	SD 53632 26050	GPS end of hedgerow	SD 53786 26093
Hedge height	2m	Hedge width	1.5m
Length	160m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Blackthorn Hawthorn Ash Dog rose Elder Alder Crack willow	Hazel Dog rose Hawthorn Blackthorn Alder		
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (listed on Sch. 2) within 1m?	N				
Ditch along at least half of the hedgerow?	N				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	2				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	2				
Total number of features:	2	Average number of woody species = 6			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important due to containing six woody species
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Hedgerow 57			
Date of survey	15/05/2018	Surveyor	VG
GPS start of hedgerow	SD 53581 25797	GPS end of hedgerow	SD 53732 25796
Hedge height	2m	Hedge width	2m
Length	75m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Blackthorn Hazel Elder Dog rose			
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	2				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	2				
Total number of features:	3	Average number of woody species = 5			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important due to containing five woody species and three qualifying features
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Hedgerow 64			
Date of survey	19/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 53108 25699	GPS end of hedgerow	SD 53336 25729
Hedge height	2m	Hedge width	2m
Length	150m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Blackthorn Hawthorn Ash Hazel Dog rose Elder	Wild cherry Hawthorn Blackthorn		
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	N				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	0				
Total number of features:	3	Average number of woody species = 4.5			

Does this hedge meet the wildlife and countryside criteria for Importance?	No	Does not meet the criteria for important
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Hedgerow 65			
Date of survey	15/05/2018	Surveyor	VG
GPS start of hedgerow	SD 53114 25746	GPS end of hedgerow	SD 53275 25794
Hedge height	2m	Hedge width	2m
Length	175m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	Y	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Blackthorn Hawthorn Alder Hazel	Blackthorn Hawthorn Hazel		
Average of at least one standard tree per 50m?	N				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	2				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	2				
Total number of features:	2	Average number of woody species = 3.5			

Does this hedge meet the wildlife and countryside criteria for Importance?	No	Does not meet the criteria for important
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Hedgerow 66			
Date of survey	16/05/2018	Surveyor	VG
GPS start of hedgerow	SD 53271 25938	GPS end of hedgerow	SD 53276 25793
Hedge height	3m	Hedge width	4m
Length	150m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Blackthorn Dog rose	Hawthorn Blackthorn Ash		
Average of at least one standard tree per 50m?	N				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	3				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	3				
Total number of features:	2	Average number of woody species = 3			

Does this hedge meet the wildlife and countryside criteria for Importance?	No	Does not meet the criteria for important
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Hedgerow 67			
Date of survey	16/05/2018	Surveyor	VG
GPS start of hedgerow	SD 53315 25950	GPS end of hedgerow	SD 53361 25968
Hedge height	2m	Hedge width	2m
Length	45m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	Y	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Blackthorn Field rose Elder	Hawthorn Blackthorn Hazel		
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	N				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	2				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	2				
Total number of features:	2	Average number of woody species = 3.5			

Does this hedge meet the wildlife and countryside criteria for Importance?	No	Does not meet the criteria for important
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Hedgerow 68			
Date of survey	16/05/2018	Surveyor	VG
GPS start of hedgerow	SD 53269 25933	GPS end of hedgerow	SD 53315 25950
Hedge height	2m	Hedge width	2m
Length	45m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	Y	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Blackthorn Field rose Elder	Hawthorn Blackthorn Hazel		
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	N				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	3				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	3				
Total number of features:	2	Average number of woody species = 3.5			

Does this hedge meet the wildlife and countryside criteria for Importance?	No	Does not meet the criteria for important
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Hedgerow 69			
Date of survey	19/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 53167 25896	GPS end of hedgerow	SD 53271 25935
Hedge height	1m	Hedge width	1m
Length	100m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	Y	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Dog rose Hawthorn Blackthorn English oak Ash			
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	Y				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	4				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	4				
Total number of features:	5	Average number of woody species = 5			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important due to containing five woody species and at least three qualifying features
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Hedgerow 70			
Date of survey	18/05/2018	Surveyor	LR
GPS start of hedgerow	SD 53167 25904	GPS end of hedgerow	SD 53270 25936
Hedge height	1.5m	Hedge width	1m
Length	110m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	Y	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Ash Hazel	Hawthorn Blackthorn Ash Elder		
Average of at least one standard tree per 50m?	N				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	Y				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	3				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	3				
Total number of features:	3	Average number of woody species = 3.5			

Does this hedge meet the wildlife and countryside criteria for Importance?	No	Does not meet the criteria for important
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Hedgerow 72			
Date of survey	18/05/2018	Surveyor	LR
GPS start of hedgerow	SD 53369 25970	GPS end of hedgerow	SD 53467 26005
Hedge height	1.5m	Hedge width	1m
Length	95m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	N	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Hawthorn Blackthorn Dog rose Elder Hazel			
Average of at least one standard tree per 50m?	Y				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	Y				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	4				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	4				
Total number of features:	5	Average number of woody species = 5			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important due to containing five woody species and at least three qualifying features
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Hedgerow 73			
Date of survey	19/04/2018	Surveyor	LAC
GPS start of hedgerow	SD 53167 25896	GPS end of hedgerow	SD 53158 25759
Hedge height	4m	Hedge width	3m
Length	75m	Signs of management	None

Does the hedge have the appearance of being over 30 years old?	Y	
Does the hedge run alongside a bridleway, footpath or road used as a public path or a byway open to all traffic?	Y	
Protected species noted? (WCA Sch 1, 5, 8: RDB birds, vascular plants/insects/other)	N	

Features and Connections		Woody species present in 30m samples (listed on Schedule 3 of the Hedgerow Regulations 1997) - For hedgerows 30-100m in length, species in the central 30m have been recorded. For hedgerows 100-200m species in the central 30m stretches of each half of the hedgerow have been recorded. For hedgerows >200m, species present in the central stretch of 30m within each third of the hedgerow have been recorded.			
		Sample 1	Sample 2	Sample 3	Schedule 2 species
Wall/bank along at least half its length?	N	Dog rose Hawthorn Blackthorn Elder Ash Willow sp			
Average of at least one standard tree per 50m?	N				
3+ woodland ground flora species (<i>listed on Sch. 2</i>) within 1m?	N				
Ditch along at least half of the hedgerow?	Y				
Parallel hedge within 15m of the hedgerow?	N				
Gaps less than 10% of hedgerow length?	Y				
Connection (within 10m) with another hedgerow?	8				
Connection (within 10m) with a pond?	N				
Connection (within 10m) broadleaved woodland?	N				
<i>Total score for connections:</i>	8				
Total number of features:	3	Average number of woody species = 6			

Does this hedge meet the wildlife and countryside criteria for Importance?	Yes	Does meet the criteria for important due to containing six woody species
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APPENDIX B: Hedgerow Target Notes

HEDGEROW TARGET NOTES



Schedule 2 Species

Schedule 3 Species

H1	<i>Alnus glutinosa</i>	Alder	Ten woody species Further survey required
	<i>Anthriscus sylvestris</i>	Cow parsley	
	<i>Arum maculatum</i>	Lords and ladies	
	<i>Corylus avellana</i>	Hazel	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Hedera helix</i>	Ivy	
	<i>Ilex aquifolium</i>	Holly	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Quercus robur</i>	English oak	
	<i>Rosa arvensis</i>	Field rose	
	<i>Rosa canina</i> agg.	Dog rose	
	<i>Sambucus nigra</i>	Elder	
	H2	<i>Anthriscus sylvestris</i>	
<i>Carex remota</i>		Remote sedge	
<i>Crataegus monogyna</i>		Hawthorn	
<i>Filipendula ulmaria</i>		Meadowsweet	
<i>Fraxinus excelsior</i>		Ash	
<i>Hedera helix</i>		Ivy	
<i>Prunus spinosa</i>		Blackthorn	
<i>Quercus robur</i>		English oak	
<i>Ranunculus ficaria</i>		Lesser celandine	
<i>Rubus fruticosus</i> agg.		Bramble	
<i>Sambucus nigra</i>		Elder	
<i>Silene dioica</i>		Red campion	
<i>Urtica dioica</i>		Nettle	
H3	<i>Acer pseudoplatanus</i>	Sycamore	Five woody species Adjacent to footpath Further survey required
	<i>Anthriscus sylvestris</i>	Cow parsley	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Hedera helix</i>	Ivy	
	<i>Prunus avium</i>	Wild cherry	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Ranunculus ficaria</i>	Lesser celandine	
	<i>Rubus fruticosus</i> agg.	Bramble	
	<i>Sambucus nigra</i>	Elder	

	<i>Urtica dioica</i>	Nettle	
H4	<i>Crataegus monogyna</i>	Hawthorn	No further survey required
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Salix species</i>	Willow species	
H5	<i>Alnus glutinosa</i>	Alder	Five woody species Further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Epilobium hirsutum</i>	Great willowherb	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Hedera helix</i>	Ivy	
	<i>Malus sp.</i>	Apple	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Sambucus nigra</i>	Elder	
H6	<i>Acer pseudoplatanus</i>	Sycamore	Eight woody species Adjacent to footpath Further survey required
	<i>Aesculus hippocastanum</i>	Horse-chestnut	
	<i>Alliaria petiolata</i>	Garlic mustard	
	<i>Alnus glutinosa</i>	Alder	
	<i>Anthriscus sylvestris</i>	Cow parsley	
	<i>Corylus avellana</i>	Hazel	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Geum urbanum</i>	Wood Avens	
	<i>Hedera helix</i>	Ivy	
	<i>Heracleum sphondylium</i>	Hogweed	
	<i>Lapsana communis</i>	Nipplewort	
	<i>Pinus sp.</i>	Pine species	
	<i>Prunus sp.</i>	Cherry	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Ranunculus ficaria</i>	Lesser celandine	
	<i>Ribes sp.</i>	Currant sp	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Salix alba</i>	White Willow	
<i>Sambucus nigra</i>	Elder		
<i>Solanum dulcamara</i>	Bittersweet		
<i>Symphoricarpos albus</i>	Snowberry		
<i>Urtica dioica</i>	Nettle		
H7	<i>Alnus glutinosa</i>	Alder	Eight woody species Adjacent to footpath
	<i>Crataegus monogyna</i>	Hawthorn	

	<i>Galium aparine</i>	Cleavers	Further survey required
	<i>Hedera helix</i>	Ivy	
	<i>Prunus sp.</i>	Cherry sp	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Quercus sp</i>	Oak sp	
	<i>Rosa canina agg.</i>	Dog rose	
	<i>Rosa arvensis</i>	Field rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Sambucus nigra</i>	Elder	
	<i>Urtica dioica</i>	Nettle	
H8	<i>Alnus glutinosa</i>	Alder	Eight woody species Further survey required
	<i>Anthriscus sylvestris</i>	Cow parsley	
	<i>Corylus avellana</i>	Hazel	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Prunus sp</i>	Cherry sp	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Ranunculus ficaria</i>	Lesser celandine	
	<i>Salix caprea</i>	Goat willow	
	<i>Sambucus nigra</i>	Elder	
	<i>Urtica dioica</i>	Nettle	
H9	<i>Acer pseudoplatanus</i>	Sycamore	Five woody species Further survey required
	<i>Alnus glutinosa</i>	Alder	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Salix cinerea</i>	Grey willow	
	<i>Sambucus nigra</i>	Elder	
H10	<i>Alnus glutinosa</i>	Alder	No further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Prunus spinosa</i>	Blackthorn	
H11	<i>Acer pseudoplatanus</i>	Sycamore	Four woody species Adjacent to footpath Further survey required
	<i>Alliaria petiolata</i>	Garlic Mustard	
	<i>Alnus glutinosa</i>	Alder	
	<i>Anthriscus sylvestris</i>	Cow Parsley	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Dactylis glomerata</i>	Cock's-foot	
	<i>Epilobium hirsutum</i>	Great Willowherb	
	<i>Galium aparine</i>	Cleavers	
	<i>Geranium robertianum</i>	Herb-Robert	

	<i>Heracleum sphondylium</i>	Hogweed	
	<i>Holcus lanatus</i>	Yorkshire-fog	
	<i>Ligustrum ovalifolium</i>	Garden Privet	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Ranunculus repens</i>	Creeping Buttercup	
	<i>Sambucus nigra</i>	Elder	
	<i>Solanum dulcamara</i>	Bittersweet	
	<i>Symphytum officinale</i>	Common Comfrey	
	<i>Urtica dioica</i>	Nettle	
H12	<i>Crataegus monogyna</i>	Hawthorn	No further survey required
H13	<i>Fraxinus excelsior</i>	Ash	No further survey required
	<i>Sambucus nigra</i>	Elder	
	<i>Urtica dioica</i>	Nettle	
H14	<i>Acer pseudoplatanus</i>	Sycamore	No further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Lonicera periclymenum</i>	Honeysuckle	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Sambucus nigra</i>	Elder	
H15	<i>Acer pseudoplatanus</i>	Sycamore	Six woody species Further survey required
	<i>Alliaria petiolata</i>	Garlic mustard	
	<i>Alnus glutinosa</i>	Alder	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Lolium perenne</i>	Perennial ryegrass	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Quercus robur</i>	Oak	
	<i>Ranunculus repens</i>	Creeping buttercup	
	<i>Rosa canina agg.</i>	Dog rose	
	<i>Urtica dioica</i>	Nettle	
H16	<i>Crataegus monogyna</i>	Hawthorn	
H17	<i>Crataegus monogyna</i>	Hawthorn	No further survey required
	<i>Ilex aquifolium</i>	Holly	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Sambucus nigra</i>	Elder	
H18	<i>Crataegus monogyna</i>	Hawthorn	Five woody species Further survey required
	<i>Fraxinus excelsior</i>	Ash	

	<i>Ilex aquifolium</i>	Holly	
	<i>Quercus robur</i>	Oak	
	<i>Rosa arvensis</i>	Field rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Urtica dioica</i>	Nettle	
H19	<i>Acer pseudoplatanus</i>	Sycamore	Six woody species
	<i>Crataegus monogyna</i>	Hawthorn	Presence of WCA8 species
	<i>Dryopteris dilatata</i>	Broad buckler fern	Further survey required
	<i>Fraxinus excelsior</i>	Ash	
	<i>Galium aparine</i>	Cleavers	
	<i>Geum urbanum</i>	Wood avens	
	<i>Hedera helix</i>	Ivy	
	<i>Hyacinthoides non-scripta</i>	Native bluebell	
	<i>Ilex aquifolium</i>	Holly	
	<i>Ribes rubrum</i>	Redcurrant	
	<i>Rosa arvensis</i>	Field rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Sambucus nigra</i>	Elder	
	<i>Taxus baccata</i>	Yew	
	<i>Urtica dioica</i>	Nettle	
H20	<i>Acer pseudoplatanus</i>	Sycamore	No further survey required
	<i>Alnus glutinosa</i>	Alder	
	<i>Anthriscus sylvestris</i>	Cow parsley	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Ligustrum ovalifolium</i>	Garden privet	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rubus fruticosus agg.</i>	Bramble	
H21	<i>Cypressus x leylandii</i>	Leyland cypress	No further survey required
H22	<i>Alnus glutinosa</i>	Alder	Six woody species
	<i>Anthriscus sylvestris</i>	Cow parsley	Adjacent to footpath
	<i>Asplenium scolopendrium</i>	Hart's tongue fern	Further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Digitalis purpurea</i>	Foxglove	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Hedera helix</i>	Ivy	
	<i>Prunus sp</i>	Cherry sp	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina agg.</i>	Dog rose	
	<i>Silene dioica</i>	Red campion	
	<i>Viola riviniana</i>	Common dog violet	

H23	<i>Cypressus x leylandii</i>	Leyland cypress	No further survey required
H24	<i>Crataegus monogyna</i>	Hawthorn	No further survey required
H25	<i>Acer pseudoplatanus</i>	Sycamore	No further survey required
	<i>Alnus glutinosa</i>	Alder	
	<i>Anthriscus sylvestris</i>	Cow parsley	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Ligustrum ovalifolium</i>	Garden privet	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rubus fruticosus agg.</i>	Bramble	
H26	<i>Crataegus monogyna</i>	Hawthorn	No further survey required
	<i>Galium aparine</i>	Cleavers	
	<i>Hedera helix</i>	Ivy	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Sambucus nigra</i>	Elder	
	<i>Solanum dulcamara</i>	Bittersweet	
	<i>Urtica dioica</i>	Nettle	
H27	<i>Acer pseudoplatanus</i>	Sycamore	No further survey required
	<i>Alnus glutinosa</i>	Alder	
	<i>Arrhenatherum elatius</i>	False Oat-grass	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Epilobium hirsutum</i>	Great Willowherb	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Sambucus nigra</i>	Elder	
H28	<i>Crataegus monogyna</i>	Hawthorn	No further survey required
	<i>Prunus spinosa</i>	Blackthorn	
H29	<i>Acer pseudoplatanus</i>	Sycamore	Eight woody species Further survey required
	<i>Alnus glutinosa</i>	Alder	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Dryopteris dilatata</i>	Broad buckler fern	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Oenanthe crocata</i>	Hemlock water dropwort	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Quercus robur</i>	Oak	

	<i>Rosa arvensis</i>	Field rose	
	<i>Rosa canina</i>	Dog rose	
	<i>Sambucus nigra</i>	Elder	
	<i>Silena dioica</i>	Red campion	
	<i>Veronica beccabunga</i>	Brooklime	
H30	<i>Acer pseudoplatanus</i>	Sycamore	No further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Urtica dioica</i>	Nettle	
H31	<i>Acer pseudoplatanus</i>	Sycamore	Seven woody species
	<i>Alopecurus pratensis</i>	Meadow foxtail	Adjacent to footpath
	<i>Anthoxanthum odoratum</i>	Sweet vernal grass	Further survey required
	<i>Anthriscus sylvestris</i>	Cow parsley	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Cypressus sp</i>	Cypress sp	
	<i>Dryopteris dilatata</i>	Broad buckler fern	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Galium aparine</i>	Cleavers	
	<i>Hedera helix</i>	Ivy	
	<i>Holcus lanatus</i>	Yorkshire fog	
	<i>Lolium perenne</i>	Perennial ryegrass	
	<i>Prunus padus</i>	Bird cherry	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Quercus robur</i>	English oak	
	<i>Ranunculus repens</i>	Creeping buttercup	
	<i>Rosa canina agg.</i>	Dog rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Sambucus nigra</i>	Elder	
	<i>Taraxacum officinalis</i>	Dandelion	
	<i>Urtica dioica</i>	Nettle	
H32	<i>Crataegus monogyna</i>	Hawthorn	Presence of WCA8 species
	<i>Dryopteris dilatata</i>	Broad buckler fern	Further survey required
	<i>Fraxinus excelsior</i>	Ash	
	<i>Hyacinthoides non-scripta</i>	Native bluebell	
	<i>Sambucus nigra</i>	Elder	
H33	<i>Acer pseudoplatanus</i>	Sycamore	No further survey required
	<i>Corylus avellana</i>	Hazel	
	<i>Crataegus monogyna</i>	Hawthorn	

	<i>Fraxinus excelsior</i>	Ash	
	<i>Ligustrum ovalifolium</i>	Garden privet	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Symphoricarpos albus</i>	Snowberry	
H34	<i>Acer pseudoplatanus</i>	Sycamore	Seven woody species
	<i>Alnus glutinosa</i>	Alder	Further survey required
	<i>Carex remota</i>	Remote sedge	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Dryopteris filix-mas</i>	Male fern	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Galium aparine</i>	Cleavers	
	<i>Juncus effusus</i>	Soft rush	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Ribes sanguineum</i>	Flowering currant	
	<i>Rosa canina</i>	Dog rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Salix alba</i>	White willow	
	<i>Sambucus nigra</i>	Elder	
	<i>Silena dioica</i>	Red campion	
	<i>Stellaria sp</i>	Starwort sp	
	<i>Urtica dioica</i>	Nettle	
H35	<i>Acer pseudoplatanus</i>	Sycamore	Seven woody species
	<i>Cornus sanguinea</i>	Dogwood	Further survey required
	<i>Corylus avellana</i>	Hazel	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Cypressus sp</i>	Cypress sp	
	<i>Digitalis purpurea</i>	Foxglove	
	<i>Dryopteris dilatata</i>	Broad buckler fern	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Galium aparine</i>	Cleavers	
	<i>Geranium robertianum</i>	Herb Robert	
	<i>Hedera helix</i>	Ivy	
	<i>Ligustrum ovalifolium</i>	Garden privet	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Quercus robur</i>	English oak	
	<i>Ranunculus ficaria</i>	Lesser celandine	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Sambucus nigra</i>	Elder	
	<i>Urtica dioica</i>	Nettle	
H36	<i>Acer pseudoplatanus</i>	Sycamore	Five woody species
	<i>Crataegus monogyna</i>	Hawthorn	Further survey required
	<i>Geranium robertianum</i>	Herb Robert	

	<i>Fraxinus excelsior</i>	Ash	
	<i>Ligustrum ovalifolium</i>	Garden privet	
	<i>Lonicera periclymenum</i>	Honeysuckle	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Quercus robur</i>	English oak	
	<i>Rosa canina agg.</i>	Dog rose	
H37	<i>Aegopodium podagraria</i>	Ground elder	No further survey required
	<i>Acer pseudoplatanus</i>	Sycamore	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Sambucus nigra</i>	Elder	
H38	<i>Corylus avellana</i>	Hazel	No further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Sambucus nigra</i>	Elder	
H39	<i>Acer pseudoplatanus</i>	Sycamore	No further survey required
	<i>Alnus glutinosa</i>	Alder	
	<i>Corylus avellana</i>	Hazel	
	<i>Ligustrum ovalifolium</i>	Garden privet	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Sambucus nigra</i>	Elder	
	<i>Symphoricarpos albus</i>	Snowberry	
H40	<i>Acer pseudoplatanus</i>	Sycamore	No further survey required
	<i>Alnus glutinosa</i>	Alder	
	<i>Anthriscus sylvestris</i>	Cow parsley	
	<i>Calystegia sepium</i>	Hedge bindweed	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Dactylis glomerata</i>	Cock's foot	
	<i>Epilobium hirsutum</i>	Great willowherb	
	<i>Galium aparine</i>	Cleavers	
	<i>Poa trivialis</i>	Rough meadow grass	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Ranunculus repens</i>	Creeping buttercup	
	<i>Rosa canina agg.</i>	Dog rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Rumex crispus</i>	Curled dock	
	<i>Rumex obtusifolius</i>	Broad-leaved dock	
	<i>Sonchus oleraceus</i>	Smooth sow thistle	
	<i>Stachys sylvatica</i>	Hedge woundwort	

	<i>Taraxacum officinale</i>	Dandelion	
	<i>Urtica dioica</i>	Nettle	
H41	<i>Anthriscus sylvestris</i>	Cow parsley	Five woody species
	<i>Crataegus monogyna</i>	Hawthorn	Further survey required
	<i>Dactylis glomerata</i>	Cock's-foot	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Hedera helix</i>	Ivy	
	<i>Quercus robur</i>	English oak	
	<i>Rosa canina agg.</i>	Dog rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Rumex obtusifolius</i>	Broad-leaved dock	
	<i>Sambucus nigra</i>	Elder	
	<i>Sonchus oleraceus</i>	Smooth sow thistle	
	<i>Taraxacum officinale</i>	Dandelion	
	<i>Urtica dioica</i>	Nettle	
H42	<i>Acer pseudoplatanus</i>	Sycamore	Six woody species
	<i>Alnus glutinosa</i>	Alder	Further survey required
	<i>Corylus avellana</i>	Hazel	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Ilex aquifolium</i>	Holly	
	<i>Mercurialis perennis</i>	Dog's mercury	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Sambucus nigra</i>	Elder	
H43	<i>Alliaria petiolata</i>	Garlic Mustard	Four woody species
	<i>Anthriscus sylvestris</i>	Cow Parsley	Adjacent to footpath
	<i>Crataegus monogyna</i>	Hawthorn	Further survey required
	<i>Elytrigia repens</i>	Common Couch	
	<i>Holcus lanatus</i>	Yorkshire-fog	
	<i>Ligustrum ovalifolium</i>	Garden Privet	
	<i>Poa trivialis</i>	Rough Meadow-grass	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Quercus sp.</i>	Oak species	
	<i>Ranunculus repens</i>	Creeping Buttercup	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Rumex obtusifolius</i>	Broad-leaved Dock	
	<i>Urtica dioica</i>	Nettle	
H44	<i>Corylus avellana</i>	Hazel	Six woody species
	<i>Crataegus monogyna</i>	Hawthorn	Further survey required
	<i>Fraxinus excelsior</i>	Ash	

	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina</i> agg.	Dog rose	
	<i>Rubus fruticosus</i> agg.	Bramble	
	<i>Sambucus nigra</i>	Elder	
H45	<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	No further survey required
	<i>Arrhenatherum elatius</i>	False Oat-grass	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Dryopteris filix-mas</i>	Male-fern	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Galium aparine</i>	Cleavers	
	<i>Holcus lanatus</i>	Yorkshire-fog	
	<i>Juncus effusus</i>	Soft Rush	
	<i>Phalaris arundinacea</i>	Reed Canary-grass	
	<i>Poa trivialis</i>	Rough Meadow-grass	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Ranunculus repens</i>	Creeping Buttercup	
	<i>Rubus fruticosus</i> agg.	Bramble	
	<i>Sambucus nigra</i>	Elder	
	<i>Urtica dioica</i>	Nettle	
H46	<i>Acer pseudoplatanus</i>	Sycamore	No further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
H47	<i>Crataegus monogyna</i>	Hawthorn	No further survey required
	<i>Fraxinus excelsior</i>	Ash	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina</i> agg.	Dog rose	
H48	<i>Alnus glutinosa</i>	Alder	Eight woody species Further survey required
	<i>Corylus avellana</i>	Hazel	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina</i> agg.	Dog rose	
	<i>Salix fragilis</i>	Crack willow	
	<i>Sambucus nigra</i>	Elder	
H49	<i>Agrostis stolonifera</i>	Creeping Bent	No further survey required
	<i>Alnus glutinosa</i>	Alder	
	<i>Alopecurus geniculatus</i>	Marsh Foxtail	
	<i>Arrhenatherum elatius</i>	False Oat-grass	
	<i>Cirsium arvense</i>	Creeping Thistle	
	<i>Crataegus monogyna</i>	Hawthorn	

	<i>Dactylis glomerata</i>	Cock's-foot	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Glyceria fluitans</i>	Floating Sweet-grass	
	<i>Heracleum sphondylium</i>	Hogweed	
	<i>Holcus lanatus</i>	Yorkshire-fog	
	<i>Juncus effusus</i>	Soft Rush	
	<i>Lolium perenne</i>	Perennial Ryegrass	
	<i>Poa trivialis</i>	Rough Meadow-grass	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Ranunculus acris</i>	Meadow Buttercup	
	<i>Ranunculus repens</i>	Creeping Buttercup	
	<i>Rumex obtusifolius</i>	Broad-leaved Dock	
	<i>Sanguisorba officinalis</i>	Great Burnet	
	<i>Silene dioica</i>	Red Campion	
	<i>Solanum dulcamara</i>	Bittersweet	
	<i>Urtica dioica</i>	Nettle	
	<i>Veronica chamaedrys</i>	Germander Speedwell	
H50	<i>Agrostis stolonifera</i>	Creeping Bent	No further survey required
	<i>Alnus glutinosa</i>	Alder	
	<i>Alopecurus geniculatus</i>	Marsh Foxtail	
	<i>Arrhenatherum elatius</i>	False Oat-grass	
	<i>Cirsium arvense</i>	Creeping Thistle	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Dactylis glomerata</i>	Cock's-foot	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Glyceria fluitans</i>	Floating Sweet-grass	
	<i>Heracleum sphondylium</i>	Hogweed	
	<i>Holcus lanatus</i>	Yorkshire-fog	
	<i>Juncus effusus</i>	Soft Rush	
	<i>Lolium perenne</i>	Perennial Ryegrass	
	<i>Poa trivialis</i>	Rough Meadow-grass	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Ranunculus acris</i>	Meadow Buttercup	
	<i>Ranunculus repens</i>	Creeping Buttercup	
	<i>Rumex obtusifolius</i>	Broad-leaved Dock	
	<i>Sanguisorba officinalis</i>	Great Burnet	
	<i>Silene dioica</i>	Red Campion	
	<i>Solanum dulcamara</i>	Bittersweet	
	<i>Urtica dioica</i>	Nettle	
	<i>Veronica chamaedrys</i>	Germander Speedwell	
H51	<i>Acer pseudoplatanus</i>	Sycamore	No further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	

	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Sambucus nigra</i>	Elder	
H52	<i>Crataegus monogyna</i>	Hawthorn	No further survey required
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Sambucus nigra</i>	Elder	
H53	<i>Crataegus monogyna</i>	Hawthorn	No further survey required
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Sambucus nigra</i>	Elder	
H54	<i>Acer pseudoplatanus</i>	Sycamore	No further survey required
	<i>Arrhenatherum elatius</i>	False Oat-grass	
	<i>Cirsium arvense</i>	Creeping Thistle	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Dactylis glomerata</i>	Cock's-foot	
	<i>Dryopteris filix-mas</i>	Male-fern	
	<i>Equisetum arvense</i>	Field Horsetail	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Galium aparine</i>	Cleavers	
	<i>Hedera helix</i>	Ivy	
	<i>Heracleum sphondylium</i>	Hogweed	
	<i>Ranunculus repens</i>	Creeping Buttercup	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Silene dioica</i>	Red Campion	
	<i>Solanum dulcamara</i>	Bittersweet	
	<i>Urtica dioica</i>	Nettle	
H55	<i>Crataegus monogyna</i>	Hawthorn	No further survey required
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Sambucus nigra</i>	Elder	
H56	<i>Arrhenatherum elatius</i>	False Oat-grass	No further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fallopia japonica</i>	Japanese Knotweed	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Hedera helix</i>	Ivy	
	<i>Holcus lanatus</i>	Yorkshire-fog	
	<i>Malus sp.</i>	Apple Species	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Ranunculus repens</i>	Creeping Buttercup	

	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Rumex obtusifolius</i>	Broad-leaved Dock	
	<i>Silene dioica</i>	Red Campion	
	<i>Solanum dulcamara</i>	Bittersweet	
H57	<i>Corylus avellana</i>	Hazel	Five woody species Further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Galium aparine</i>	Cleavers	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina agg.</i>	Dog rose	
	<i>Sambucus nigra</i>	Elder	
	<i>Urtica dioica</i>	Nettle	
H58	<i>Alopecurus pratensis</i>	Meadow Foxtail	Nine woody species Further survey required
	<i>Arrhenatherum elatius</i>	False Oat-grass	
	<i>Cirsium arvense</i>	Creeping Thistle	
	<i>Corylus avellana</i>	Hazel	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Dactylis glomerata</i>	Cock's-foot	
	<i>Epilobium hirsutum</i>	Great Willowherb	
	<i>Equisetum arvense</i>	Field Horsetail	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Hedera helix</i>	Ivy	
	<i>Holcus lanatus</i>	Yorkshire-fog	
	<i>Juncus effusus</i>	Soft Rush	
	<i>Phalaris arundinacea</i>	Reed Canary-grass	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Quercus petraea</i>	Sessile Oak	
	<i>Rosa arvensis</i>	Field Rose	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Salix cinerea</i>	Grey Willow	
	<i>Sambucus nigra</i>	Elder	
	<i>Solanum dulcamara</i>	Bittersweet	
	<i>Stachys sylvatica</i>	Hedge Woundwort	
	<i>Vicia sepium</i>	Bush Vetch	
H59	<i>Alopecurus pratensis</i>	Meadow Foxtail	Seven woody species Further survey required
	<i>Arrhenatherum elatius</i>	False Oat-grass	
	<i>Cirsium arvense</i>	Creeping Thistle	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Dactylis glomerata</i>	Cock's-foot	
	<i>Filipendula ulmaria</i>	Meadowsweet	
	<i>Fraxinus excelsior</i>	Ash	

	<i>Galium aparine</i>	Cleavers	
	<i>Glyceria fluitans</i>	Floating Sweet-grass	
	<i>Juncus effusus</i>	Soft Rush	
	<i>Phalaris arundinacea</i>	Reed Canary-grass	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Quercus sp.</i>	Oak species	
	<i>Ranunculus acris</i>	Meadow Buttercup	
	<i>Rosa arvensis</i>	Field Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Salix fragilis</i>	Crack Willow	
	<i>Sambucus nigra</i>	Elder	
	<i>Silene dioica</i>	Red Campion	
	<i>Urtica dioica</i>	Nettle	
H60	<i>Cirsium arvense</i>	Creeping Thistle	No further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Solanum dulcamara</i>	Bittersweet	
	<i>Urtica dioica</i>	Nettle	
H61	<i>Alnus glutinosa</i>	Alder	Eight woody species
	<i>Crataegus monogyna</i>	Hawthorn	Further survey required
	<i>Digitalis purpurea</i>	Foxglove	
	<i>Dryopteris filix-mas</i>	Male-fern	
	<i>Filipendula ulmaria</i>	Meadowsweet	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Galium aparine</i>	Cleavers	
	<i>Heracleum sphondylium</i>	Hogweed	
	<i>Lemna minor</i>	Common Duckweed	
	<i>Phalaris arundinacea</i>	Reed Canary-grass	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Quercus sp.</i>	Oak species	
	<i>Rosa arvensis</i>	Field Rose	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Sambucus nigra</i>	Elder	
	<i>Silene dioica</i>	Red Campion	
	<i>Stachys sylvatica</i>	Hedge Woundwort	
	<i>Urtica dioica</i>	Nettle	
H62	<i>Acer pseudoplatanus</i>	Sycamore	No further survey required
	<i>Alnus glutinosa</i>	Alder	
	<i>Alopecurus pratensis</i>	Meadow Foxtail	
	<i>Calystegia sepium</i>	Hedge Bindweed	

	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Dactylis glomerata</i>	Cock's-foot	
	<i>Equisetum arvense</i>	Field Horsetail	
	<i>Filipendula ulmaria</i>	Meadowsweet	
	<i>Galium aparine</i>	Cleavers	
	<i>Hedera helix</i>	Ivy	
	<i>Holcus lanatus</i>	Yorkshire-fog	
	<i>Lolium perenne</i>	Perennial Ryegrass	
	<i>Lonicera periclymenum</i>	Honeysuckle	
	<i>Nasturtium officinale</i>	Watercress	
	<i>Phalaris arundinacea</i>	Reed Canary-grass	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa arvensis</i>	Field Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Silene dioica</i>	Red Champion	
H63	<i>Agrostis stolonifera</i>	Creeping Bent	Eight woody species Further survey required
	<i>Acer pseudoplatanus</i>	Sycamore	
	<i>Arrhenatherum elatius</i>	False Oat-grass	
	<i>Cirsium vulgare</i>	Spear Thistle	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Dactylis glomerata</i>	Cock's-foot	
	<i>Elytrigia repens</i>	Common Couch	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Galium aparine</i>	Cleavers	
	<i>Hedera helix</i>	Ivy	
	<i>Lolium perenne</i>	Perennial Ryegrass	
	<i>Phleum pratense</i>	Timothy	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Ranunculus repens</i>	Creeping Buttercup	
	<i>Rosa arvensis</i>	Field Rose	
	<i>Rosa rugosa</i>	Japanese Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Salix caprea</i>	Goat Willow	
	<i>Salix fragilis</i>	Crack Willow	
	<i>Sambucus nigra</i>	Elder	
	<i>Solanum dulcamara</i>	Bittersweet	
	<i>Viburnum opulus</i>	Guelder-rose	
H64	<i>Alnus glutinosa</i>	Alder	Seven woody species Further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Hedera helix</i>	Ivy	
	<i>Lonicera periclymenum</i>	Honeysuckle	
	<i>Prunus avium</i>	Wild cherry	

	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina agg.</i>	Dog rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Sambucus nigra</i>	Elder	
	<i>Urtica dioica</i>	Nettle	
H65	<i>Acer pseudoplatanus</i>	Sycamore	Four woody species Adjacent to footpath Further survey required
	<i>Alnus glutinosa</i>	Alder	
	<i>Corylus avellana</i>	Hazel	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Hedera helix</i>	Ivy	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Urtica dioica</i>	Nettle	
H66	<i>Acer pseudoplatanus</i>	Sycamore	Six woody species Further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Hedera helix</i>	Ivy	
	<i>Ilex aquifolium</i>	Holly	
	<i>Prunus sp</i>	Cherry sp	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina agg.</i>	Dog rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Silena dioica</i>	Red campion	
	<i>Urtica dioica</i>	Nettle	
H67	<i>Corylus avellana</i>	Hazel	Four woody species Adjacent to footpath Further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Lathyrus pratensis</i>	Meadow Vetchling	
	<i>Phalaris arundinacea</i>	Reed Canary-grass	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa arvensis</i>	Field Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Urtica dioica</i>	Nettle	
	<i>Vicia cracca</i>	Tufted Vetch	
H68	<i>Crataegus monogyna</i>	Hawthorn	Four woody species Adjacent to footpath Further survey required
	<i>Lathyrus pratensis</i>	Meadow Vetchling	
	<i>Phalaris arundinacea</i>	Reed Canary-grass	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa arvensis</i>	Field Rose	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Sambucus nigra</i>	Elder	
	<i>Urtica dioica</i>	Nettle	
	<i>Vicia cracca</i>	Tufted Vetch	

H69	<i>Alnus glutinosa</i>	Alder	Seven woody species Adjacent to footpath Further survey required
	<i>Anthriscus sylvestris</i>	Cow parsley	
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Hedera helix</i>	Ivy	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Quercus robur</i>	Oak	
	<i>Rosa canina agg.</i>	Dog rose	
	<i>Ulmus sp</i>	Elm sp	
H70	<i>Corylus avellana</i>	Hazel	Five woody species Adjacent to footpath Further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Sambucus nigra</i>	Elder	
H71	<i>Corylus avellana</i>	Hazel	No further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
H72	<i>Corylus avellana</i>	Hazel	Six woody species Further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Fraxinus excelsior</i>	Ash	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina agg</i>	Dog rose	
	<i>Sambucus nigra</i>	Elder	
H73	<i>Crataegus monogyna</i>	Hawthorn	Six woody species Adjacent to footpath Further survey required
	<i>Fraxinus excelsior</i>	Ash	
	<i>Hedera helix</i>	Ivy	
	<i>Prunus spinosa</i>	Blackthorn	
	<i>Rosa canina agg.</i>	Dog rose	
	<i>Salix sp</i>	Willow sp	
	<i>Sambucus nigra</i>	Elder	
H74	<i>Crataegus monogyna</i>	Hawthorn	No further survey required
H75	<i>Crataegus monogyna</i>	Hawthorn	No further survey required
	<i>Fraxinus excelsior</i>	Ash	
	<i>Rosa canina agg.</i>	Dog Rose	
	<i>Salix species</i>	Willow species	
H76	<i>Acer pseudoplatanus</i>	Sycamore	No further survey required
	<i>Crataegus monogyna</i>	Hawthorn	

	<i>Hedera helix</i>	Ivy	
	<i>Solanum dulcamara</i>	Bittersweet	
	<i>Urtica dioica</i>	Nettle	
H77	<i>Avena sp.</i>	Oat species	No further survey required
	<i>Crataegus monogyna</i>	Hawthorn	
	<i>Rubus fruticosus agg.</i>	Bramble	
	<i>Rumex sanguineus</i>	Wood Dock	
	<i>Urtica dioica</i>	Nettle	

Drawing

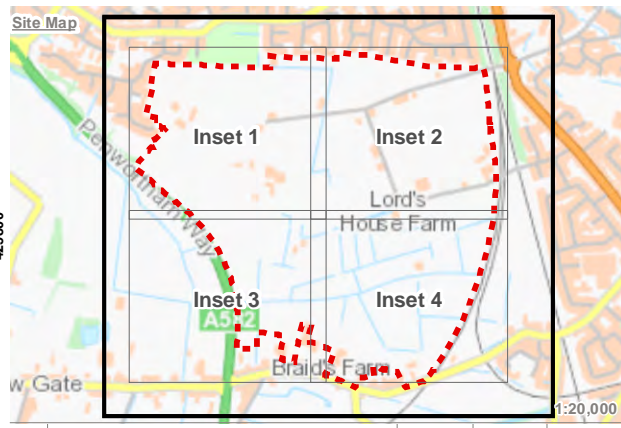
G6900.012 (1-5) Hedgerow Assessment

G6900.013 Important Hedgerows



- KEY**
- ▭ Survey boundary
 - Species-poor intact hedge
 - Conifer hedge
 - - - Species-poor defunct hedge
 - + + + Species-poor hedge and trees
 - ▲▲▲ Native species-rich intact hedge
 - ▲▲▲ Native species-rich defunct hedge
 - ▲▲▲ Native species-rich hedge and trees

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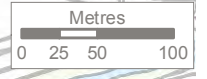
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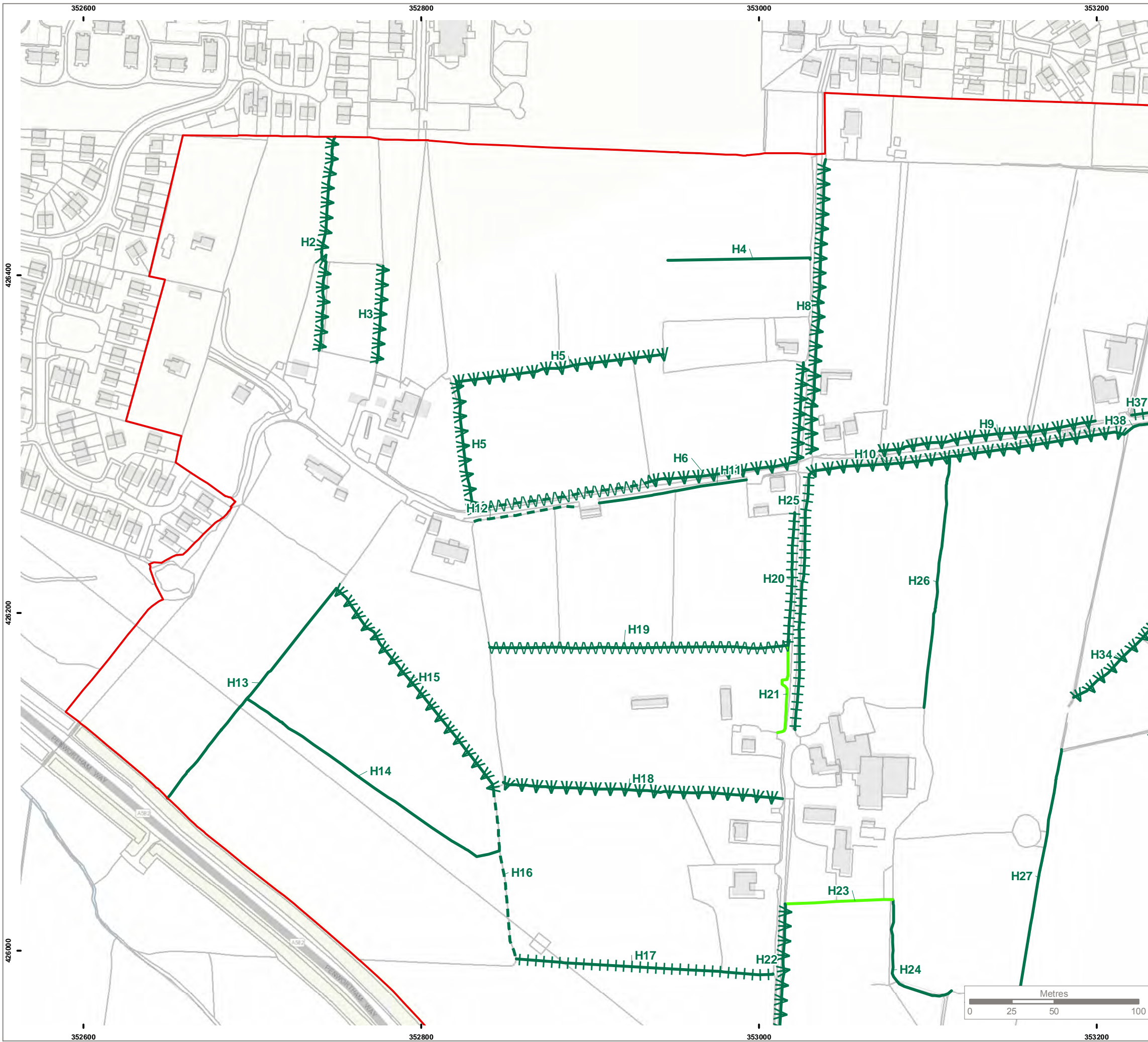
Project
Pickerings Farm, Penwortham

Title
Hedgerow Assessment Overview

Drawing Number
G6900.012 Sheet 1 of 5

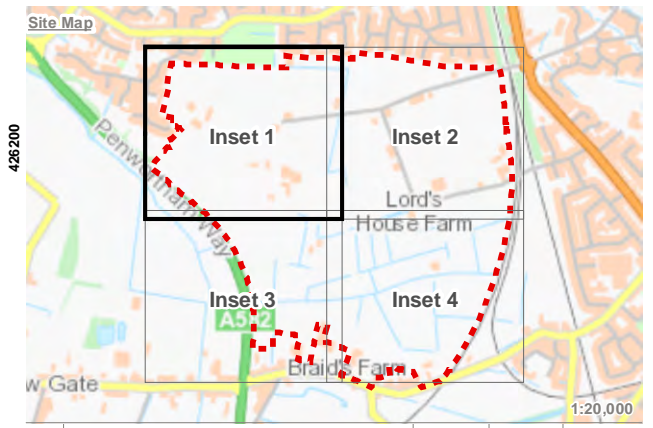
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- KEY**
- Survey boundary
 - Species-poor intact hedge
 - Conifer hedge
 - Species-poor defunct hedge
 - + Species-poor hedge and trees
 - / Native species-rich intact hedge
 - / Native species-rich defunct hedge
 - /+ Native species-rich hedge and trees

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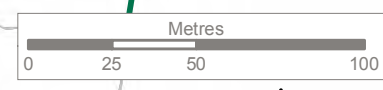
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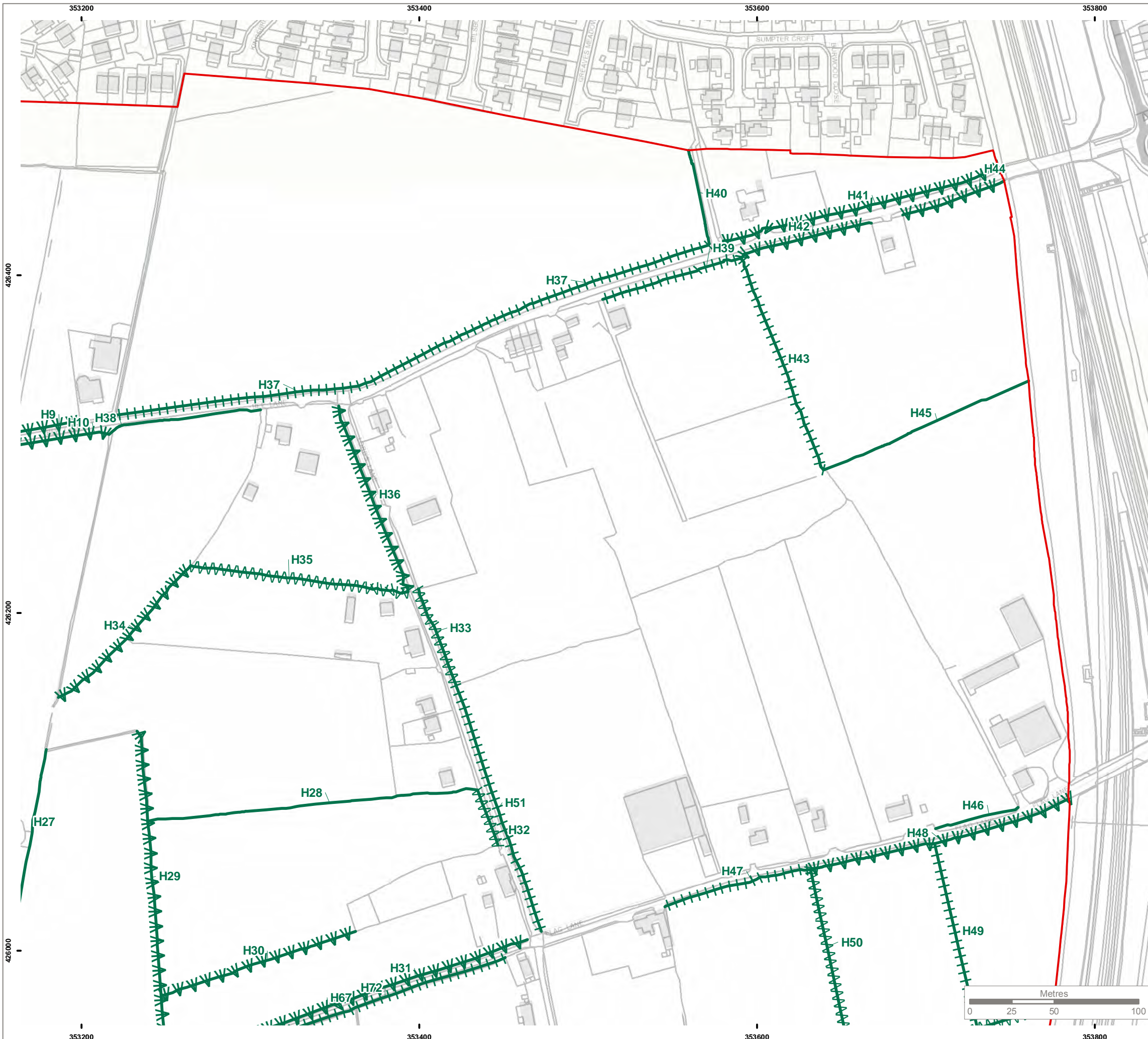
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Title
Hedgerow Assessment Inset 1

Drawing Number
G6900.012 Sheet 2 of 5

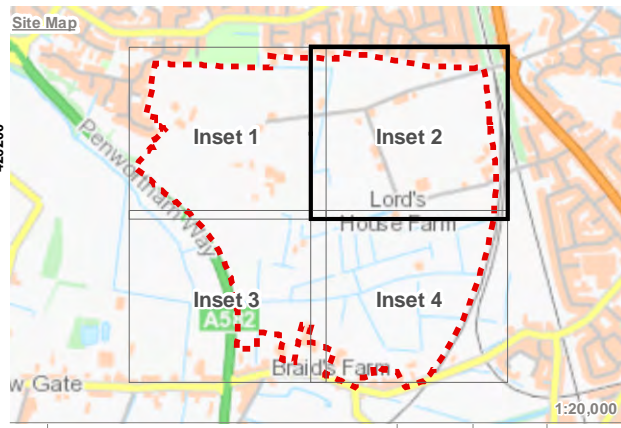
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- KEY**
- Survey boundary
 - Species-poor intact hedge
 - ++ Species-poor hedge and trees
 - // Native species-rich intact hedge
 - // Native species-rich hedge and trees

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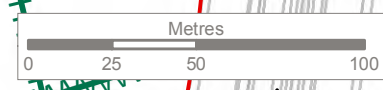
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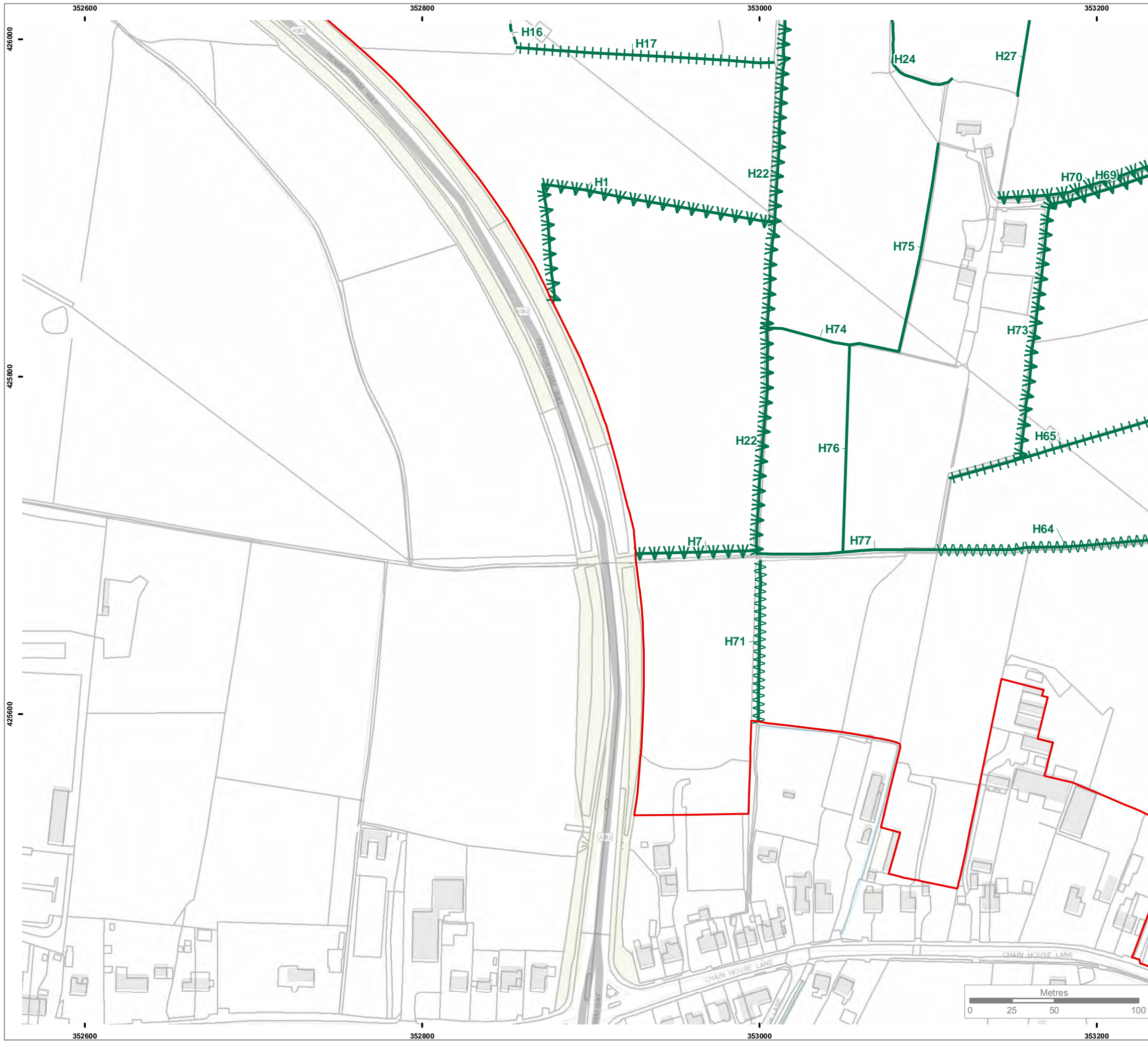
Project
Pickerings Farm, Penwortham

Title
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Drawing Number
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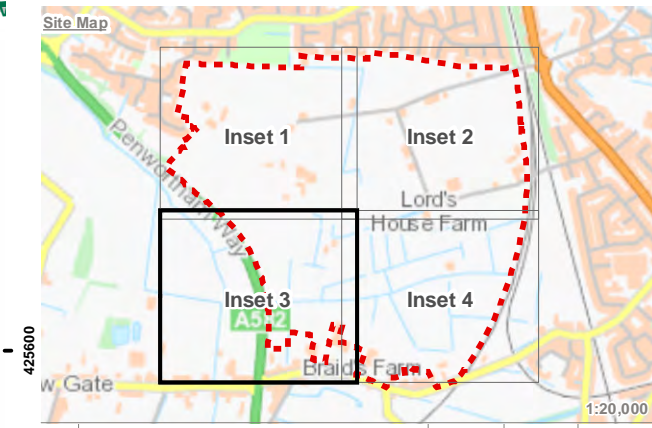
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- KEY**
- Survey boundary
 - Species-poor intact hedge
 - Species-poor defunct hedge
 - | Species-poor hedge and trees
 - || Native species-rich intact hedge
 - ||| Native species-rich hedge and trees

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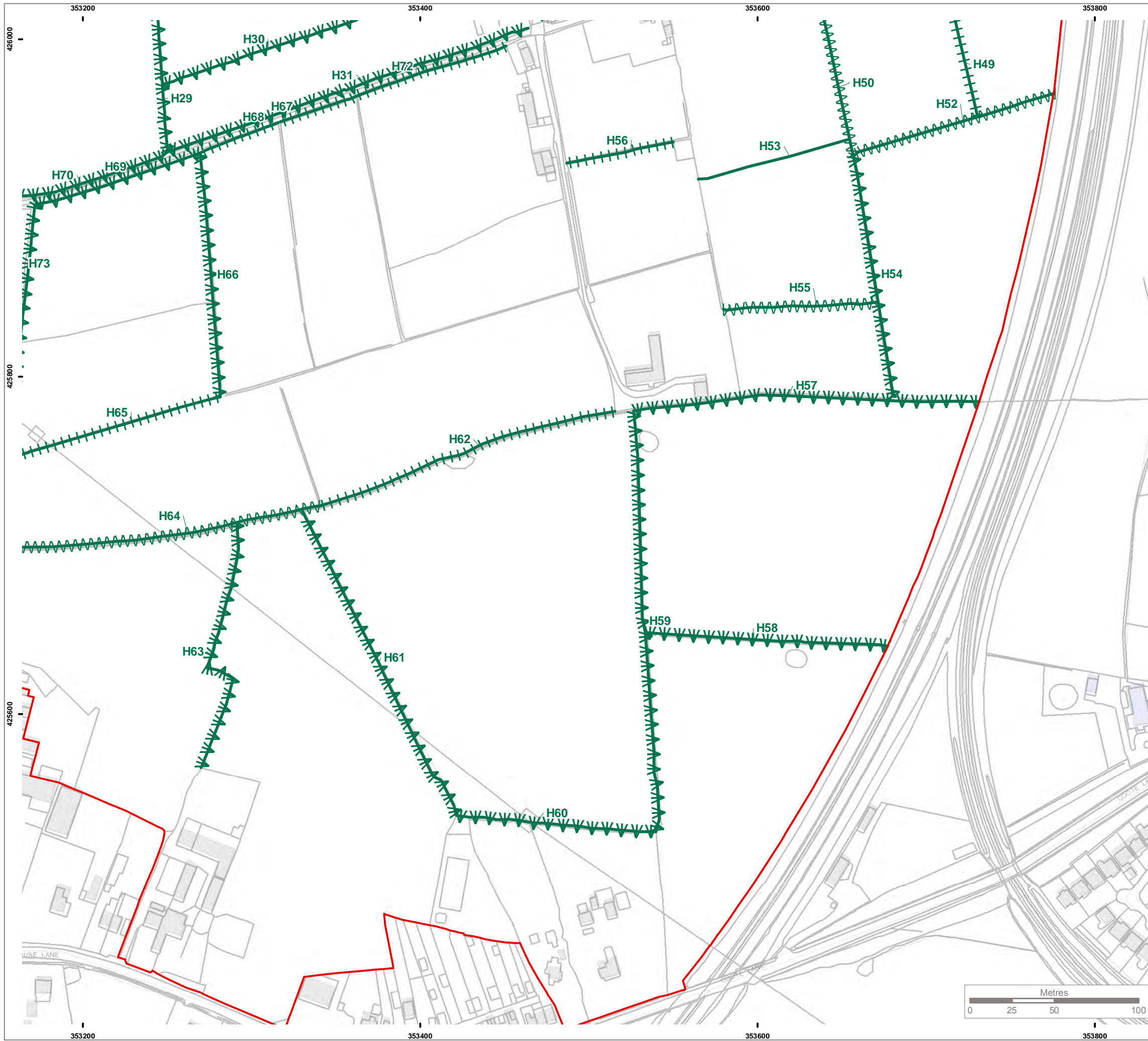
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Title
Hedgerow Assessment Inset 3

Drawing Number
G6900.012 Sheet 4 of 5

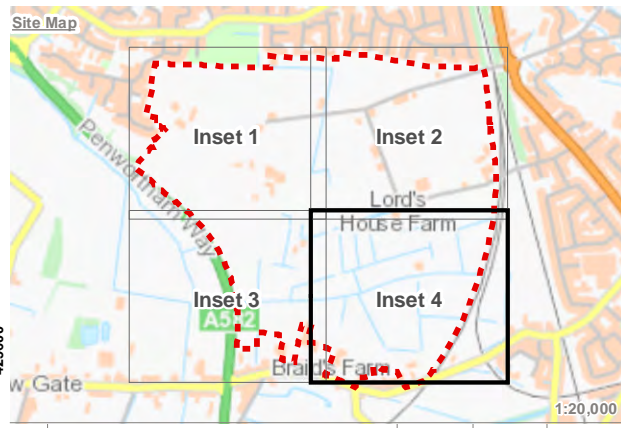
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- KEY**
- Survey boundary
 - Species-poor intact hedge
 - Species-poor hedge and trees
 - Native species-rich intact hedge
 - Native species-rich hedge and trees

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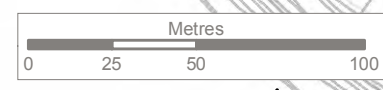
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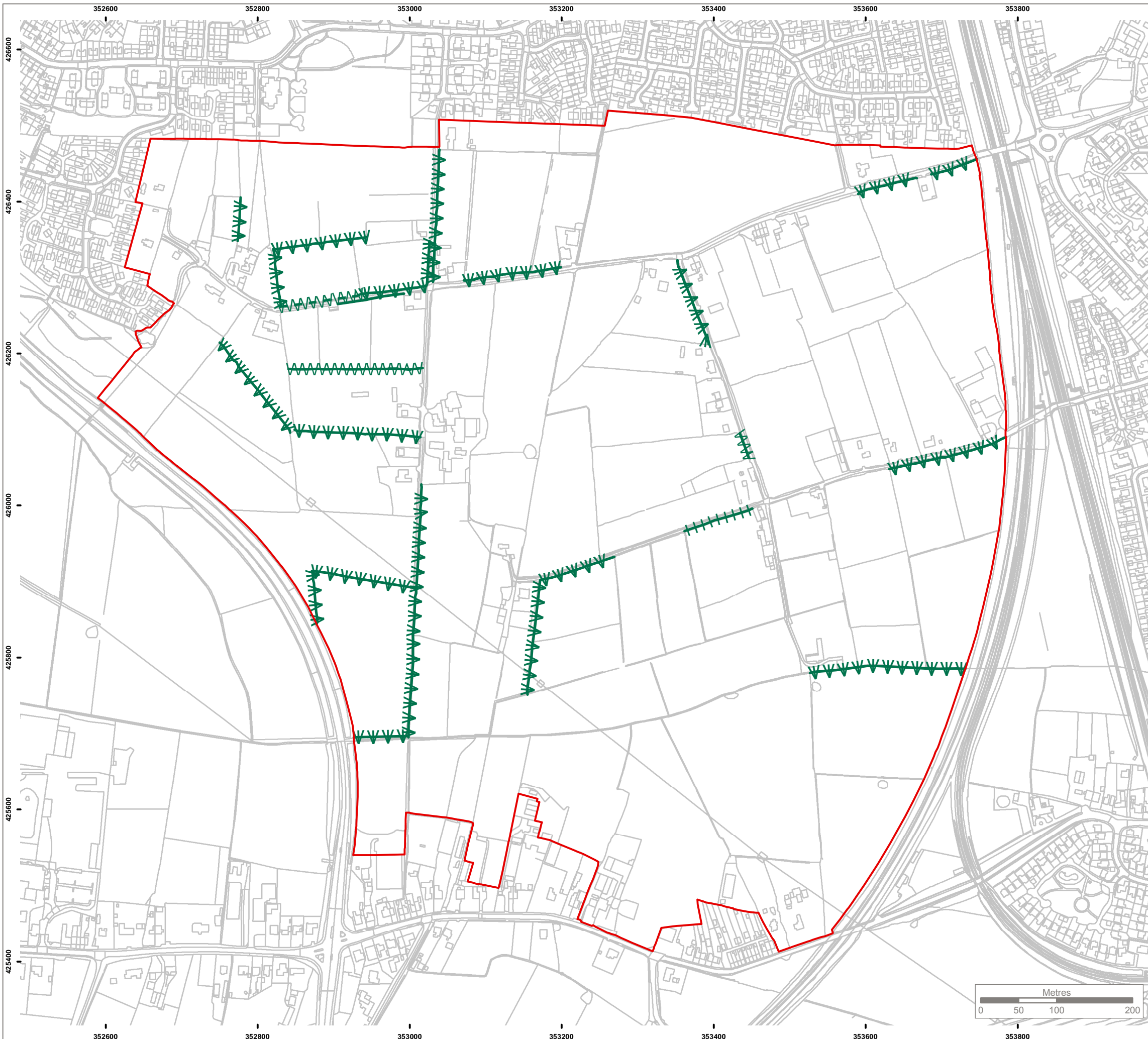
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Title
Hedgerow Assessment Inset 4

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G6900.012 Sheet 5 of 5

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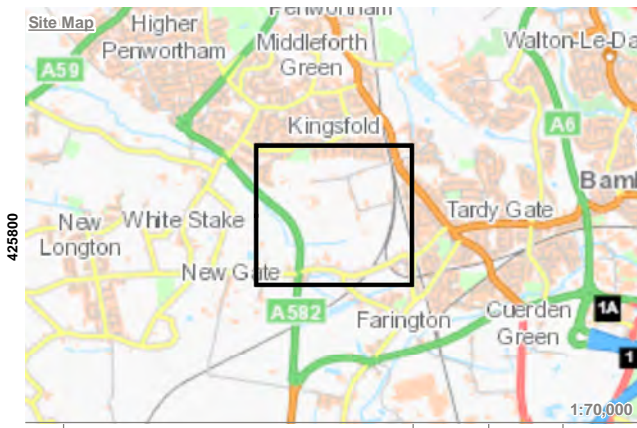




- KEY**
- Survey boundary
 - Hedgerows of Significant Importance**
 - Native species-rich intact hedge
 - Species-poor intact hedge
 - Native species-rich defunct hedge
 - Native species-rich hedge and trees
 - Species-poor hedge and trees

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Title
Hedgerows of Significant Importance

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Appendix 7.4

Wintering Birds Survey Report



THE
ENVIRONMENT
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PICKERINGS FARM PENWORTHAM WINTER BIRD SURVEY

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Offices in Warrington, Market Harborough, Gateshead, London and Cornwall

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APPENDICES

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- APPENDIX B: Winter Bird Survey Weather Data

DRAWINGS

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- G6579.007 WBS Transect Visit 2 - 03.10.17
- G6579.008 WBS Transect Visit 3 - 11.10.17
- G6579.009 WBS Transect Visit 4 - 25.10.17
- G6579.010 WBS Transect Visit 5 - 06.12.17
- G6579.011 WBS Transect Visit 6 - 21.12.17
- G6579.012 WBS Transect Visit 7 - 26.01.18
- G6579.013 WBS Transect Visit 8 - 14.02.18
- G6579.014 WBS Transect Visit 9 - 23.01.18

1.0 Introduction

- 1.1 TEP was commissioned in September 2017 by Taylor Wimpey North West and Homes England to determine the usage of the site, known as Pickerings Farm in Penwortham, by overwintering birds.
- 1.2 Taylor Wimpey and Homes England are proposing a joint venture for the construction of a large-scale housing development with associated infrastructure and community facilities at the site.

Site Description

- 1.3 The site comprises pasture and arable fields bounded by hedgerows with residential housing and farm buildings and fragments of other habitats including woodland, scrub, grassland and water bodies. Existing residential development within Penwortham bounds the site to the north with Penwortham Way to the west, railway to the east and residential development along Chain House Lane to the south. The central grid reference of the site is SD 53329 25884 and the location of the site is shown in Figure 1 below.

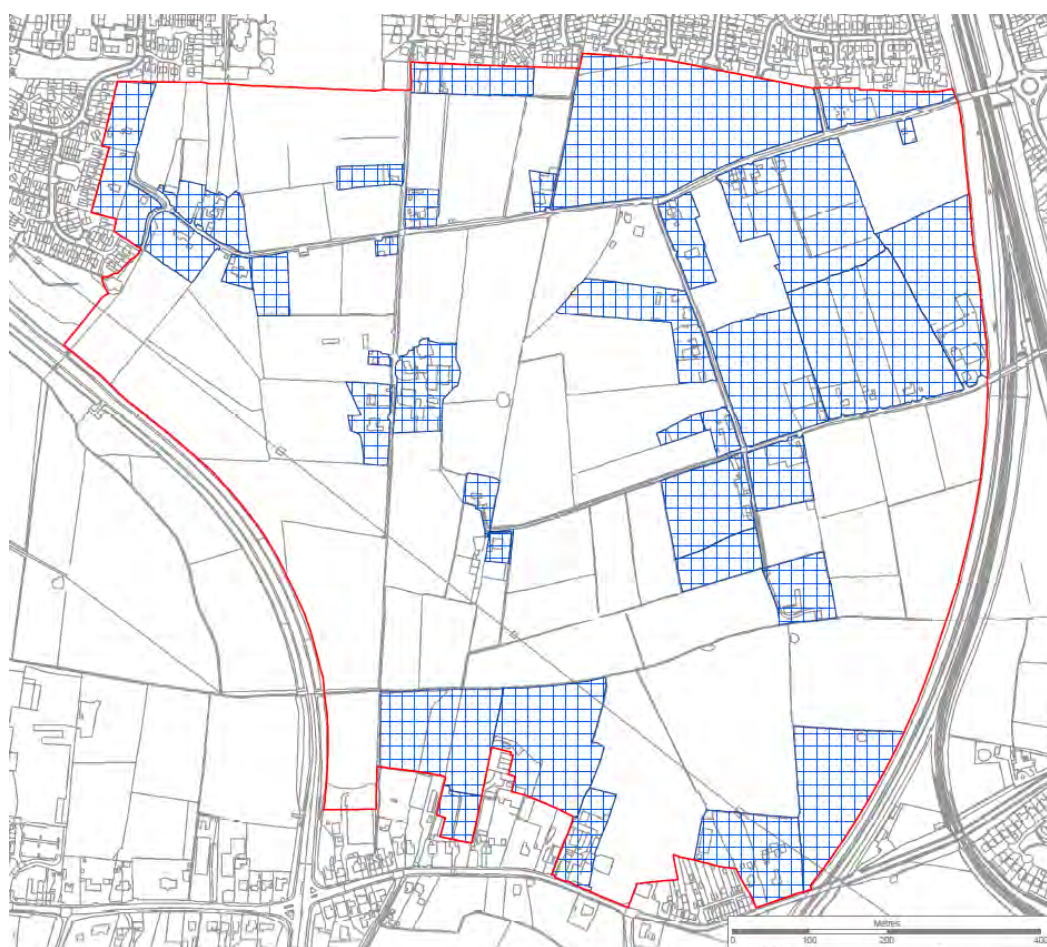


Figure 1: Site Location Plan. Contains Ordnance Survey data © Crown copyright and database right 2018.

Site Suitability for Overwintering Birds

- 1.4 The arable and grassland habitats within the site provide suitable refuge and foraging opportunities for overwintering birds, particularly for waterfowl such as geese and ducks. Hedgerows throughout the site provide suitable foraging habitat for small passerine species.

2.0 Method

Winter Bird Survey

- 2.1 The winter bird survey comprised nine visits between September 2017 and February 2018. October to March forms the winter period where species of potential interest for this site associated with nearby European protected sites (e.g. Ribble and Alt Estuaries Special Protection Area (SPA)/ Ramsar and Martin Mere SPA/ Ramsar) are present in significant numbers in the wider area. The bird migration season also includes September and April.
- 2.2 During each survey visit a transect route was walked throughout the proposed development site and surrounding area (up to 500m away). The transect surveys lasted for between four and six hours.
- 2.3 Birds recorded during the transect survey included: all wader, wildfowl and raptor species; Birds of Conservation Concern (BoCC) Amber or Red List species; priority species listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006); and protected species listed on Schedule 1 of the Wildlife and Countryside Act (1981, as amended). Observations were recorded directly onto the survey map.

3.0 Results

Designated Sites

- 3.1 There are four internationally designated sites in the area surrounding the proposed development site: the Ribble and Alt Estuaries SPA and Ramsar site is 6.2km west of the site and Martin Mere SPA and Ramsar site is 15km south west of the site

Ribble & Alt Estuaries SPA/Ramsar

- 3.2 This designated area covers 12,300 ha and comprises two estuaries (the Ribble estuary being by far the largest). It is dominated by mud and sand-flats, saltmarsh and coastal grazing marsh.

- 3.3 The SPA qualifies under Article 4.1 for being regularly used by 1% or more of the GB population of the following species:

- Common tern (breeding)
- Ruff (breeding)
- Bar-tailed godwit (over winter)
- Bewick's swan (over winter)
- Golden plover (over winter)
- Whooper swan (over winter)

- 3.4 The SPA also qualifies under Article 4.2 for supporting important populations of several wintering bird species, including pink-footed goose, black-tailed godwit, oystercatcher and shelduck.

Martin Mere SPA/Ramsar

- 3.5 This protected area covers 120 ha and is a restored wetland site with a complex of wetland habitats, including: open water, seasonally flooded marsh and damp neutral hay meadows.

- 3.6 This SPA qualifies under Article 4.1 for supporting populations of European importance of the following species:

- Bewick's swan
- Whooper swan

- 3.7 The SPA also qualifies under Article 4.2 for supporting wintering populations of the following species:

- Pink-footed goose

Winter Bird Survey

- 3.8 The results of the 2017-2018 winter bird survey are illustrated in Drawings G6579.006 to G6579.014. Counts for each species during each survey visit are presented in Table 1.

SPA/Ramsar Species

- 3.9 During the winter bird survey no SPA/Ramsar qualifying species for the nearby designated sites were recorded on the ground within 500m of the proposed site boundary, although a flock of five pink-footed geese were recorded flying over the site in a north westerly direction during visit four on the 25th October 2017.

Other Raptor, Waterbird, Protected and BoCC Species

- 3.10 Twenty one target species were recorded on the ground within 500m of the proposed development site during the winter bird survey.
- 3.11 The majority of bird species recorded during the survey were passerines. Species such as dunnock, house sparrow, bullfinch and redwing were recorded in hedgerows, trees and scrub along field boundaries and residential roads and gardens.
- 3.12 A flock of 58 linnet were recorded feeding in a stubble field within the proposed site boundary, during survey visit eight on the 14th February 2018.
- 3.13 Up to 12 tree sparrows were recorded during the last 5 visits foraging in hedgerows within the northern half of the site. A single yellowhammer was recorded on 14th February 2018.
- 3.14 Black-headed gulls were recorded during seven survey visits in a community playing field just beyond the north west corner of the site. A flock of 55 black-headed gull were also recorded on farmland in the south east of the proposed site during visit two on the 3rd October 2017.
- 3.15 An individual snipe was recorded in farmland south of Nib Lane during survey visit three on the 11th October 2017.

Table 1: Peak counts of wader, wildfowl, other waterbird, raptors, protected and BoCC species on the ground within 500m of the proposed development site boundary during the transect survey.

Species	Site Boundary (S) / Site Boundary inc. 500m Buffer (SBU)	Visit Number									Peak Count (date recorded)
		1	2	3	4	5	6	7	8	9	
Black-headed Gull	S								50		50 (14/2/18)
	SBU		63	25	23	16	5	16	50		63 (3/10/18)
Bullfinch	S	4		3	1	5	3	2		3	5 (6/12/17)
	SBU	6		3	1						6 (27/09/17)
Buzzard	S				3						3 (25/10/17)
	SBU				3						3 (25/10/17)
Common Gull	S		1								1 (03/10/17)
	SBU		1								1 (03/10/17)

Species	Site Boundary (S) / Site Boundary inc. 500m Buffer (SBU)	Visit Number									Peak Count (date recorded)
		1	2	3	4	5	6	7	8	9	
Dunnock	S	8	4	7	9	7	7	14	3	13	14 (26/01/18)
	SBU	19	5	9	10	8	9	14	5	20	20 (23/03/2018)
Grey Wagtail	S							1			1 (26/01/18)
	SBU							1			1 (26/01/18)
Herring Gull	S							1			1 (26/01/18)
	SBU							1			1 (26/03/180)
House Sparrow	S	14	5	19	9	Col	col	14	6	26	26 (23/03/18)
	SBU	22	8	26	10	Col	Col	24	8	38	38 (23/03/18)
Kestrel	S				2	1					2 (25/10/17)
	SBU				2	1					2 (25/10/17)
Linnet	S				13				58		58 (14/02/18)
	SBU				13				58		58 (14/02/18)
Mallard	S									4	4 23/03/18
	SBU									4	4 (23/03/18)
Meadow Pipit	S					4					4 (06/12/17)
	SBU					4					4 (06/12/17)
Redwing	S			12	52	38	42	14	18		52 (25/10/17)
	SBU			12	52	52	42	39	18		52 (25/10/17)
Reed Bunting	S				1						1 (25/10/17)
	SBU				1						1 (25/10/17)
Skylark	S										
	SBU							1			1 (26?01/18)
Snipe	S			1							1 (11/10/17)
	SBU			1							1 (11/10/17)
Song Thrush	S			6	1	3	4	2	2	4	6 (11/10/17)
	SBU			6	1	3	4	3	2	5	6 (11/10/17)

Species	Site Boundary (S) / Site Boundary inc. 500m Buffer (SBU)	Visit Number									Peak Count (date recorded)
		1	2	3	4	5	6	7	8	9	
Starling	S				10	8	55	14	94		94 (14/02/18)
	SBU				10	8	55	14	94	1	94 (14/02/18)
Stock Dove	S										
	SBU					2	2				2 (06/12/17 and 21/02/18)
Tree Sparrow	S					3	4	8	1	12	12 (23/03/18)
	SBU					3	4	8	1	12	12 (23/03/18)
Yellow-hammer	S								1		1 (14/02/18)
	SBU								1		1 (14/02/18)

S: Site; SBU: Site including 500m buffer

Visit 1: 27th September 2017; Visit 2: 3rd October 2017; Visit 3: 11th October 2017; Visit 4: 25th October 2017

Visit 5: 6th December 2017; Visit 6: 21st December 2017; Visit 7: 26th January 2018; Visit 8: 14th February 2018;

Visit 9: 23rd March 2018

4.0 Conclusions

- 4.1 The proposals at Pickerings Farm, Penwortham concern the construction of a large-scale housing development with associated infrastructure and community facilities at the site.
- 4.2 There are four internationally designated sites in the area surrounding the proposed development site: the Ribble and Alt Estuaries SPA and Ramsar site and Martin Mere SPA and Ramsar site.
- 4.3 Nine winter bird survey visits were conducted between September 2017 and March 2018 to ensure the whole winter bird season was covered.
- 4.4 During the winter bird survey no SPA or Ramsar qualifying species for the nearby designated sites were recorded on the ground within 500m of the proposed site boundary, although a small number of pink-footed geese were recorded flying over the site during one of the survey visits. Due to the lack of usage of the site by SPA or Ramsar species, the proposed development will not have any impact on these protected sites.
- 4.5 Twenty one other raptor, waterbird, protected and BoCC species were recorded on the ground within 500m of the proposed site boundary during the winter bird survey. The majority of these were BoCC passerine species supported by the hedgerows and open fields throughout the site.
- 4.6 Removal of hedgerows within the site would result in a reduction in sheltering and foraging opportunities for local bird populations.

5.0 Recommendations

- 5.1 Hedgerows within the site should be retained where possible and protected from development in accordance with the recommendations made in the Hedgerow Assessment Report (TEP Report Ref: 6900.003).

APPENDIX A: Designated Site Citations

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1. Name and address of the compiler of this form:

Joint Nature Conservation Committee

Monkstone House

City Road

Peterborough

Cambridgeshire PE1 1JY

UK

Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948

Email: RIS@JNCC.gov.uk

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DD MM YY

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

Designated: 28 November 1985

3. Country:

UK (England)

4. Name of the Ramsar site:

Martin Mere

5. Designation of new Ramsar site or update of existing site:

This RIS is for: Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area:

** Important note: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site included:

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) **hard copy** (required for inclusion of site in the Ramsar List): *yes* ✓ -or- *no* ☐;
- ii) **an electronic format** (e.g. a JPEG or ArcView image) *Yes*
- iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** *yes* ✓ -or- *no* ☐;

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary is the same as, or falls within, an existing protected area.

For precise boundary details, please refer to paper map provided at designation

8. Geographical coordinates (latitude/longitude):

53 37 24 N 02 52 37 W

9. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Southport

Martin Mere lies between Ormskirk and Southport, close to the village of Burscough.

Administrative region: Lancashire

10. Elevation (average and/or max. & min.) (metres): 11. Area (hectares): 119.89

Min.	3
Max.	4
Mean	4

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

Martin Mere occupies part of a former lake and mire which extended over some 1300 hectares of the Lancashire Coastal Plain during the 17th century. In 1972 the Wildfowl and Wetlands Trust purchased 147 hectares of the former Holcrofts Farm, consisting mainly of rough damp pasture, with the primary aim of providing grazing and roosting opportunities for wildfowl. Since acquisition the rough grazed pastures have been transformed by means of positive management into a wildfowl refuge of international importance. Areas of open water with associated muddy margins have been created, whilst maintaining seasonally flooded marsh and reed swamp habitats via water level control. In addition large areas of semi-improved damp grassland, unimproved species rich damp grassland and rush pasture have been maintained and enhanced via appropriate grazing management. Of the pastures the most botanically important are those species rich areas supporting whorled caraway, present here at one of very few sites in northern England. Such pastures are nationally important. However, the outstanding importance of Martin Mere is as a refuge for its large and diverse wintering, passage and breeding bird community. In September 2002, an additional 63 hectares of land were purchased on the southern most part of the refuge at Woodend Farm, with the aid of the Heritage Lottery Fund, to restore arable land to a variety of wetland habitats including seasonally flooded grassland, reedbed, wet woodland and open water habitats. These are all key Biodiversity Action Plan habitats within the Lancashire Plain and Valleys Natural Area.

13. Ramsar Criteria:

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

5, 6

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Ramsar criterion 5

Assemblages of international importance:

Species with peak counts in winter:

25306 waterfowl (5 year peak mean 1998/99-2002/2003)

Ramsar criterion 6 – species/populations occurring at levels of international importance.

Qualifying Species/populations (as identified at designation):

Species with peak counts in spring/autumn:

Pink-footed goose , <i>Anser brachyrhynchus</i> , Greenland, Iceland/UK	8186 individuals, representing an average of 3.4% of the population (5 year peak mean 1998/9-2002/3)
--	--

Species with peak counts in winter:

Tundra swan , <i>Cygnus columbianus bewickii</i> , NW Europe	61 individuals, representing an average of 0.7% of the GB population (5 year peak mean 1998/9- 2002/3)
Whooper swan , <i>Cygnus cygnus</i> , Iceland/UK/Ireland	1320 individuals, representing an average of 6.3% of the population (5 year peak mean 1998/9-2002/3)
Eurasian wigeon , <i>Anas penelope</i> , NW Europe	3062 individuals, representing an average of 0.7% of the GB population (5 year peak mean 1998/9-2002/3)
Northern pintail , <i>Anas acuta</i> , NW Europe	415 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1998/9- 2002/3)

Contemporary data and information on waterbird trends at this site and their regional (sub-national) and national contexts can be found in the Wetland Bird Survey report, which is updated annually. See www.bto.org/survey/webs/webs-alerts-index.htm.

Details of bird species occurring at levels of National importance are given in Section 22

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

Atlantic

b) biogeographic regionalisation scheme (include reference citation):
Council Directive 92/43/EEC

16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	acidic, sand, mud, clay, alluvium, peat, nutrient-poor, sedimentary, sandstone
Geomorphology and landscape	lowland, coastal, floodplain
Nutrient status	eutrophic, highly eutrophic
pH	alkaline, circumneutral
Salinity	fresh
Soil	mainly organic
Water permanence	usually permanent, usually seasonal / intermittent
Summary of main climatic features	Annual averages (Blackpool, 1971–2000) (www.metoffice.com/climate/uk/averages/19712000/sites/blackpool.html) Max. daily temperature: 12.9° C Min. daily temperature: 6.4° C Days of air frost: 40.3 Rainfall: 871.3 mm Hrs. of sunshine: 1540.3

General description of the Physical Features:

Martin Mere comprises open water, seasonally-flooded marsh and damp, neutral hay meadows overlying deep peat.

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

Martin Mere comprises open water, seasonally-flooded marsh and damp, neutral hay meadows overlying deep peat.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Other, Recharge and discharge of groundwater, Flood water storage / desynchronisation of flood peaks

19. Wetland types:

Human-made wetland, Inland wetland

Code	Name	% Area
Ts	Freshwater marshes / pools: seasonal / intermittent	78
O	Freshwater lakes: permanent	13.7
U	Peatlands (including peat bogs swamps, fens)	7.1
Xf	Freshwater, tree-dominated wetlands	1.2

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

Large areas of open water with muddy margins associated with seasonally flooded grazing marsh and reed swamp. There are also large areas of surrounding damp species-rich grassland and semi-improved areas of damp grassland maintained by grazing.

Ecosystem services

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Nationally important species occurring on the site.**Higher Plants.**

Carum verticillatum, Rumex maritimus, Oenanthe fistulosa, Oenanthe aquatica, Lemna gibba

Lower Plants.

Leucagaricus serenus

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Birds**Species currently occurring at levels of national importance:****Species with peak counts in spring/autumn:**

Eurasian teal , <i>Anas crecca</i> , NW Europe	3494 individuals, representing an average of 1.8% of the GB population (5 year peak mean 1998/9-2002/3)
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Species with peak counts in winter:

Common shelduck , <i>Tadorna tadorna</i> , NW Europe	936 individuals, representing an average of 1.1% of the GB population (5 year peak mean 1998/9-2002/3)
Common pochard , <i>Aythya ferina</i> , NE & NW Europe	829 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9-2002/3)
Ruff , <i>Philomachus pugnax</i> , Europe/W Africa	139 individuals, representing an average of 19.8% of the GB population (5 year peak mean 1998/9-2002/3)
Spotted redshank , <i>Tringa erythropus</i> , Europe/W Africa	2 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1991/92-1995/96)

Species Information

None reported

23. Social and cultural values:

Describe if the site has any general social and/or cultural values e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

Aesthetic

Aquatic vegetation (e.g. reeds, willows, seaweed)
 Archaeological/historical site
 Environmental education/ interpretation
 Livestock grazing
 Non-consumptive recreation
 Scientific research
 Tourism

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? No

If Yes, describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

Ownership category	On-site	Off-site
Non-governmental organisation (NGO)	+	
Private		+
Other	+	+

25. Current land (including water) use:

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Current scientific research	+	+
Arable agriculture (unspecified)		+
Permanent arable agriculture		+
Grazing (unspecified)	+	+
Rough or shifting grazing	+	+
Permanent pastoral agriculture	+	+
Flood control		+

26. Factors (past, present or potential) adversely affecting the site’s ecological character, including changes in land (including water) use and development projects:

Explanation of reporting category:

1. Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.
2. Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.

NA = Not Applicable because no factors have been reported.

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
No factors reported	NA				

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?

Is the site subject to adverse ecological change? NO

27. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site/ Area of Special Scientific Interest (SSSI/ASSI)	+	
Special Protection Area (SPA)	+	
Land owned by a non-governmental organisation for nature conservation	+	
Site management statement/plan implemented	+	

b) Describe any other current management practices:

The management of Ramsar sites in the UK is determined by either a formal management plan or through other management planning processes, and is overseen by the relevant statutory conservation agency. Details of the precise management practises are given in these documents.

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

29. Current scientific research and facilities:

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Fauna.

Numbers of migratory and wintering wildfowl and waders are monitored annually as part of the national Wetland Birds Survey (WeBS) organised by the British Trust for Ornithology, Wildfowl &

Wetlands Trust, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee.

Considerable amounts of research continues to undertaken by the Wildfowl and Wetlands Trust at Martin Mere on the feeding/breeding and behavioural ecology of individual species of wildfowl, in addition to fresh water grazing marsh management.

Environment.

Daily weather records, water level and water quality monitoring is undertaken by wardening staff.

Habitat.

Invertebrate and plant species records are collected by volunteers on a regular basis.

Miscellaneous.

Visitor and educational usage of the Refuge is monitored on a daily basis at this extremely popular and well visited Wildfowl & Wetlands Trust Refuge.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

WWT employs a number of warden-teacher staff who undertake environmental education work and escort large numbers of school parties around the refuge throughout most of the year. Various educational programmes have also been run for adults in recent years. WWT has excellent visitor and schoolroom facilities as part of its Interpretative Centre on the Refuge.

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Activities, Facilities provided and Seasonality.

The WWT Refuge at Martin Mere has excellent bird watching and interpretative facilities, including toilets a tea room/restaurant and shop for the selling of WWT goods and other commodities, as well as educational/interpretative materials and an adventure playground based on a bird theme. In addition its waterfowl collection allows close contact with many species of duck, goose and swan from all over the world.

The latter compliments large areas of refuge which remain free from disturbance for wintering, passage and breeding wildfowl and wading birds. The latter being overlooked from many well constructed tower hides. The Refuge including its waterfowl gardens are extremely well visited throughout the year by large numbers of visitors and parties of school children alike. The Refuge features in tourist literature and is well known throughout the country. People management is of the highest order and from a tourist point of view is sustainable without causing detrimental effects upon the wildlife interest of the refuge.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs,
European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay, Bristol,
BS1 6EB

33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House,
Northminster Road, Peterborough, PE1 1UA, UK

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Site-relevant references

Phase I Habitat Survey

Cranswick, PA, Waters, RJ, Musgrove, AJ & Pollitt, MS (1997) *The Wetland Bird Survey 1995–96: wildfowl and wader counts*. British Trust for Ornithology, Wildfowl and Wetlands Trust, Royal Society for the Protection of Birds & Joint Nature Conservation Committee, Slimbridge

Environment Agency (1997) *Martin Mere Water Level Management Plan*. Environment Agency

Forshaw, DW (****) *Wild geese and swans in Lancashire 1995–1998*

Gray, LC (1980) *Environmental bibliography of north-west England (vice-counties 59, 60, 69 and 70) 1850–1979*. University of Lancaster Library, Lancaster (Library Occasional Paper, No. 10)

Hale, WG (1985) *Martin Mere. Its history and natural history*. Causeway Press, Ormskirk

Huddart, D & Glasser, NF (2002) *Quaternary of northern England*. Joint Nature Conservation Committee, Peterborough (Geological Conservation Review Series, No. 25)

Musgrove, AJ, Pollitt, MS, Hall, C, Hearn, RD, Holloway, SJ, Marshall, PE, Robinson, JA & Cranswick, PA (2001) *The Wetland Bird Survey 1999–2000: wildfowl and wader counts*. British Trust for Ornithology, Wildfowl and Wetlands Trust, Royal Society for the Protection of Birds & Joint Nature Conservation Committee, Slimbridge.
www.wwt.org.uk/publications/default.asp?PubID=14

Nature Conservancy Council (1987) *Invertebrate Site Register – Lancashire*. Nature Conservancy Council

Stroud, DA, Chambers, D, Cook, S, Buxton, N, Fraser, B, Clement, P, Lewis, P, McLean, I, Baker, H & Whitehead, S (eds.) (2001) *The UK SPA network: its scope and content*. Joint Nature Conservation Committee, Peterborough (3 vols.)
www.jncc.gov.uk/UKSPA/default.htm

Wildfowl and Wetlands Trust (****) *Draft Management Plan*. Wildfowl and Wetlands Trust

Please return to: **Ramsar Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**
Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • email: ramsar@ramsar.org

This citation / map relates to a site entered in
the Register of European sites for Great Britain.
Register reference number UK 02511
Date of registration 30 JAN 1996

Signed Bull
on behalf of the Secretary of State for the Environment

File Ref: SD 41/2

COUNTY: LANCASHIRE

SITE NAME: MARTIN MERE, BURSCOUGH

DISTRICT: WEST LANCASHIRE

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of
the Wildlife and Countryside Act 1981

Local Planning Authority: West Lancashire District Council

National Grid Reference: SD 420146 Area: 119.3 (ha.) 294.8 (ac.)

Ordnance Survey Sheet 1:50,000: 108 1:10,000: SD 41 NW, SW

Date Notified (Under 1949 Act): 1979 Date of Last Revision: -

Date Notified (Under 1981 Act): 1984 Date of Last Revision: 1984

Other Information:

1. The site boundary has been amended by minor corrections. The area has also been corrected as the acreage given on the 1979 notification was incorrect.
2. This is a Wildfowl Trust Reserve.

Reasons for Notification:

Martin Mere is a low-lying wetland complex of open-water, marsh and grassland habitats overlying deep peat. It is situated to the north of Burscough and occupies part of the site of the old Martin Mere which, prior to drainage, was probably the largest lake in Lancashire. Following acquisition by the Wildfowl Trust in 1974, the rough-grazed pasture of a decade ago has been transformed by positive management techniques into a reserve of international importance for waterfowl.

The principal interest of the site lies in the numbers of migrant birds which it supports during the winter months, with overall numbers of wildfowl regularly in excess of 10,000 and over 100 different species using the Mere as a wintering ground. Of particular importance are the wintering populations of pink-footed geese (up to 18,000), teal (5,000-10,000) and pintail (1000-2500) which, by representing more than 1% of their total NW European populations, reinforce the international status of this site.

Martin Mere also supports nationally important numbers of Bewick's swan, gadwall, mallard, whooper swan and shoveler with numbers regularly well in excess of 1% of the total British wintering population. Nationally exceptional numbers of snipe, Lapwing and black-tailed godwit have been recorded and the wintering flock of ruff (350 on average) is believed to be the largest in Britain.

The breeding community is diverse, totalling over 35 species, and includes important breeding populations of greylag goose (representing over 1% of the British breeding population), gadwall, mallard and snipe.

In total, over 150 species of birds have been recorded at the site and this includes several unusual species, such as avocet, lesser yellowlegs, pratincole, marsh sandpiper and white-winged black tern which have been recorded on passage. Martin Mere is, thus, of exceptional value for the wealth and diversity of its avifauna.

Additional scientific interest is provided by the presence of two locally important plant species: water dropwort (Oenanthe fistulosa) which is regionally scarce and whorled caraway (Carum verticillatum) found here in abundance in its only Lancashire locality and one of very few sites in the north of England.



European Site Conservation Objectives for Martin Mere Special Protection Area Site Code: UK9005111

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

A037 *Cygnus columbianus bewickii*; Bewick's swan (Non-breeding)

A038 *Cygnus cygnus*; Whooper swan (Non-breeding)

A040 *Anser brachyrhynchus*; Pink-footed goose (Non-breeding)

A052 *Anas crecca*; Eurasian teal (Non-breeding)

A054 *Anas acuta*; Northern pintail (Non-breeding)

Waterbird assemblage

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2010 (the “Habitats Regulations”) and Article 6(3) of the Habitats Directive. They must be considered when a competent authority is required to make a ‘Habitats Regulations Assessment’ including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives and the accompanying Supplementary Advice (where this is available) will also provide a framework to inform the management of the European Site under the provisions of Articles 4(1) and 4(2) of the Wild Birds Directive, and the prevention of deterioration of habitats and significant disturbance of its qualifying features required under Article 6(2) of the Habitats Directive.

These Conservation Objectives are set for each bird feature for a [Special Protection Area \(SPA\)](#). Where the objectives are met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 30 June 2014 (Version 2). This document updates and replaces an earlier version dated 29 May 2012 to reflect Natural England’s Strategic Standard on European Site Conservation Objectives 2014. Previous references to additional features identified in the 2001 UK SPA Review have also been removed.

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1. Name and address of the compiler of this form:

Joint Nature Conservation Committee

Monkstone House

City Road

Peterborough

Cambridgeshire PE1 1JY

UK

Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948

Email: RIS@JNCC.gov.uk

FOR OFFICE USE ONLY.

DD MM YY

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

Designated: 16 February 1995

3. Country:

UK (England)

4. Name of the Ramsar site:

Ribble and Alt Estuaries

5. Designation of new Ramsar site or update of existing site:

This RIS is for: Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area:

** Important note: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site included:

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) **hard copy** (required for inclusion of site in the Ramsar List): *yes* ✓ -or- *no* ;
- ii) **an electronic format** (e.g. a JPEG or ArcView image) *Yes*
- iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** *yes* ✓ -or- *no* ;

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary is the same as, or falls within, an existing protected area.

For precise boundary details, please refer to paper map provided at designation

8. Geographical coordinates (latitude/longitude):

53 42 41 N 02 58 44 W

9. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Preston

The site occupies a stretch of coastline between Liverpool and Preston on the north-west coast of England. It lies between the Mersey estuary and Morecambe Bay.

Administrative region: Lancashire; Merseyside; Sefton

10. Elevation (average and/or max. & min.) (metres): **11. Area** (hectares): 13464.1

Min.	-2
Max.	19
Mean	1

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

A large area including two estuaries which form part of the chain of west coast sites which fringe the Irish Sea. The site is formed by extensive sand and mudflats backed, in the north, by the saltmarsh of the Ribble Estuary and, to the south, the sand dunes of the Sefton Coast. The tidal flats and saltmarsh support internationally important populations of waterfowl in winter and the sand dunes support vegetation communities and amphibian populations of international importance.

13. Ramsar Criteria:

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

2, 5, 6

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Ramsar criterion 2

This site supports up to 40% of the Great Britain population of natterjack toads *Bufo calamita*.

Ramsar criterion 5

Assemblages of international importance:

Species with peak counts in winter:

222038 waterfowl (5 year peak mean 1998/99-2002/2003)

Ramsar criterion 6 – species/populations occurring at levels of international importance.

Qualifying Species/populations (as identified at designation):

Species regularly supported during the breeding season:

Lesser black-backed gull , *Larus fuscus graellsii*, 4108 apparently occupied nests, representing an average of 2.7% of the breeding population (Seabird 2000 Census)
W Europe/Mediterranean/W Africa

Species with peak counts in spring/autumn:

Ringed plover , <i>Charadrius hiaticula</i> , Europe/Northwest Africa	3761 individuals, representing an average of 5.1% of the population (5 year peak mean 1998/9-2002/3 - spring peak)
Grey plover , <i>Pluvialis squatarola</i> , E Atlantic/W Africa -wintering	11021 individuals, representing an average of 4.4% of the population (5 year peak mean 1998/9-2002/3 - spring peak)
Red knot , <i>Calidris canutus islandica</i> , W & Southern Africa (wintering)	42692 individuals, representing an average of 9.4% of the population (5 year peak mean 1998/9-2002/3)
Sanderling , <i>Calidris alba</i> , Eastern Atlantic	7401 individuals, representing an average of 6% of the population (5 year peak mean 1998/9-2002/3 - spring peak)
Dunlin , <i>Calidris alpina alpina</i> , W Siberia/W Europe	38196 individuals, representing an average of 2.8% of the population (5 year peak mean 1998/9-2002/3 - spring peak)
Black-tailed godwit , <i>Limosa limosa islandica</i> , Iceland/W Europe	3323 individuals, representing an average of 9.4% of the population (5 year peak mean 1998/9-2002/3)
Common redshank , <i>Tringa totanus totanus</i> ,	4465 individuals, representing an average of 1.7% of the population (5 year peak mean 1998/9-2002/3)
Lesser black-backed gull , <i>Larus fuscus graellsii</i> ,	1747 individuals, representing an average of 2.8% of the GB population (5 year peak mean 1998/9-2002/3)
Species with peak counts in winter:	
Tundra swan , <i>Cygnus columbianus bewickii</i> , NW Europe	230 individuals, representing an average of 2.8% of the GB population (5 year peak mean 1998/9-2002/3)
Whooper swan , <i>Cygnus cygnus</i> , Iceland/UK/Ireland	211 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3)
Pink-footed goose , <i>Anser brachyrhynchus</i> , Greenland, Iceland/UK	6552 individuals, representing an average of 2.7% of the population (5 year peak mean 1998/9-2002/3)

Common shelduck , <i>Tadorna tadorna</i> , NW Europe	2944 individuals, representing an average of 3.7% of the GB population (5 year peak mean 1998/9-2002/3)
Eurasian wigeon , <i>Anas penelope</i> , NW Europe	69841 individuals, representing an average of 4.6% of the population (5 year peak mean 1998/9-2002/3)
Eurasian teal , <i>Anas crecca</i> , NW Europe	5107 individuals, representing an average of 1.2% of the population (5 year peak mean 1998/9-2002/3)
Northern pintail , <i>Anas acuta</i> , NW Europe	1497 individuals, representing an average of 2.4% of the population (5 year peak mean 1998/9-2002/3)
Eurasian oystercatcher , <i>Haematopus ostralegus ostralegus</i> , Europe & NW Africa -wintering	18926 individuals, representing an average of 1.8% of the population (5 year peak mean 1998/9-2002/3)
Bar-tailed godwit , <i>Limosa lapponica lapponica</i> , W Palearctic	13935 individuals, representing an average of 11.6% of the population (5 year peak mean 1998/9-2002/3)

Contemporary data and information on waterbird trends at this site and their regional (sub-national) and national contexts can be found in the Wetland Bird Survey report, which is updated annually. See www.bto.org/survey/webs/webs-alerts-index.htm.

Details of bird species occurring at levels of National importance are given in Section 22

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

Atlantic

b) biogeographic regionalisation scheme (include reference citation):

Council Directive 92/43/EEC

16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	basic, neutral, sand, alluvium, sedimentary
Geomorphology and landscape	lowland, coastal, intertidal sediments (including sandflat/mudflat), open coast (including bay), estuary
Nutrient status	mesotrophic
pH	alkaline, circumneutral
Salinity	brackish / mixosaline, saline / euhaline
Soil	mainly mineral
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Blackpool, 1971–2000) (www.metoffice.com/climate/uk/averages/19712000/sites/blackpool.html) Max. daily temperature: 12.9° C Min. daily temperature: 6.4° C Days of air frost: 40.3 Rainfall: 871.3 mm Hrs. of sunshine: 1540.3

General description of the Physical Features:

The Ribble and Alt Estuaries lie on the Irish Sea coast of north-west England. The site comprises two estuaries, of which the Ribble Estuary is by far the larger, together with an extensive area of sandy foreshore along the Sefton Coast. The site consists of extensive sand- and mud-flats and, particularly in the Ribble Estuary, large areas of saltmarsh. There are also areas of coastal grazing marsh located behind the sea embankments.

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

The Ribble and Alt Estuaries lie on the Irish Sea coast of north-west England. The site comprises two estuaries, of which the Ribble Estuary is by far the larger, together with an extensive area of sandy foreshore along the Sefton Coast. The site consists of extensive sand- and mud-flats and, particularly in the Ribble Estuary, large areas of saltmarsh. There are also areas of coastal grazing marsh located behind the sea embankments.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Shoreline stabilisation and dissipation of erosive forces, Sediment trapping

19. Wetland types:

Marine/coastal wetland

Code	Name	% Area
G	Tidal flats	75
H	Salt marshes	16
E	Sand / shingle shores (including dune systems)	8
Ts	Freshwater marshes / pools: seasonal / intermittent	1

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The Ribble and Alt Estuaries contain extensive areas of intertidal sand and mudflats. These are backed by, on the Ribble, one of the most extensive areas of grazed saltmarsh in Britain and, along the Sefton Coast, the largest calcareous dune complex in north-western England.

The intertidal flats support internationally important populations of waterfowl which feed on a rich invertebrate fauna and *Enteromorpha* beds.

The saltmarsh supports a range of vegetation communities typical of north-west England maintained by stable grazing regimes. However, the estuary is accreting in response to large-scale land-claim, with *Spartina anglica* dominant in the pioneer stages with *Festuca rubra* and *Puccinellia maritima* dominating the grazed sward. Natural transitions are prevented by coastal defence structures. Small areas of saltmarsh also occur in discrete locations along the Sefton Coast.

The sand dunes display a full range of plant communities and habitat types from embryo to grey dunes with transitions to dune grassland and heath. Numerous species-rich slacks can be found throughout the dune transition but generally the extent of vegetation cover and species diversity increases with distance from the sea. *Elytrigia juncea* and *Elymus arenarius* dominate the embryo dunes (NVC SD5&7), being replaced by *Ammophila arenaria* in the mobile yellow dunes (SD6); large areas of bare sand are still present. Two distinct types of vegetation dominate the extensive grey dunes, the first a *Festuca rubra/Rubus caesius* dune pasture and a *Salix repens/R. caesius*/dwarf shrub (SD9

variants). These dunes also support two large coniferous plantations which support a distinctive flora. Elsewhere, and in the absence of management, smaller areas of secondary deciduous scrub/woodland remain including *Hippophae rhamnoides* and various *Populus* spp. Dune slacks are regularly found throughout the dune complex. Normally dominated by creeping willow, they also support a diverse flora including the nationally rare liverwort, *Petalophyllum ralfsii* and dune helleborine *Epipactis dunensis* (SD15&16). Dune grassland and heath occupy fragmented locations on the extreme eastern edge of the system with *Calluna vulgaris* and *Carex arenaria* both strong characteristics.

The dune system is a candidate Special Area of Conservation for the following Annex I habitats: dunes with creeping willow; shifting dunes; humid dune slacks; shifting dunes with marram; petalwort *Petalophyllum ralfsii*; great crested newt *Triturus cristatus*; coastal dune heathland; and dune grassland ('grey dunes'). The last two are priority habitat types under the EC Habitats Directive.

Ecosystem services

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

International importance

Lower plants

Petalophyllum ralfsii Petalwort (Conservation status: European Red List: Vulnerable; Habitats Directive Annex II species (S1395))

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Birds

Species currently occurring at levels of national importance:

Species regularly supported during the breeding season:

Black-headed gull , <i>Larus ridibundus</i> , N & C Europe	14888 apparently occupied nests, representing an average of 11.6% of the GB population (Seabird 2000 Census)
Common tern , <i>Sterna hirundo hirundo</i> , N & E Europe	182 pairs, representing an average of 1.7% of the GB population (1996)

Species with peak counts in spring/autumn:

Ruff , <i>Philomachus pugnax</i> , Europe/W Africa	60 individuals, representing an average of 8.5% of the GB population (5 year peak mean 1998/9-2002/3)
Eurasian curlew , <i>Numenius arquata arquata</i> , N. a. <i>arquata</i> Europe (breeding)	2502 individuals, representing an average of 1.7% of the GB population (5 year peak mean 1998/9-2002/3)
Common greenshank , <i>Tringa nebularia</i> , Europe/W Africa	9 individuals, representing an average of 1.5% of the GB population (5 year peak mean 1998/9-2002/3)

Species with peak counts in winter:

Red-throated diver , <i>Gavia stellata</i> , NW Europe	56 individuals, representing an average of 1.1% of the GB population (5 year peak mean 1998/9-2002/3)
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Great cormorant , <i>Phalacrocorax carbo carbo</i> , NW Europe	463 individuals, representing an average of 2% of the GB population (5 year peak mean 1998/9- 2002/3)
Northern shoveler , <i>Anas clypeata</i> , NW & C Europe	200 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9- 2002/3)
Black (common) scoter , <i>Melanitta nigra nigra</i> ,	691 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9- 2002/3)
European golden plover , <i>Pluvialis apricaria</i> <i>apricaria</i> , P. a. altifrons Iceland & Faroes/E Atlantic	3588 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1998/9- 2002/3)
Spotted redshank , <i>Tringa erythropus</i> , Europe/W Africa	2 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1998/9- 2002/3)
Black-headed gull , <i>Larus ridibundus</i> , N & C Europe	16849 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9- 2002/3)

Species Information

Species occurring at levels of national importance:

Natterjack toad *Bufo calamita* (Habitats Directive Annex IV species (S1202)) (c. 40% GB population)

23. Social and cultural values:

Describe if the site has any general social and/or cultural values e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

- Aesthetic
- Archaeological/historical site
- Environmental education/ interpretation
- Fisheries production
- Livestock grazing
- Non-consumptive recreation
- Scientific research
- Sport fishing
- Sport hunting
- Tourism
- Transportation/navigation

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? No

If Yes, describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:

- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

Ownership category	On-site	Off-site
Non-governmental organisation (NGO)	+	+
Local authority, municipality etc.	+	+
National/Crown Estate	+	+
Private	+	+
Public/communal	+	+

25. Current land (including water) use:

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Recreation	+	+
Current scientific research	+	
Fishing: commercial	+	+
Fishing: recreational/sport	+	+
Gathering of shellfish	+	
Bait collection	+	
Permanent arable agriculture		+
Grazing (unspecified)	+	
Hunting: recreational/sport	+	
Industry	+	
Sewage treatment/disposal	+	+
Harbour/port		+
Flood control	+	+
Irrigation (incl. agricultural water supply)		+
Mineral exploration (excl. hydrocarbons)	+	
Oil/gas exploration		+
Oil/gas production		+
Transport route	+	+
Urban development		+
Military activities		+

26. Factors (past, present or potential) adversely affecting the site’s ecological character, including changes in land (including water) use and development projects:

Explanation of reporting category:

1. Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.
2. Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.

NA = Not Applicable because no factors have been reported.

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
Erosion	2	Coastal erosion is a factor at Formby Point with an estimated loss of 4 metres per year. It is a concern because pine woodland on the sand dunes is causing coastal squeeze and therefore preventing sand dune habitats from rolling back; as such dune slack habitats for natterjack toads are declining/being lost.	+		+

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?
 Erosion - At Ainsdale Sand Dunes National Nature Reserve English Nature have made efforts to restore dune habitat; an Environmental Impact Assessment has been carried out with a view to submitting a tree-felling application in February 2005.

Is the site subject to adverse ecological change? NO

27. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site/ Area of Special Scientific Interest (SSSI/ASSI)	+	+
National Nature Reserve (NNR)	+	
Special Protection Area (SPA)	+	
Land owned by a non-governmental organisation for nature conservation	+	
Management agreement	+	
Special Area of Conservation (SAC)	+	
Management plan in preparation	+	

b) Describe any other current management practices:

The management of Ramsar sites in the UK is determined by either a formal management plan or through other management planning processes, and is overseen by the relevant statutory conservation agency. Details of the precise management practises are given in these documents.

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

29. Current scientific research and facilities:

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Contemporary.

Fauna.

Numbers of migratory and wintering wildfowl and waders are monitored annually as part of the national Wetland Birds Survey (WeBS) organised by the British Trust for Ornithology, Wildfowl & Wetlands Trust, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee.

Annual natterjack toad monitoring programme: Leisure Services, Metropolitan Borough of Sefton and English Nature Ainsdale NNR.

Completed.

Flora.

National sand dune survey. Sefton coast NCC Report (Edmondson *et al.* 1989)

Bryophyte surveys (various) of Sefton Coast (M Newton).

Ribble and Alt NVC saltmarsh survey 2002 (The Environment Partnership 2003)

Fauna.

Invertebrate surveys (numerous)

Documents held by various authorities on the coast including English Nature & Metropolitan Borough of Sefton.

For a full account of reports, papers etc, reference should be made to:

The sand dunes of the Sefton Coast (Atkinson & Houston 1993).

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

The Metropolitan Borough of Sefton, English Nature, National Trust and RSPB all lead guided walks onto suitable areas of the coast at all times of the year.

The entire site is reasonably well provided with fixed interpretation panels at many of the main public access points around the site.

The RSPB is developing educational/visitor facilities at its Reserve.

Southport Pier is developing into a major wildlife interpretation centre. English Nature, RSPB and Sefton Council are working on the project.

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Activities, Facilities provided and Seasonality.

Infrastructure developments

There are caravan parks adjacent to the site at Formby and moorings in the Alt. No major expansion anticipated.

Land-based recreation

There is intensive recreational use of the northern beaches (Southport & Ainsdale) where traditional activities are concentrated. These include beach car parking, and, during the summer months several large-scale events. Elsewhere, recreation is more informal and less intensive - but all beach activities

on the Sefton Coast are managed by the Beach Management Plan. The golf courses are heavily used; Royal Birkdale hosted the British Open Golf Championship in 1998.

Water-based recreation

Mainly a summer activity based on the beach at Southport. Becoming more common but has, in the past, included pleasure trips on hovercraft.

Airborne recreation

Some disturbance in winter months by micro-lights, particularly to pink-footed goose populations.

Wildfowling

Occurs on extensive areas of the Ribble including the NNR. Usually controlled by agreement.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs, European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay, Bristol, BS1 6EB

33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House, Northminster Road, Peterborough, PE1 1UA, UK

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Site-relevant references

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Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • email: ramsar@ramsar.org



European Site Conservation Objectives for Ribble and Alt Estuaries Special Protection Area Site Code: UK9005103

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- **The extent and distribution of the habitats of the qualifying features**
- **The structure and function of the habitats of the qualifying features**
- **The supporting processes on which the habitats of the qualifying features rely**
- **The population of each of the qualifying features, and,**
- **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

- A037 *Cygnus columbianus bewickii*; Bewick's swan (Non-breeding)
- A038 *Cygnus cygnus*; Whooper swan (Non-breeding)
- A040 *Anser brachyrhynchus*; Pink-footed goose (Non-breeding)
- A048 *Tadorna tadorna*; Common shelduck (Non-breeding)
- A050 *Anas penelope*; Eurasian wigeon (Non-breeding)
- A052 *Anas crecca*; Eurasian teal (Non-breeding)
- A054 *Anas acuta*; Northern pintail (Non-breeding)
- A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding)
- A137 *Charadrius hiaticula*; Ringed plover (Non-breeding)
- A140 *Pluvialis apricaria*; European golden plover (Non-breeding)
- A141 *Pluvialis squatarola*; Grey plover (Non-breeding)
- A143 *Calidris canutus*; Red knot (Non-breeding)

Contd/

- A144 *Calidris alba*; Sanderling (Non-breeding)
- A149 *Calidris alpina alpina*; Dunlin (Non-breeding)
- A151 *Philomachus pugnax*; Ruff (Breeding)
- A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)
- A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)
- A162 *Tringa totanus*; Common redshank (Non-breeding)
- A183 *Larus fuscus*; Lesser black-backed gull (Breeding)
- A193 *Sterna hirundo*; Common tern (Breeding)

Waterbird assemblage

Seabird assemblage

This is a European Marine Site

This SPA is a part of the Ribble and Alt Estuaries European Marine Site (EMS). These Conservation Objectives should be used in conjunction with the Regulation 35 Conservation Advice document for the EMS. For further details about this please visit the Natural England website at <http://www.naturalengland.org.uk/ourwork/marine/protectandmanage/mpa/europeansites.aspx> or contact Natural England's enquiry service at enquiries@naturalengland.org.uk or by phone on 0845 600 3078.

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2010 (the "Habitats Regulations") and Article 6(3) of the Habitats Directive. They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives and the accompanying Supplementary Advice (where available) will also provide a framework to inform the management of the European Site under the provisions of Articles 4(1) and 4(2) of the Wild Birds Directive and the prevention of deterioration or significant disturbance of its qualifying features under Article 6(2) of the Habitats Directive.

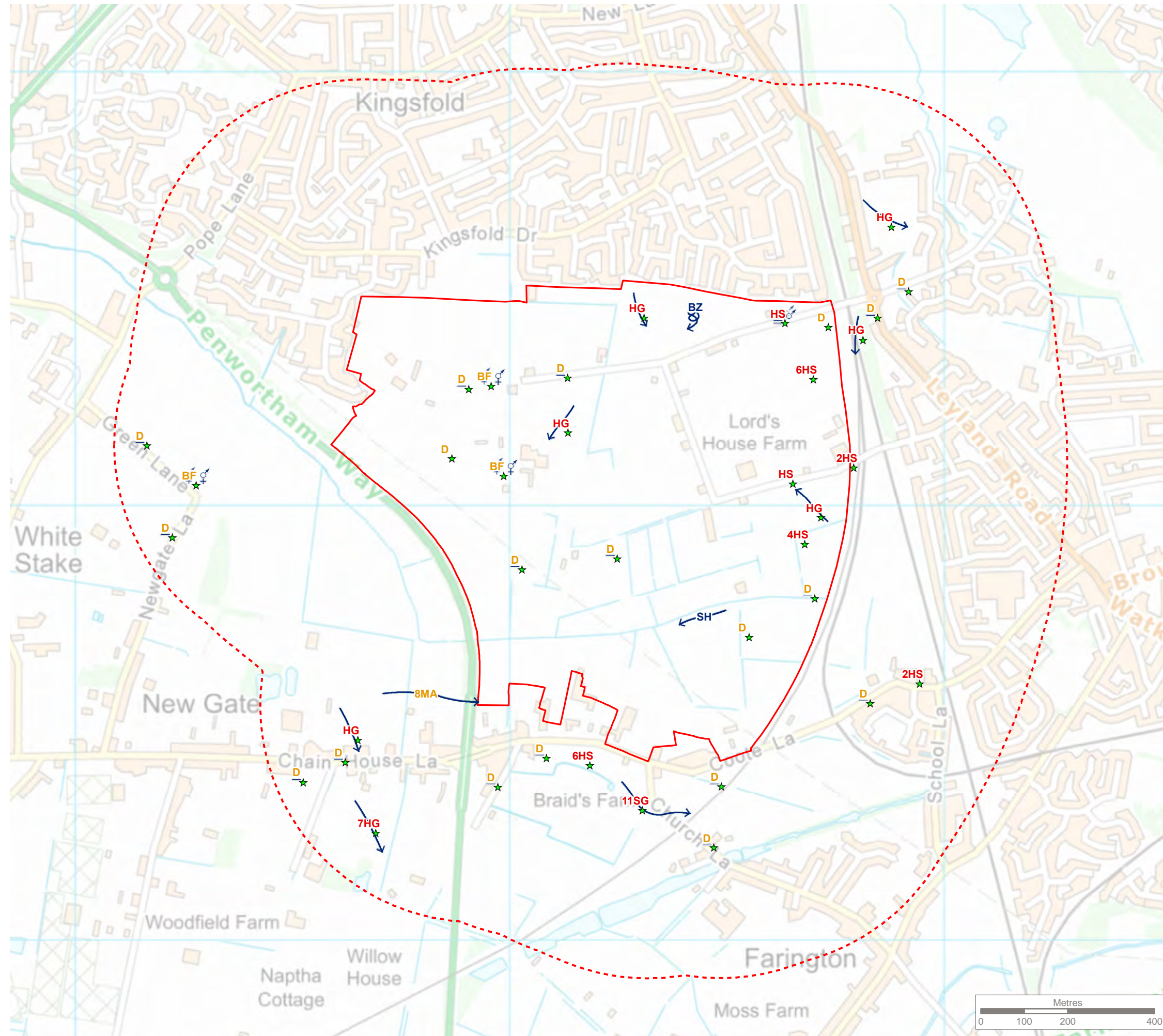
These Conservation Objectives are set for each bird feature for a [Special Protection Area \(SPA\)](#). Where the objectives are met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 30 June 2014 – version 3. This document updates and replaces an earlier version dated 31 March 2014. Previous references to the 2001 UK SPA Review have been removed.

APPENDIX B: Winter Bird Survey Weather Data

DRAWINGS

G6579.006 WBS Transect Visit 1 - 27.09.17
G6579.007 WBS Transect Visit 2 - 03.10.17
G6579.008 WBS Transect Visit 3 - 11.10.17
G6579.009 WBS Transect Visit 4 - 25.10.17
G6579.010 WBS Transect Visit 5 - 06.12.17
G6579.011 WBS Transect Visit 6 - 21.12.17
G6579.012 WBS Transect Visit 7 - 26.01.18
G6579.013 WBS Transect Visit 8 - 14.02.18
G6579.014 WBS Transect Visit 9 - 23.01.18



KEY

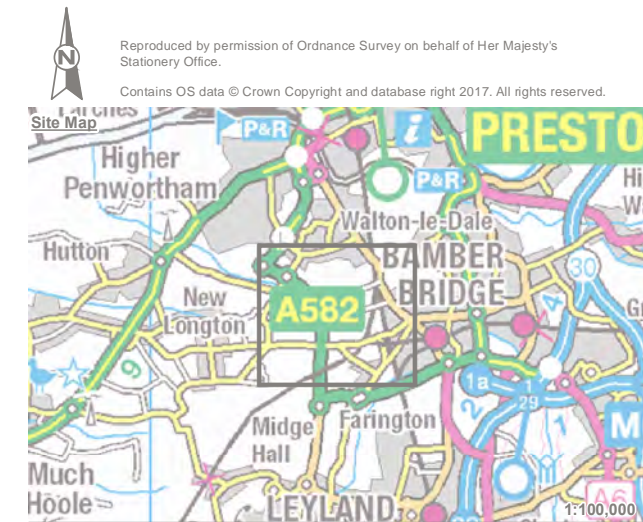
- Site Boundary
- Site Boundary - 500m Buffer
- ★ Section 41 Species
- Calling
- ♂ ♀ Male and Female
- ♂ Male Alarm Calling
- Directional Flightline

Species Codes

- BF Bullfinch
- D Dunnock
- HG Herring Gull
- HS House Sparrow
- MA Mallard
- SG Starling

Note

- ★ Red List Species
- ★ Amber List Species



Rev	Description	Drawn	Approved	Date



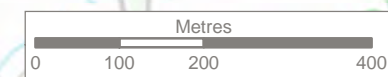
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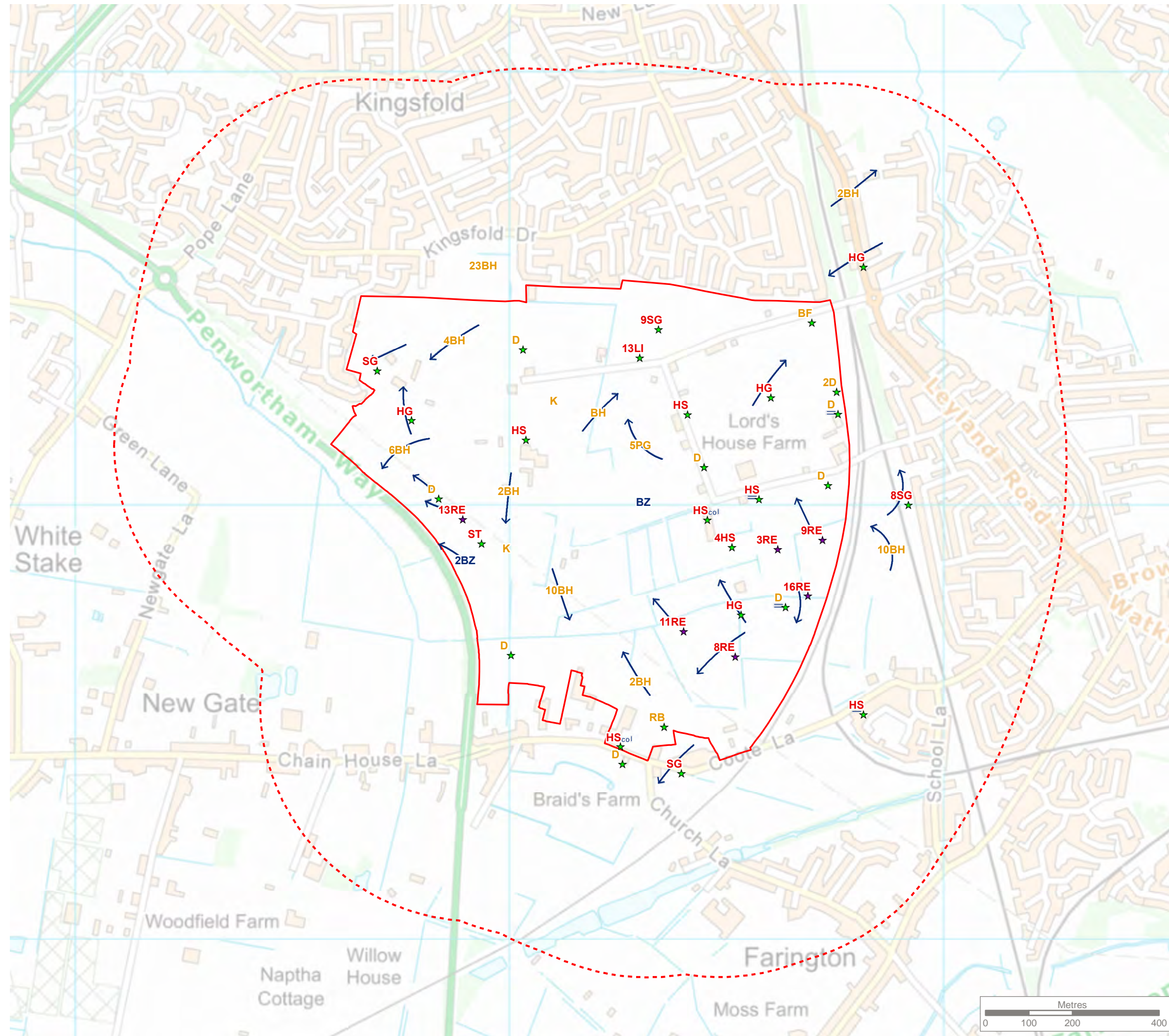
Project
Pickerings Farm, Penwortham

Title
**Winter Bird Survey - Visit 1
 27th September 2017**

Drawing Number
G6579.006

Drawn	Checked	Approved	Scale	Date
MK	LJ	MW	1:9,000 @ A3	15/11/2017





KEY

- Site Boundary
- Site Boundary - 500m Buffer
- ★ Section 41 Species
- ★ Schedule 1 Species
- col Colony
- = Alarm Call
- Calling
- Directional Flightline

Species Codes

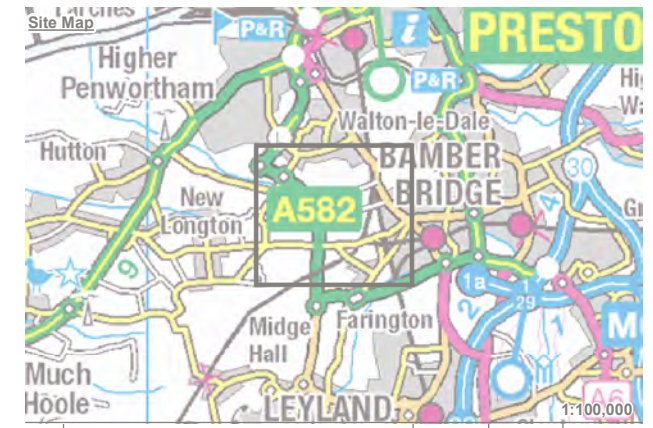
- BF Bullfinch
- BH Black-headed Gull
- D Dunnock
- HG Herring Gull
- HS House Sparrow
- K Kestrel
- LI Linnet
- PG Pink-footed Goose
- RB Reed Bunting
- RE Redwing
- SG Starling
- ST Song Thrush

Note

- ★ Red List Species
- ★ Amber List Species



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Rev	Description	Drawn	Approved	Date

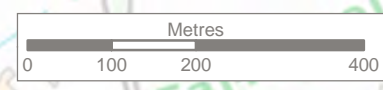
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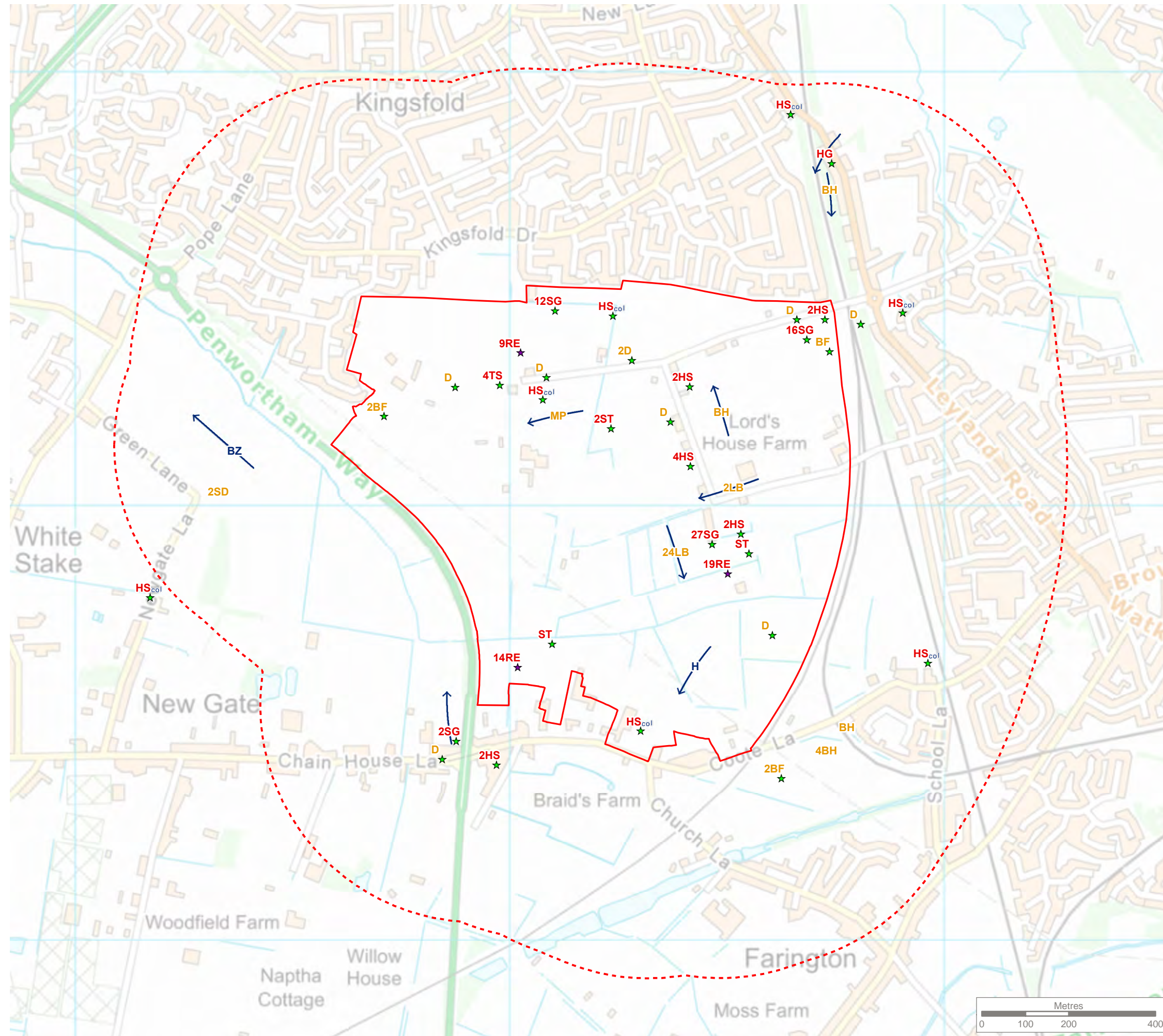
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Title
**Winter Bird Survey - Visit 4
 25th October 2017**

Drawing Number
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Drawn	Checked	Approved	Scale	Date
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KEY

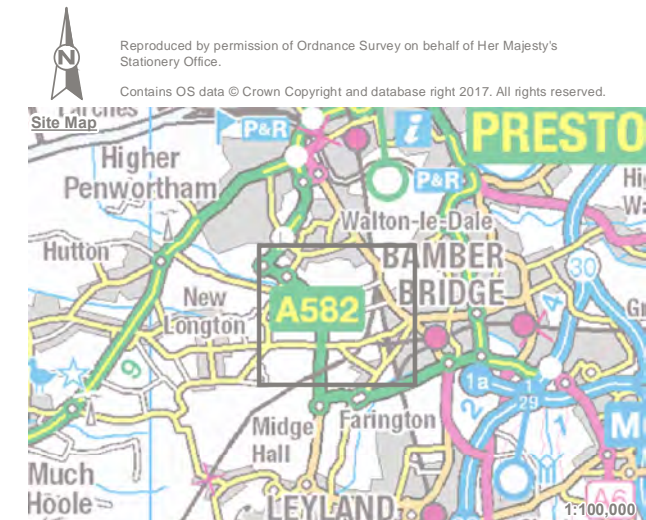
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- Site Boundary - 500m Buffer
- ★ Section 41 Species
- ★ Schedule 1 Species
- col Colony
- Directional Flightline

Species Codes

- BF Bullfinch
- BH Black-headed Gull
- BZ Buzzard
- D Dunnock
- H Grey Heron
- HG Herring Gull
- HS House Sparrow
- LB Lesser Black-backed Gull
- MP Meadow Pipit
- RE Redwing
- SD Stock Dove
- SG Starling
- ST Song Thrush
- TS Tree Sparrow

Note

- ★ Red List Species
- ★ Amber List Species



Rev	Description	Drawn	Approved	Date



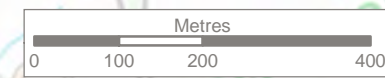
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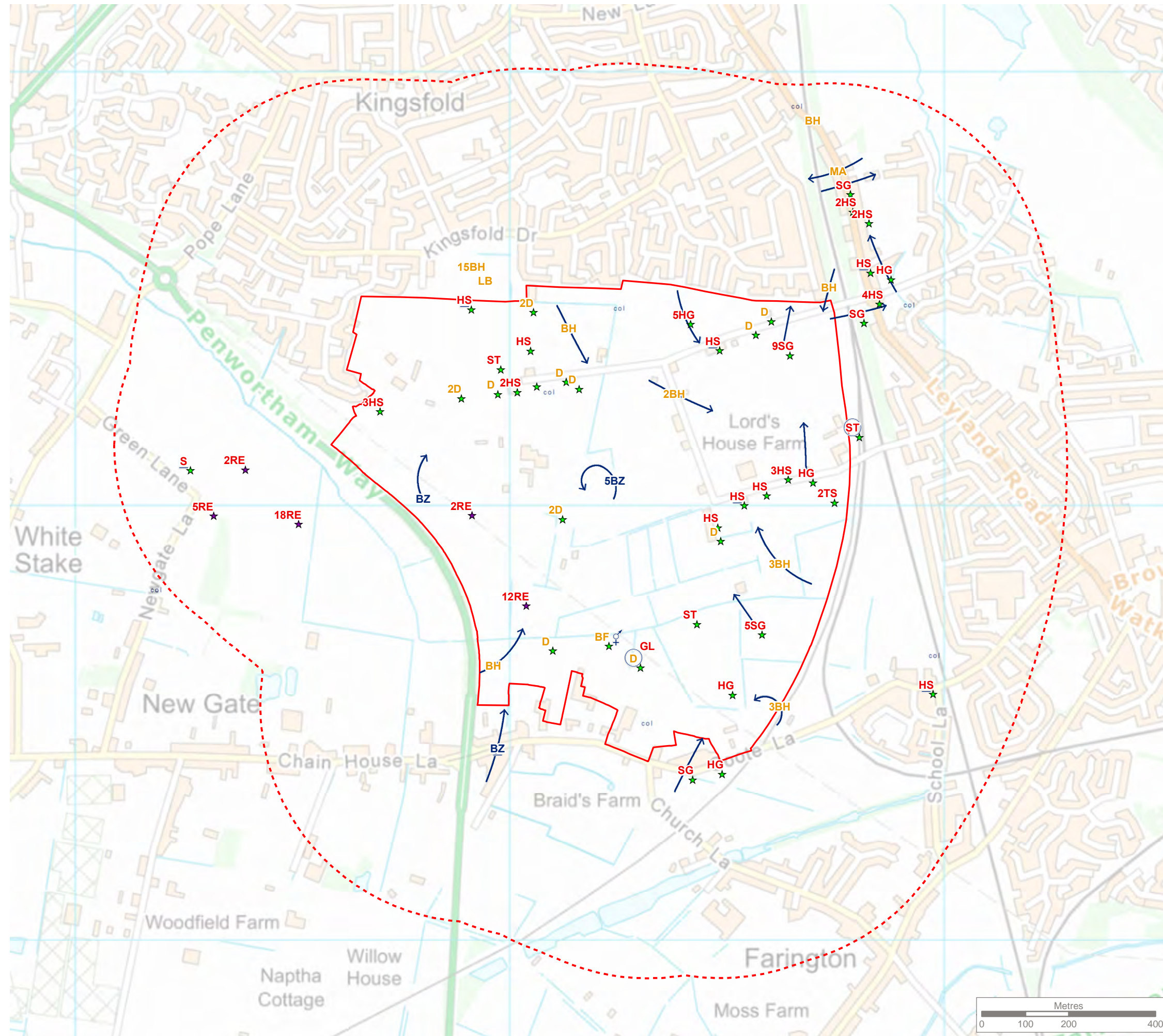
Project
Pickerings Farm, Penwortham

Title
Winter Bird Survey - Visit 6
21st December 2017

Drawing Number
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Drawn	Checked	Approved	Scale	Date
RH	JS	MW	1:9,000 @ A3	16/01/2018



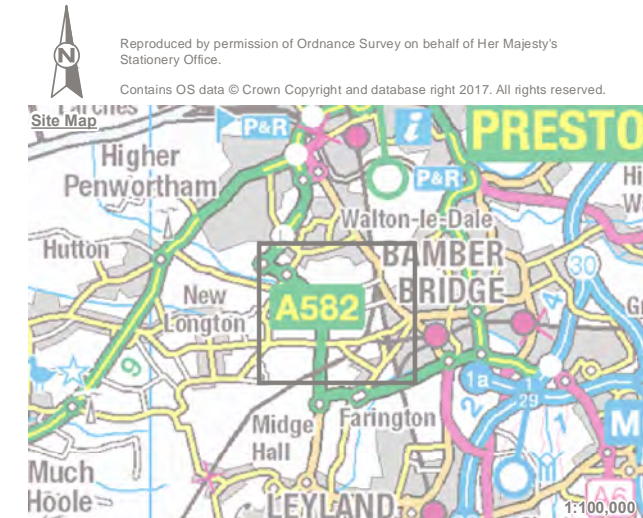


KEY

- Site Boundary
- Site Boundary - 500m Buffer
- ★ Section 41 Species
- ★ Schedule 1 Species
- col Colony
- Directional Flightline

- Species Codes**
- | | |
|----|--------------------------|
| LB | Lesser Black-backed Gull |
| BF | Bullfinch |
| BH | Black-headed Gull |
| BZ | Buzzard |
| D | Dunnock |
| GL | Grey Wagtail |
| HG | Herring Gull |
| HS | House Sparrow |
| MA | Mallard |
| RE | Redwing |
| S | Skylark |
| SG | Starling |
| ST | Song Thrush |
| TS | Tree Sparrow |

Note
★ Red List Species
★ Amber List Species



Rev	Description	Drawn	Approved	Date

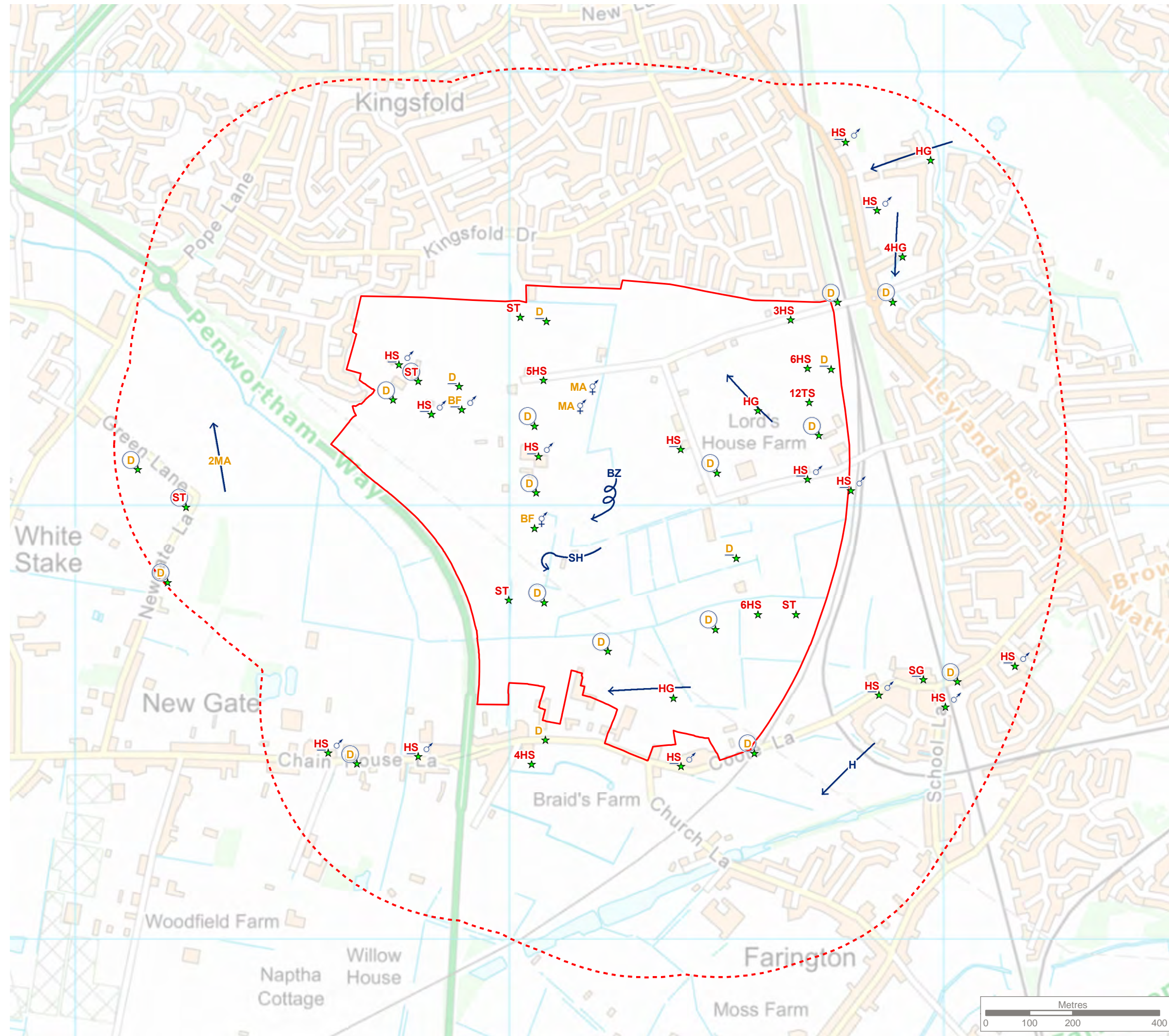
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Project
Pickerings Farm, Penwortham

Title
**Winter Bird Survey - Visit 7
 26th January 2018**

Drawing Number
G6579.012

Drawn	Checked	Approved	Scale	Date
RH	MK	MW	1:9,000 @ A3	09/04/2018



KEY

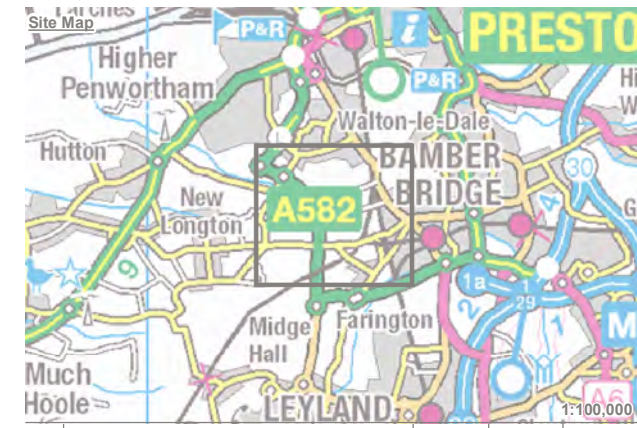
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- Site Boundary - 500m Buffer

- ★ Section 41 Species
- Calling
- ♂ Male
- ♀ Male and Female
- ♂ Male, Calling
- Singing
- Directional Flightline

- Species Codes**
- SG Starling
 - BF Bullfinch
 - BZ Buzzard
 - D Dunnock
 - H Grey Heron
 - HG Herring Gull
 - HS House Sparrow
 - MA Mallard
 - SH Sparrowhawk
 - ST Song Thrush
 - TS Tree Sparrow

Note
■ Red List Species
■ Amber List Species

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Project
Pickerings Farm, Penwortham

Title
Winter Bird Survey - Visit 9
 23rd March 2018

Drawing Number
G6579.014

Drawn	Checked	Approved	Scale	Date
RH	JS	MW	1:9,000 @ A3	04/04/2018



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Appendix 7.5

Breeding Birds Survey Report



THE
ENVIRONMENT
PARTNERSHIP



PICKERINGS FARM PENWORTHAM BREEDING BIRD SURVEY

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Offices in Warrington, Market Harborough, Gateshead, London and Cornwall

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2.0 Methods	2
3.0 Results	3
4.0 Interpretation and Conclusion.....	5
5.0 Recommendations	6
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Table 2: Significance of the total number of breeding species recorded at a site.....	5

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APPENDICES

APPENDIX A: Bird Count Data

DRAWINGS

G6900.007 Breeding Bird Survey Visit 1 20.04.2018

G6900.008 Breeding Bird Survey Visit 2 18.05.2018

G6900.009 Breeding Bird Survey Visit 3 15.06.2018

1.0 Introduction

- 1.1 TEP was commissioned by Taylor Wimpey North West and Homes England, in February 2018, to complete breeding bird surveys at the site known as Pickering's Farm in Penwortham.
- 1.2 Taylor Wimpey and Homes England are proposing a joint venture for the construction of a large-scale housing development with associated infrastructure and community facilities at the site.

Description of Survey Area

- 1.3 The central grid reference of the survey area is SD 53329 25884 and the location of the survey area is shown in Figure 1 below. Hatched areas within the red line in Figure 1 represent land owned by third parties and these were not subject to surveys.
- 1.4 The survey area comprises pasture and arable fields bounded by hedgerows with residential housing and farm buildings and fragments of other habitats including woodland, scrub, grassland and water bodies. Existing residential development within Penwortham bounds the survey area to the north with Penwortham Way to the west, railway to the east and residential development along Chain House Lane to the south.

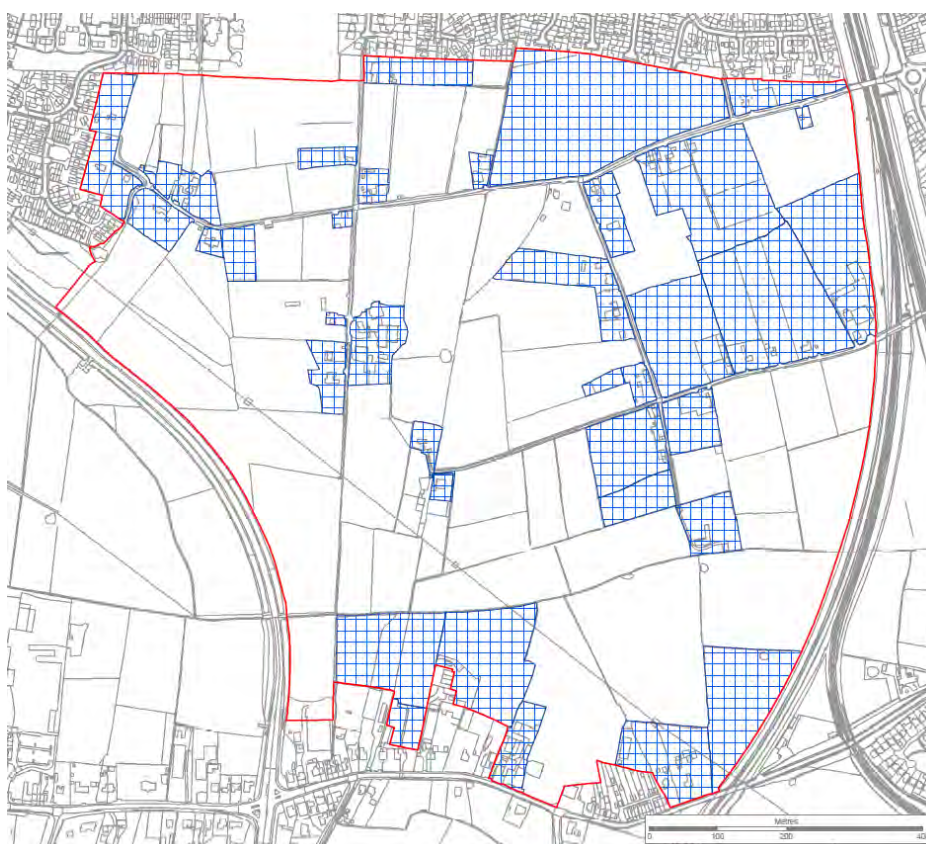


Figure 1: Survey Area Plan. Contains Ordnance Survey data © Crown copyright and database right 2018.

2.0 Methods

- 2.1 The survey was carried out applying methods based on the standard breeding bird survey and common bird census methods developed by the British Trust for Ornithology (Gilbert et al. 1998).
- 2.2 Visits were carried out in the morning period, starting at least half an hour after dawn. Each survey visit was carried out approximately 4 weeks apart, over the period April to June, as shown in Table 1 below. Surveys were carried out by experienced ornithologists Mike Walker, Clare Gower and Damian Young.

Table 1: Breeding Bird Survey Dates

Visit	Date	Start Time	Finish Time
Visit 1	20/04/2018	06:45	11:20
Visit 2	18/05/2018	06:30	11:00
Visit 3	15/06/2018	06:10	10:25

- 2.3 Bird species and activity patterns were recorded and mapped using standard BTO symbology.
- 2.4 Three survey visits were undertaken using pre-determined transect routes to cover the survey area.
- 2.5 Bird species within the surrounding 100m were also recorded during the survey, as a proportion of the bird's foraging or nesting habitat is likely to be within the survey area.

3.0 Results

3.1 Desktop records of protected or notable bird species recorded within a 1km radius of the survey area were gathered from the Lancashire Environment Record Network (TEP Report Ref: 6900.007). Bird species classed as notable are those listed on any of the following:

- Schedule 1 of the Wildlife and Countryside Act 1981, as amended (WCA1);
- Species of principal importance under Section 41 of the Natural Environment and Communities Act 2006 (S41);
- Red and Amber listed Bird of Conservation Concern (BoCC) species (Eaton et al. 2015) (BRd/ BAm);
- Bird species listed on the Lancashire Local Action Plan (LBAP).

3.2 There are historical records of 20 notable bird species that have been recorded within 1 km of the survey area. The birds identified within these records are:

- Bullfinch *Pyrrhula pyrrhula* (LBAP);
- Dunnock *Prunella modularis* (LBAP);
- Grey Wagtail *Motacilla cinerea* (BRd);
- House Sparrow *Passer domesticus* (S41, BRd, LBAP);
- Lesser Redpoll *Carduelia cabaret* (S41, BRd);
- Mistle Thrush *Turdus viscivorus* (BRd);
- Song Thrush *Turdus philomelos* (BRd, LBAP);
- Starling *Sturnus vulgaris* (BRd, LBAP);
- Willow Warbler *Phylloscopus trochilus* (LBAP);
- Barn Owl *Tyto alba* (WCA1);
- Corn Bunting *Emberiza calandra* (BRd, LBAP);
- Grey Partridge *Perdix perdix* (S41, BRd, LBAP);
- Northern Lapwing *Vanellus vanellus* (S41, BRd);
- Linnet *Carduelis cannabina* (BRd);
- Grey Heron *Ardea cinerea* (LBAP);
- Willow Tit *Poecile montanus* (BRd, LBAP);
- Swift *Apus apus* (LBAP);
- Herring Gull *Larus argentatus* (BRd, LBAP);
- Oystercatcher *Haematopus ostralegus* (LBAP); and
- Skylark *Alauda arvensis* (LBAP, S41, BRd).

Breeding Bird Survey

3.3 Counts of bird species recorded during the 2018 breeding bird season, including conservation and likely breeding status, are shown in Appendix A and in Drawings G6900.007 to G6900.009.

3.4 This breeding bird survey has been conducted to identify areas of importance for birds and any constraints concerning birds for the proposed residential development.

- 3.5 There are historic records of 20 notable species that have been recorded within 1km of the survey area. Of these birds, bullfinch, dunnock, house sparrow, mistle thrush, song thrush, starling, lapwing, linnet, heron, swift, herring gull, oystercatcher and skylark were recorded within the site and/or 100m survey buffer during the 2018 breeding bird survey.
- 3.6 A total of forty nine species were recorded within the survey area and 100m buffer during the breeding bird survey; thirty seven species in visit one, thirty four species in visit two and thirty eight species in visit three.
- 3.7 Incidental records of tawny owl have also been recorded during bat surveys undertaken by TEP during 2018 in the survey area. This species is likely to breed within the site and increases the overall number of bird species recorded during the 2018 breeding season to 50.
- 3.8 Seventeen bird species were confirmed to be breeding within the survey area and 100m buffer. These are blackbird, blue tit, carrion crow, chaffinch, collard dove, dunnock, goldcrest, goldfinch, great tit, house sparrow, magpie, mallard, mistle thrush, robin, starling, tree sparrow and woodpigeon.
- 3.9 Of the seventeen species confirmed to be breeding within the survey area and the 100m buffer, six are considered to be notable. Tree sparrow (BRd, S41), starling (BRd, S41), mistle thrush (BRd), mallard (BAm), house sparrow (BRd, S41) and dunnock (BAm, S41). All six species were confirmed to be nesting within the survey area.
- 3.10 Seven probable breeding species were recorded within the survey area and 100m buffer during the breeding bird survey.
- 3.11 Of the seven probable breeding species recorded, song thrush (two pairs - S41, BRd) is considered to be notable.

4.0 Interpretation and Conclusion

- 4.1 The 50 bird species recorded within the survey area and 100m buffer represents a medium species diversity, considering the large size of the survey area, with the majority of species recorded being commonplace and widespread. Six notable bird species were confirmed to be breeding: tree sparrow, starling, mistle thrush, mallard, house sparrow and dunnock. This was evidenced by the presence of juvenile birds during the survey or adults carrying food. All six of these notable species were confirmed to breed within the survey area, rather than within the 100m buffer. An additional three notable species probably nested within the site, including bullfinch, song thrush and swallow.
- 4.2 Fuller (1980) devised a method of classifying the ornithological interest of sites for conservation based on three site attributes: population size, rarity and diversity.
- 4.3 No significant breeding bird concentrations (i.e. 1% or more of the national breeding population) or nationally rare breeding bird species (i.e. between 1 and 1,000 breeding pairs) (Musgrove et al. 2013) were recorded during the survey.
- 4.4 The total number of confirmed, probable and possible breeding bird species recorded within a site also indicates its significance. Table 2 includes the breeding diversity criteria devised by Fuller.

Table 2: Significance of the total number of breeding species recorded at a site

Local	County	Regional	National
25-49	50-69	70-84	85+

- 4.5 Based on the above criteria, the 41 confirmed, probable and possible breeding bird species recorded within the survey area and 100m buffer indicate the survey area is of significance at the local level.
- 4.6 The large majority of the species recorded as potentially breeding within the survey area are associated with woodland, scrub and shrub habitats and were likely to be nesting within the large volume of hedges present across the survey area. This includes the notable species tree sparrow, mistle thrush, house sparrow and dunnock which were confirmed to breed within the survey area.
- 4.7 Some of the notable species such as house sparrow, starling and swallow were likely to be nesting in and adjacent to buildings, such as the farms and houses within the site, as well as the residential areas with gardens adjacent to the survey area.
- 4.8 The loss of trees, hedgerows and dense vegetation will result in a loss of nesting habitat for local bird populations and could lead to the destruction of disturbance and subsequent abandonment of nests, if present.
- 4.9 All wild birds and their nests and eggs are protected under the Wildlife and Countryside Act 1981, as amended.

5.0 Recommendations

- 5.1 The hedgerows, scrub and mature trees on site should be retained as far as possible in order to prevent the loss of nesting habitat.
- 5.2 If it is necessary to remove any trees and hedgerows within the site and at site borders, this would reduce the amount of breeding and nesting habitat available for these species and therefore should be retained wherever possible. If trees / hedgerows are to be removed, they should be replaced using a range of native species to create a varied vegetation structure and suit a wider range of breeding bird species. Fruiting tree and shrub species and/or species that are attractive to insects will also provide additional foraging resources for numerous bird species.
- 5.3 A nest box scheme undertaken as part of the development, including small nest boxes with holes and open fronted nest boxes, would provide additional nesting sites for a number of species such as blue tit and robin. As tree sparrow, house sparrow and starling were confirmed to be nesting within site and the surrounding area, specialised nest boxes for these species should be provided within the development.
- 5.4 It is recommended that all tree and vegetation clearance across site avoids the core breeding bird season, March to August inclusive; although bird nesting can take place outside this period. If vegetation clearance works are necessary during the core breeding bird season, or at any time when bird nesting is suspected, a nesting bird check of the affected area, with particular emphasis for ground nesting birds, by an ecologist is required immediately prior to the clearance works taking place. Extensive clearance of potential bird nesting habitat is not always practical and development programmes should take this constraint into account.
- 5.5 Reasonable Avoidance Measures, that are to be implemented during felling of trees with bat roost suitability (TEP Report Ref: 6900.006), will also be beneficial to roosting barn owl, if present.

6.0 References

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APPENDIX A: Bird Count Data

Species	Visit 1		Visit 2		Visit 3		Status	Likely Breeding Status (No. of pairs)	
	S	SBU	S	SBU	S	SBU		S	SBU
Blackbird	40	43	22	23	34	40		C(4) Pr(8)	C(5)Pr(12)
Blackcap	2	3	3	3	1	1		Pr(1)	Pr (1)
Black-Headed Gull	1	1	5	5	2	2	BAm	N	N
Blue Tit	27	34	10	12	16	19		C (2), Pr (3)	C(3)Pr(4)
Bullfinch				1	1	1	BAm S41	Po	Pr (1)
Buzzard	2	2	1	1	1	1		Po	Po
Canada Goose		2						N	N
Carrion Crow	12	16	1	3	7	7		C(1)	C(1) Pr (1)
Chaffinch	21	22	11	11	14	14		C(1) Pr(6)	C(1) Pr(6)
Chiffchaff	6	9	1	1	5	6		Pr(2)	Pr(3)
Coal Tit	2	2	2	2				Pr(1)	Pr(1)
Collard Dove	3	3	2	2	12	14		C(1)Pr(2)	
Coot			2	2				Po	Po
Cormorant					1	1		N	N
Curlew	1	1					BRd S41	N	N
Dunnock	12	13	8	9	16	18	BAm S41	C(1)Pr(5)	C(1)Pr(7)
Feral Pigeon	1	9	3	3				Po	Po

Species	Visit 1		Visit 2		Visit 3		Status	Likely Breeding Status (No. of pairs)	
	S	SBU	S	SBU	S	SBU		S	SBU
Goldcrest			2	2	3	3		C(1)Pr(1)	C(1)Pr(1)
Goldfinch	31	37	16	16	15	22		C(1)Pr(7)	C(1)Pr(7)
Great Tit	12	17	6	6	6	6		C(1)Pr(3)	C(1)Pr(3)
Greenfinch	3	3	2	2	1	1		Pr(1)	Pr(1)
Heron			1	1	1	1		N	N
Herring Gull	5	5					BRd S41	N	N
House Sparrow	16	16	36	36	16	19	BRd S41	C (6 col.)	C (9 col.)
House Martin					11	12	BAm	Po	Po
Jay					1	1		Po	Po
Jackdaw	10	10	1	2	2	4		Po	Po
Kestrel	1	1					BAm	Po	Po
Lapwing			3	3	1	1	BRd S41	Po	Po
Lesser Black-backed Gull	5	9	2	2	2	2	BAm	N	N
Linnet	24	24					BRd S41	Po	Po
Long-tailed Tit	1	1				1			Pr (1)
Magpie	11	11	2	8	14	15		C(1) Pr (3)	C(1) Pr (3)
Mallard	12	12	1	1	3	3	BAm	C(1)	C(1)

Species	Visit 1		Visit 2		Visit 3		Status	Likely Breeding Status (No. of pairs)	
	S	SBU	S	SBU	S	SBU		S	SBU
Mistle Thrush	2	2			2	2	BRd	C(1)	C(1)
Oystercatcher			1	1			BAm	Po	Po
Pheasant	2	2	1		2	4		Pr (1)	Pr (1)
Robin	14	15	16	18	9	9		C(2) Pr(8)	C(2) Pr(9)
Song Thrush	6	6	6	7	8	8	BRd S41	Pr(4)	Pr(6)
Sparrowhawk					1	1		Po	Po
Starling	41	41	61	62	117	118	BRd S41	C (1 col.)	C (1 col.) Pr (1 col.)
Stock Dove	3	3			2	2	BAm	Po	Po
Swallow	1	1	10	13	12	14		Pr(4)	Pr(4)
Swift					1	1	BAm	N	N
Tree Sparrow			4		2	5	BRd S41	C (1)	C (2)
Wheatear	1	1						N	N
Whitethroat	1	1	6	9	1	2		Pr (5)	Pr (7)
Woodpigeon	63	70	44	44	49	64		C (1) Pr (20)	C (1) Pr (20)
Wren	20	25	18	20	20	22		Pr(18)	Pr (20)
Total Species	36	37	33	34	38	38			

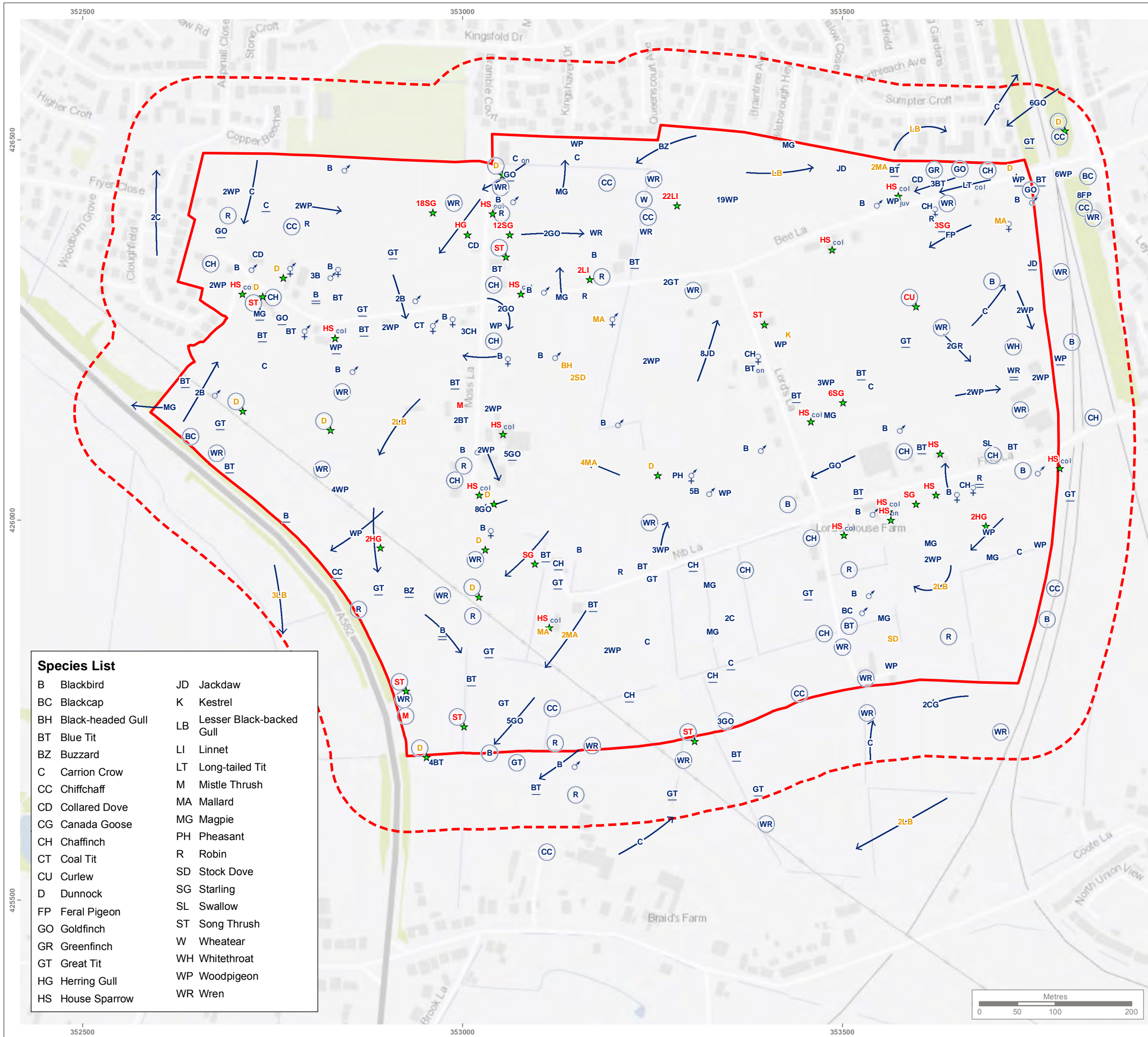
S: Site; SBU: Site including 100m buffer

Status Key: WCA1 = Schedule 1, S41 = Section 41; BRd = BoCC Red List; BAm = BoCC Amber List; LBAP = Local Biodiversity Action Plan Species.

Likely Breeding Status Key: C = Confirmed, Pr = probably breeding within site, Po = possibly breeding within site, N = not breeding within site. Col.: breeding colony

DRAWINGS

G6900.007 Breeding Bird Survey Visit 1 20.04.2018
G6900.008 Breeding Bird Survey Visit 2 18.05.2018
G6900.009 Breeding Bird Survey Visit 3 15.06.2018



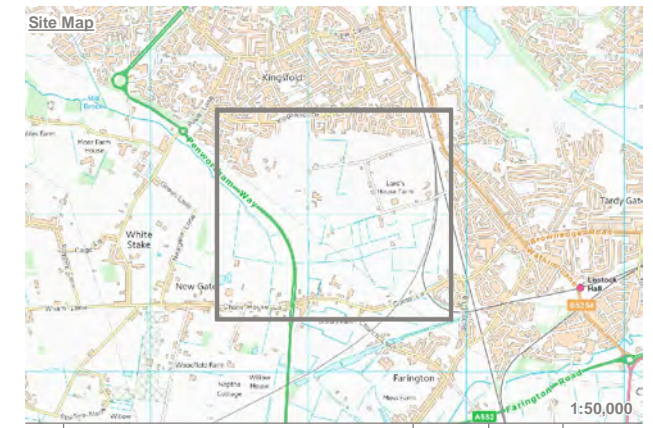
KEY

- Site boundary
- 100m offset from site boundary
- A bird repeatedly giving alarm-calls/other vocalisations
- A bird calling
- on An adult bird sitting on eggs/brood
- A bird in song
- col Colony
- ♀ Female
- ♂ Juvenile
- ♂♀ Male
- ♂♀ Male and female pair
- ★ Section 41 species
- Directional flight line

Note

- Red Red List species
- Amber Amber List species

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Species List

B Blackbird	JD Jackdaw
BC Blackcap	K Kestrel
BH Black-headed Gull	LB Lesser Black-backed Gull
BT Blue Tit	LI Linnet
BZ Buzzard	LT Long-tailed Tit
C Carrion Crow	M Mistle Thrush
CC Chiffchaff	MA Mallard
CD Collared Dove	MG Magpie
CG Canada Goose	PH Pheasant
CH Chaffinch	R Robin
CT Coal Tit	SD Stock Dove
CU Curlew	SG Starling
D Dunnock	SL Swallow
FP Feral Pigeon	ST Song Thrush
GO Goldfinch	W Wheatear
GT Great Tit	WH Whitethroat
HG Herring Gull	WP Woodpigeon
HS House Sparrow	WR Wren

Rev	Description	Drawn	Approved	Date

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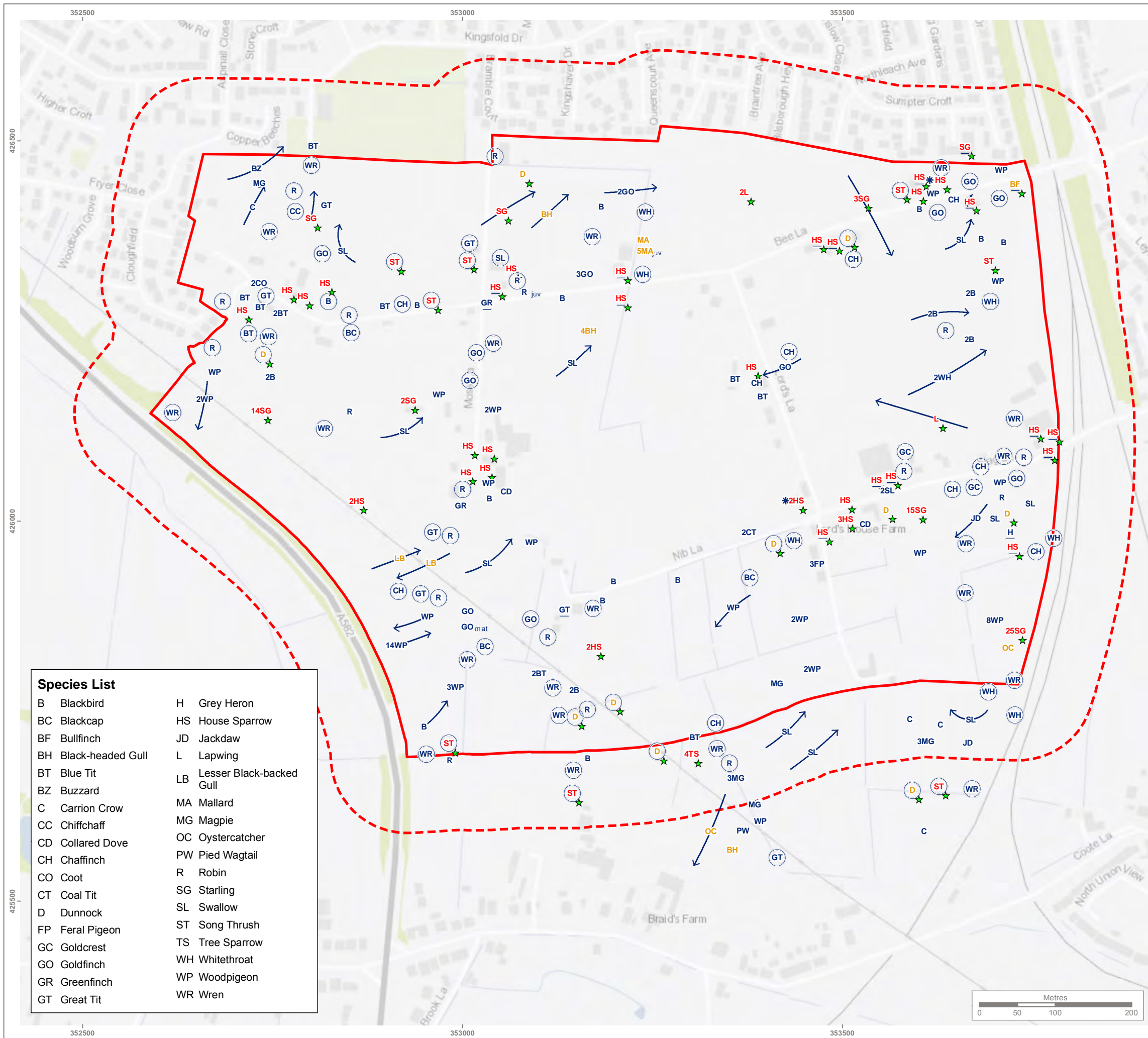
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Project
Pickerings Farm, Penwortham

Title
**Breeding Bird Survey
Visit 1 - 20th April 2018**

Drawing Number
G6900.007

Drawn	Checked	Approved	Scale	Date
AP	LJ	MW	1:5,000 @ A3	28/07/2018



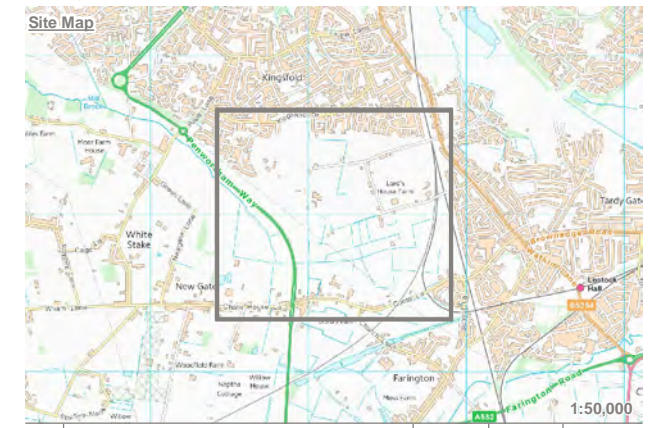
Species List

B Blackbird	H Grey Heron
BC Blackcap	HS House Sparrow
BF Bullfinch	JD Jackdaw
BH Black-headed Gull	L Lapwing
BT Blue Tit	LB Lesser Black-backed Gull
BZ Buzzard	MA Mallard
C Carrion Crow	MG Magpie
CC Chiffchaff	OC Oystercatcher
CD Collared Dove	PW Pied Wagtail
CH Chaffinch	R Robin
CO Coot	SG Starling
CT Coal Tit	SL Swallow
D Dunnock	ST Song Thrush
FP Feral Pigeon	TS Tree Sparrow
GC Goldcrest	WH Whitethroat
GO Goldfinch	WP Woodpigeon
GR Greenfinch	WR Wren
GT Great Tit	

- KEY**
- Site boundary
 - 100m offset from site boundary
 - A bird calling
 - mat A bird carrying nesting material
 - * A nest occupied with eggs/brood
 - A bird in song
 - juv Juvenile
 - ♂♀ Male and female pair
 - ★ Section 41 species
 - Directional flight line

- Note**
- Red Red List species
 - Amber Amber List species

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Rev	Description	Drawn	Approved	Date

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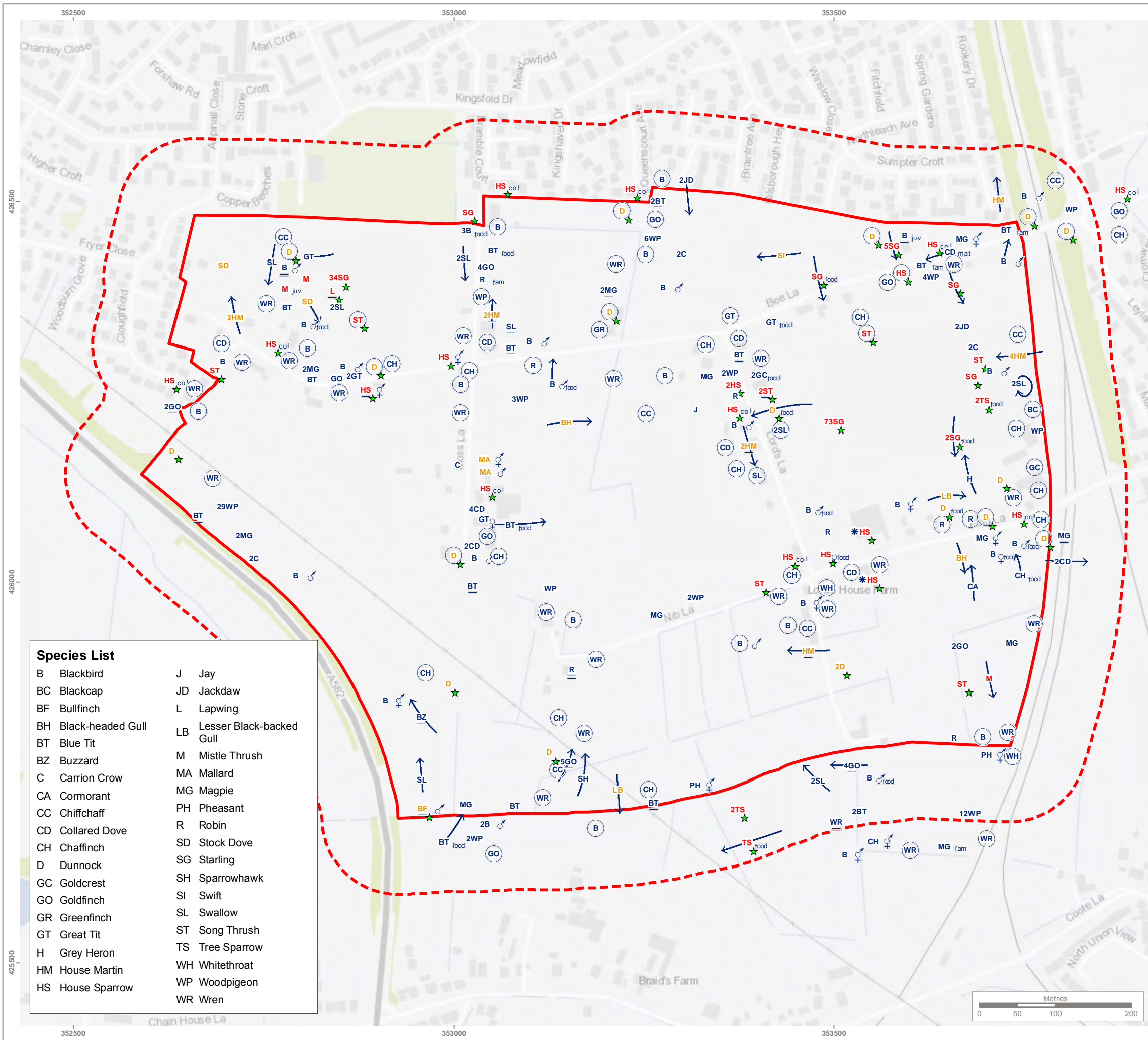
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Project
Pickerings Farm, Penwortham

Title
**Breeding Bird Survey
 Visit 2 - 18th May 2018**

Drawing Number
G6900.008

Drawn	Checked	Approved	Scale	Date
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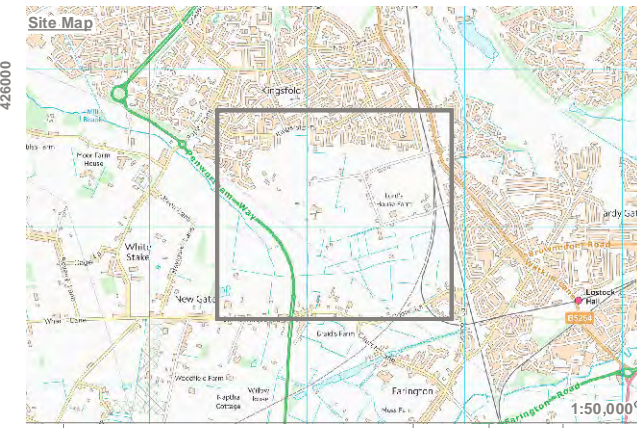
KEY

- Site boundary
- 100m offset from site boundary
- A bird repeatedly giving alarm-calls/other vocalisations
- A bird calling
- food A bird carrying food
- mat A bird carrying nesting material
- * A nest occupied with eggs/brood
- A bird in song
- col Colony
- fam Family group of birds
- ♀ Female
- juv Juvenile
- ♂ Male
- ♂♀ Male and female pair
- ★ Section 41 species
- Directional flight line

Note

- Red Red List species
- Amber Amber List species

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Species List

B Blackbird	J Jay
BC Blackcap	JD Jackdaw
BF Bullfinch	L Lapwing
BH Black-headed Gull	LB Lesser Black-backed Gull
BT Blue Tit	M Mistle Thrush
BZ Buzzard	MA Mallard
C Carrion Crow	MG Magpie
CA Cormorant	PH Pheasant
CC Chiffchaff	R Robin
CD Collared Dove	SD Stock Dove
CH Chaffinch	SG Starling
D Dunnock	SH Sparrowhawk
GC Goldcrest	SI Swift
GO Goldfinch	SL Swallow
GR Greenfinch	ST Song Thrush
GT Great Tit	TS Tree Sparrow
H Grey Heron	WH Whitethroat
HM House Martin	WP Woodpigeon
HS House Sparrow	WR Wren

Rev	Description	Drawn	Approved	Date

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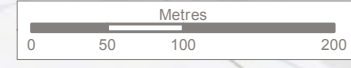
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Project
Pickerings Farm, Penwortham

Title
**Breeding Bird Survey
 Visit 3 - 15th June 2018**

Drawing Number
G6900.009

Drawn	Checked	Approved	Scale	Date
AP	LJ	MW	1:5,000 @ A3	30/08/2018





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Appendix 7.6

Badger Survey Report



THE
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PICKERINGS FARM PENWORTHAM BADGER SURVEY REPORT

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2.0 Methods	6
3.0 Results	7
4.0 Conclusion	8

FIGURES	PAGE
Figure 1: Survey Area Plan. Contains Ordnance Survey data © Crown copyright and database right 2017.	4

1.0 Introduction

- 1.1 TEP was commissioned by Taylor Wimpey North West and Homes England in March 2018, to determine the presence or likely absence of badger *Meles meles* on the site known as Pickerings Farm in Penwortham.
- 1.2 Taylor Wimpey and Homes England are proposing a joint venture for the construction of a large-scale housing development with associated infrastructure and community facilities at the site.

Description of Survey Area

- 1.3 The central grid reference of the survey area is SD 53329 25884 and the location of the survey area is shown in Figure 1 below. Hatched areas within the red line in Figure 1 represent land owned by third parties and these were not subject to surveys.
- 1.4 The survey area comprises pasture and arable fields bounded by hedgerows with residential housing and farm buildings and fragments of other habitats including woodland, scrub, grassland and water bodies. Existing residential development within Penwortham bounds the survey area to the north with Penwortham Way to the west, railway to the east and residential development along Chain House Lane to the south.

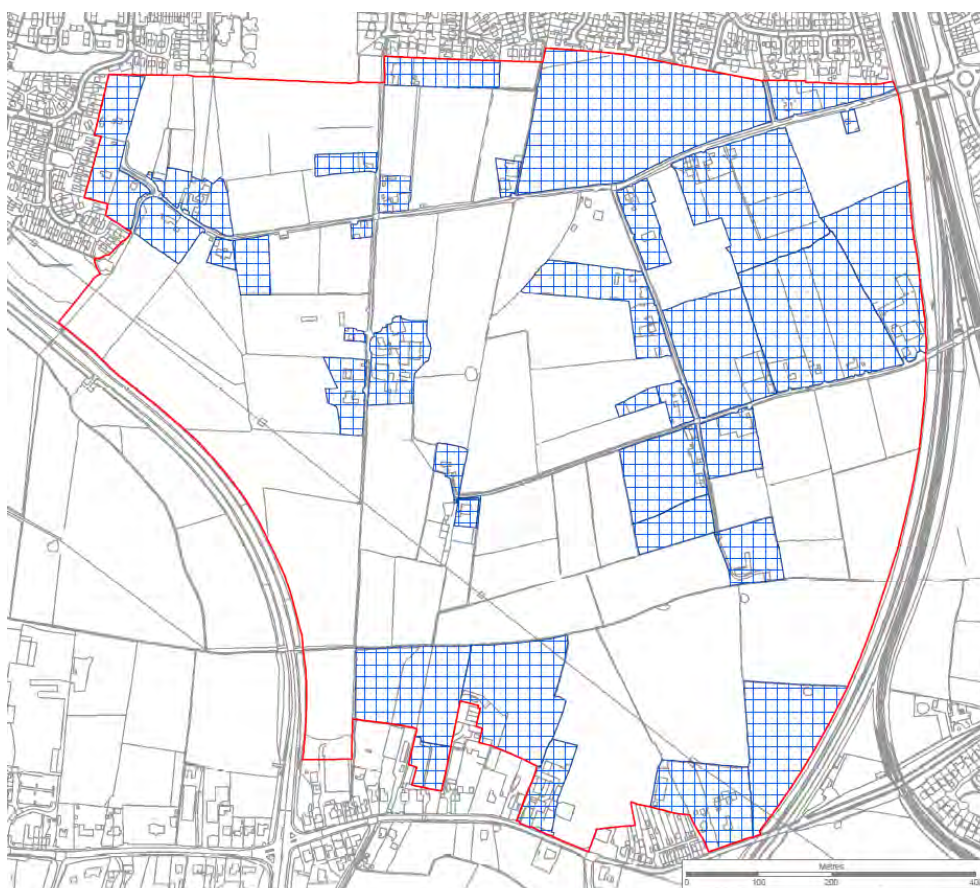


Figure 1: Survey Area Plan. Contains Ordnance Survey data © Crown copyright and database right 2018.

Suitability for Badgers

- 1.5 A report produced by Jacobs in September 2016 in relation to the proposed Penwortham bypass (Report Ref: B2237809) found no evidence of badgers within the survey area and no records of this species occurring in the locality within the last 10 years.
- 1.6 The field boundary hedgerows and woodland areas on and adjacent to the survey area could provide sett excavation opportunities for badgers. The arable and grassland areas also provide suitable foraging habitat for this species.

2.0 Methods

- 2.1 A badger survey of the survey area, and surrounding 30m buffer where accessible, was undertaken by TEP Ecologist Lizi Langston between the 26th and 28th March 2018. This survey was undertaken in line with the standard approach detailed in Surveying Badgers (Harris et al., 1989) and used during the National Badger Survey (Cresswell et al., 1990).
- 2.2 The survey involved surveying potentially suitable habitat and looking for evidence of badger activity such as setts, badger trails/pathways, snuffle holes (or foraging pits), latrines and badger hairs. Any badger setts and associated entrance holes were recorded and assigned a category of badger sett type.

Limitations

- 2.3 Some land parcels were not accessible during the survey. However due to the lack of badger activity elsewhere within the survey area in habitats similar to those which could not be accessed, it is not anticipated that badgers would be present in these areas and therefore this is not a significant limitation to the survey.

3.0 Results

- 3.1 No records of badgers were returned within the desk based assessment completed by TEP in June 2018 (Report Ref: 6900.007).
- 3.2 No setts or conclusive evidence of badger activity was found within the survey area.
- 3.3 Mammal paths were noted in some of the grassland areas to the south of Bee Lane, but no badger paw prints were found in areas of fresh mud along these paths.
- 3.4 The paths are likely to have been made by fox as fox scats were found in the area and a fox earth is present the centre of the survey area.

4.0 Conclusion

- 4.1 No records of badgers were returned in the desk based assessment and no evidence of badger was identified during the surveys.
- 4.2 Therefore it is considered likely that badgers are absent from the survey area.
- 4.3 However a number of habitats on the survey area are suitable for badgers. Badgers are highly mobile throughout their range and therefore there is a small possibility that badgers could utilise the survey area, in its current state, in the future.
- 4.4 Vegetation clearance and excavation works could result in the destruction of badger setts and badger injury/fatality, if present within the survey area.
- 4.5 Badgers and their setts are protected from disturbance under the Protection of Badgers Act 1992.

5.0 Recommendations

- 5.1 An updated badger survey should be undertaken prior to commencement of site clearance. There are no seasonal constraints to this type of survey.
- 5.2 If an active badger sett is identified within 30m of the working area a Natural England licence may be required to disturb or destroy the sett.



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Appendix 7.7

Great Crested Newt Survey Report



THE
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PICKERINGS FARM PENWORTHAM GREAT CRESTED NEWT SURVEY REPORT

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APPENDICES

APPENDIX A: eDNA History and Method

DRAWING

G5060.Eco.PickeringsFarm.001 - Pond Location Plan

1.0 Introduction

- 1.1 TEP was commissioned by Taylor Wimpey North West and Homes England, in June 2017, to determine the presence or likely absence of great crested newts *Triturus cristatus* (GCN) in ponds on and within 500m of a site, known as Pickerings Farm in Penwortham.
- 1.2 Taylor Wimpey and Homes England are proposing a joint venture for the construction of a large-scale housing development with associated infrastructure and community facilities at the site.

Description of Survey Area

- 1.3 The central grid reference of the survey area is SD 53329 25884 and the location of the survey area is shown in Figure 1 below. Hatched areas within the red line in Figure 1 represent land owned by third parties and these were not subject to surveys.
- 1.4 The survey area comprises pasture and arable fields bounded by hedgerows with residential housing and farm buildings and fragments of other habitats including woodland, scrub, grassland and water bodies. Existing residential development within Penwortham bounds the survey area to the north with Penwortham Way to the west, railway to the east and residential development along Chain House Lane to the south.

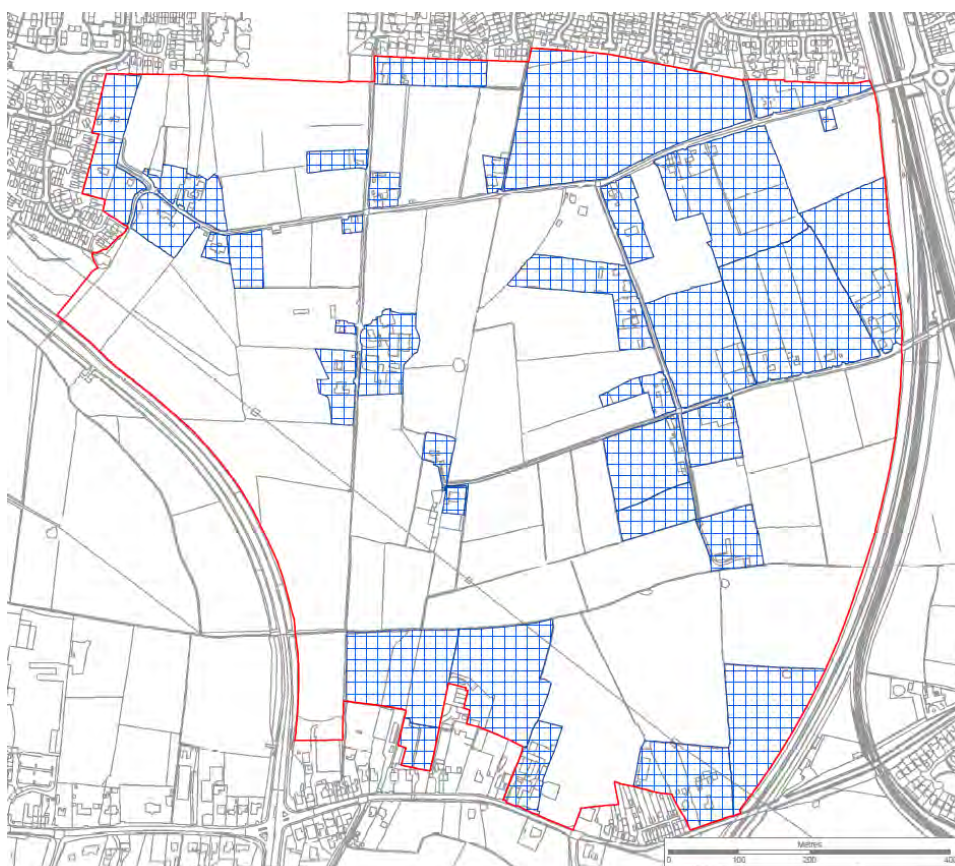


Figure 1: Survey Area Plan. Contains Ordnance Survey data © Crown copyright and database right 2018

Suitability for Great Crested Newts

- 1.5 Ecology surveys were completed by TEP in 2014 and 2015 in connection with former site proposals. A review of the 2015 Pond Location Plan (TEP Ref: G5119.001) and aerial imagery of the site identified 21 ponds within 500m of the survey area. This includes eight ponds within the survey area itself. Six further ponds within the 500m radius were discounted as these are not connected to the survey area by potentially suitable terrestrial habitat (two ponds north east of the B5254 Leyland Road and four ponds south west of the A582 Penwortham Way).
- 1.6 The hedgerows and tree roots within the survey area provide some opportunities for sheltering amphibians, including GCN, with some connectivity to nearby aquatic habitat. The remaining land is arable or closely grazed grassland which is too exposed to be used by these species.

2.0 Methods

- 2.1 The GCN eDNA surveys of the selected 21 ponds were carried out by licensed surveyors Lee Moat (licence ref: WML-CL08 2015-16327-CLS-CLS) and Andrew Crone (licence ref: WML-CL08 2015-18548-CLS-CLS) on the 28th June 2017.
- 2.2 On 28th March 2014, DEFRA published a report (Biggs et al. 2014¹) into the effectiveness of environmental DNA testing to detect GCN presence from samples of pond water. Shortly after publication of this report, Natural England European protected species (EPS) licensing department confirmed that they would accept quantitative Polymerase Chain Reaction (qPCR) analysis of eDNA from water samples as proof of presence or absence of GCN in a pond. Natural England also stated that sampling must take place between the 15th April and the 30th June and be undertaken by a licensed GCN surveyor.
- 2.3 The eDNA analysis technique does not provide a GCN population estimate and if GCN are present in a waterbody, and site proposals necessitate that a population estimate is required for Natural England licensing purposes, then six visits using traditional survey methods are required.
- 2.4 Further information on the reliability of this technique and the methods used can be found in Appendix 1.

Limitations

- 2.5 Access was not granted to P3 within the survey area which is under third party ownership. It is understood that amphibian surveys have been completed of the pond in connection with other planning applications but these are not publicly available at the time of writing this report.
- 2.6 In addition access was not granted to six offsite ponds (P14-19). This is not considered to pose any significant constraint to the survey findings overall. Given the distance of P14-19 from the survey area, absence of any suitable water bodies for GCN across the intervening land, and absence of GCN in any waterbody in the survey area, it is unlikely that any GCN possibly present in P14-19 would use the terrestrial habitats in the survey area.




¹ Biggs et al (2014). Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford.

3.0 Results

- 3.1 No records of great crested newts were found within 1km of the survey area during the desk based assessment completed by TEP in June 2018 (Report Ref: 6900.007).
- 3.2 The results of the eDNA surveys are shown in Table 1 below and in Drawing G5060.Eco.PickeringsFarm.001.
- 3.3 Of the 21 ponds surveyed nine were found to be dry or no longer present (P1, P4, P5, P7, P10, P12, P13, P20 and P21). Access was not granted to seven ponds (P3 and P14-19).
- 3.4 All five ponds subject to eDNA surveys (P2, P6, P8, P9 and P11) were found to be negative which confirmed the likely absence of great crested newts.

Table 1: eDNA survey results

Pond Ref	Photograph/Description	eDNA result
1	Pond no longer present	
2		Negative
3	No access permission from landowner	
4	Dry	
5	Pond no longer present	

Pond Ref	Photograph/Description	eDNA result
6		Negative
7	Pond no longer present	
8		Negative
9		Negative
10	Pond no longer present	

Pond Ref	Photograph/Description	eDNA result
11	Pond within field margins at the end of a boundary ditch. No photo available.	Negative
12	Pond no longer present	
13	Pond no longer present	
14	No access permission from landowner	
15	No access permission from landowner	
16	No access permission from landowner	
17	No access permission from landowner	
18	No access permission from landowner	
19	No access permission from landowner	
20	Pond no longer present	
21	Dry	

4.0 Conclusions

- 4.1 No records of great crested newt were returned within 1km of the survey area during the desk based assessment.
- 4.2 Likely absence of great crested newts was confirmed in five ponds within the survey area and surrounding 500m through eDNA testing, with a further nine ponds being confirmed as dried out or not present.
- 4.3 Seven ponds were not accessible to survey and therefore likely absence of great crested newts cannot be confirmed in these waterbodies. Six of these are off site and one (Pond 3) falls within the survey area in third party land. Given the likely absence of great crested newts from other ponds within the survey area, and the lack of records locally, it is considered highly unlikely that this species would be present in Pond 3.
- 4.4 Therefore no impacts to great crested newts are anticipated as a result of the proposals.

APPENDIX A: eDNA History and Method

Add appendix content here.

Drawing

G5060.Eco.PickeringsFarm.001 - Pond Location Plan



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Appendix 7.8

Water Vole Survey Report



THE
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PICKERINGS FARM PENWORTHAM WATER VOLE SURVEY REPORT

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DRAWING

G5060.Eco.PickeringsFarm.002 - Water Vole Survey Plan

1.0 Introduction

- 1.1 TEP was commissioned in June 2017 by Taylor Wimpey North West and Homes England to determine the presence or likely absence of water vole *Arvicola amphibius* within a network of ditches on land known as Pickerings Farm in Penwortham.
- 1.2 Taylor Wimpey and Homes England are proposing a joint venture for the construction of a large-scale housing development with associated infrastructure and community facilities at the site.

Description of Survey Area

- 1.3 The central grid reference of the survey area is SD 53329 25884 and the location of the survey area is shown in Figure 1 below. Hatched areas within the red line in Figure 1 represent land owned by third parties and these were not subject to surveys.
- 1.4 The survey area comprises pasture and arable fields bounded by hedgerows with residential housing and farm buildings and fragments of other habitats including woodland, scrub, grassland and water bodies. Existing residential development within Penwortham bounds the survey area to the north with Penwortham Way to the west, railway to the east and residential development along Chain House Lane to the south.

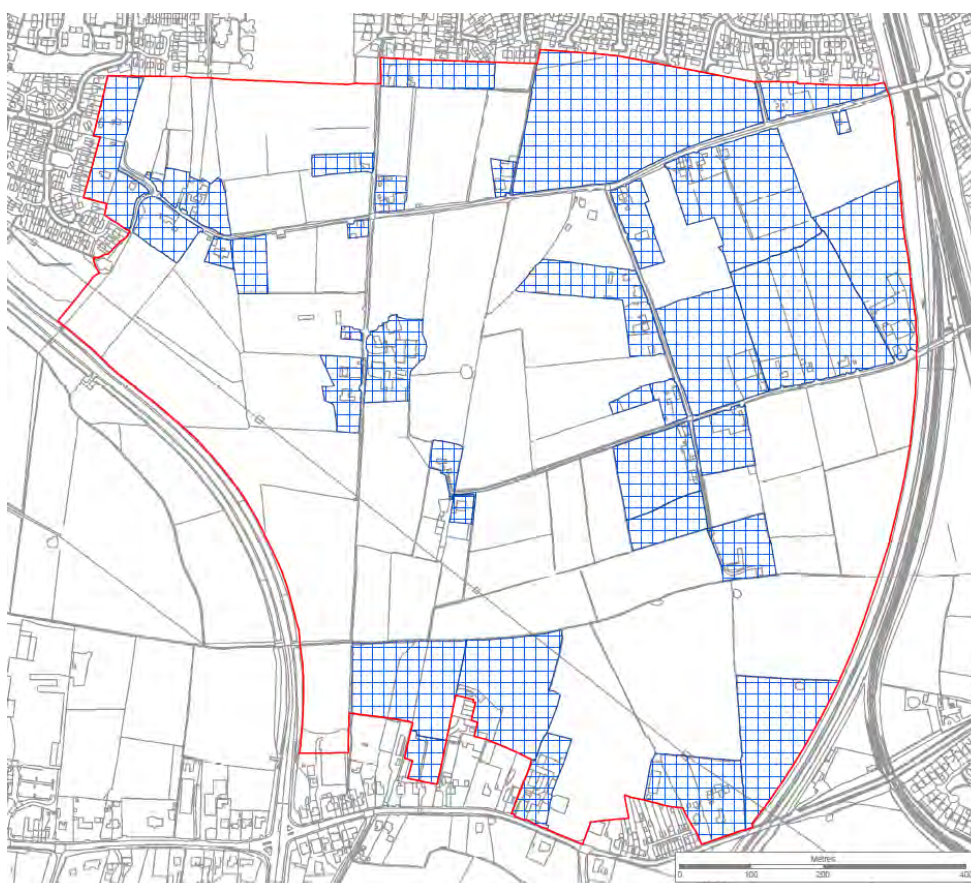


Figure 1: Survey Area Plan. Contains Ordnance Survey data © Crown copyright and database right 2018.

Suitability for Water Voles

- 1.5 29 ditches have been identified within the survey area which could provide suitable foraging and burrowing habitat for water voles. The remaining habitats in the survey area are considered to be unsuitable for this species as water voles tend to inhabit riparian or marshy areas.

2.0 Methods

- 2.1 A water vole survey of the 29 ditches identified within the survey area was undertaken by TEP Ecologist Lizi Langston, assisted by Damian Young on the 31st July 2017. This survey was undertaken in line with the current guidelines for water vole surveys taken from *The Water Vole Mitigation Handbook* (2016)¹.
- 2.2 The survey involved scoping out potentially suitable ditches and searching their banks from within the channel, looking for evidence of water vole activity such as burrows, runs, tracks, latrines and feeding remains.
- 2.3 The water vole survey was carried out in dry weather conditions with no rain for 48 hours prior to the survey.

¹ Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). *The Water Vole Mitigation Handbook* (*The Mammal Society Mitigation Guidance Series*). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

3.0 Results

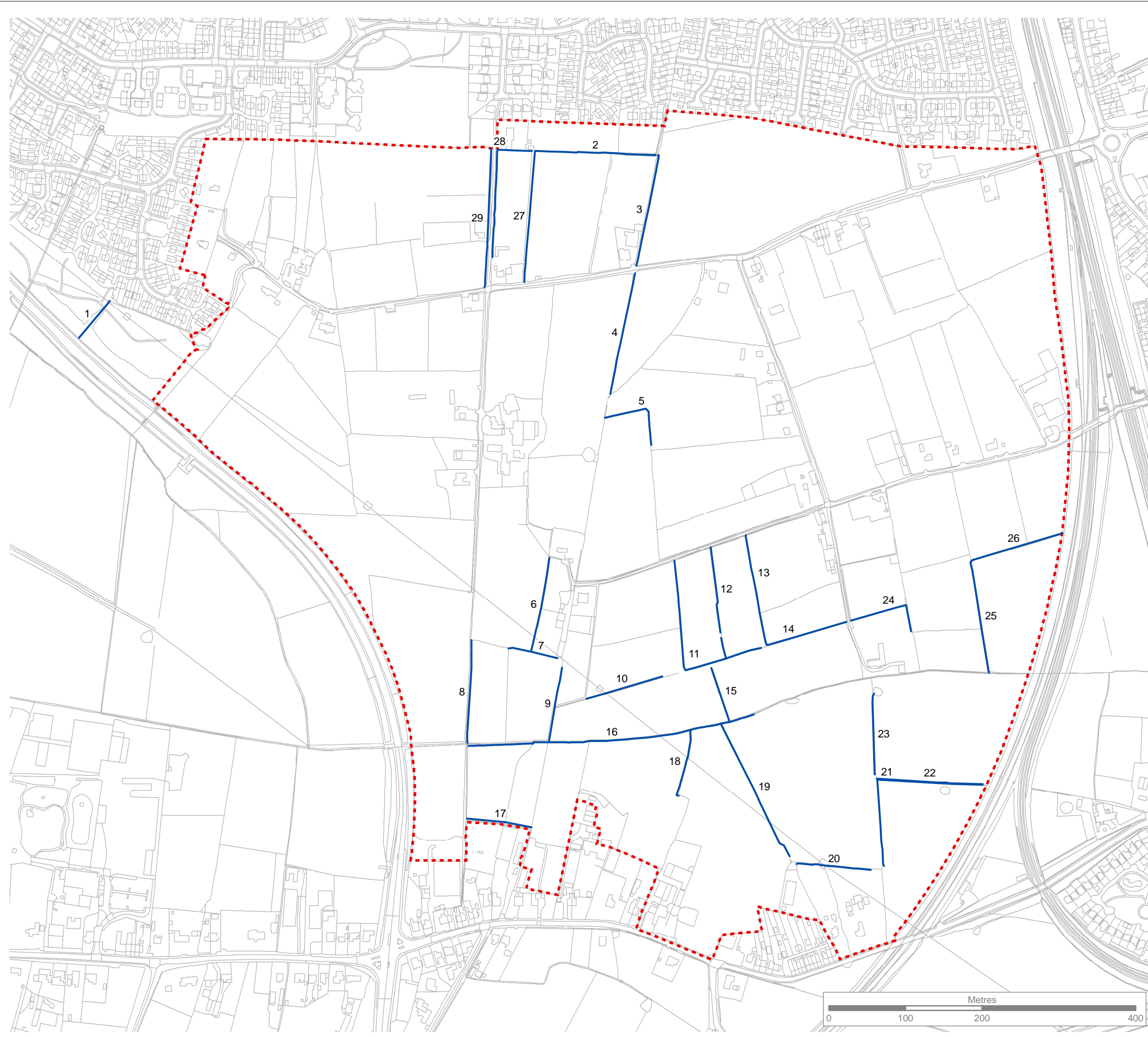
- 3.1 Records of water vole, most recently from 2001, were returned within the desk based assessment produced by TEP in June 2018 (Report Ref: 6900.007). These are all located to the south of the survey area beyond major road barriers with no connectivity to the survey area.
- 3.2 The 29 ditches are all associated with field boundaries and drainage. The location of these ditches are shown on Drawing G5060.Eco.PickeringsFarm.002. The majority of the ditches were adjacent to hedgerows and were found to be heavily vegetated, shaded, significantly impacted by cattle and/or completely dry or with shallow stagnant pools of water.
- 3.3 28 of the ditches were found to be unsuitable for water voles due to the factors detailed above and were not subject to survey.
- 3.4 Ditch 27 was found to be suitable for water voles and was subject to a survey during which no evidence of water voles were found. The ditch is isolated from other suitable water courses as a bund separates it from Ditch 2 to the north which was found to be dry. Therefore it was considered highly unlikely that water voles would be present in this ditch.

4.0 Conclusion

- 4.1 There are records of water vole to the south of the survey area but these records are over 15 years old and are located beyond major road barriers with no habitat connectivity to the survey area.
- 4.2 Only one ditch (Ditch 27) on the site was considered to be suitable for water voles but this is isolated from other habitat.
- 4.3 It is therefore highly unlikely that water voles are present in the survey area.

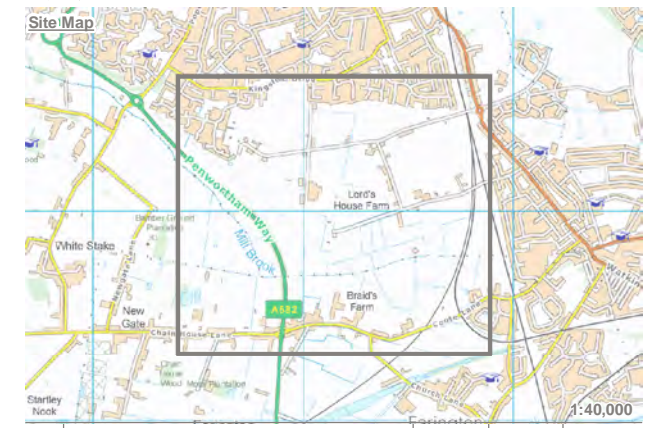
Drawing

G5060.Eco.PickeringsFarm.002 - Water Vole Survey Plan



KEY
 Site Boundary
 Ditch

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 Base Mapping Provided By Client.



Rev	Description	Drawn	Approved	Date

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Project
Pickerings Farm, Penwortham

Title
Water Vole Survey Plan

Drawing Number
G5060.Eco.PickeringsFarm.002

Drawn	Checked	Approved	Scale	Date
JO	JS	LL	1:5,000 @ A3	06/09/2017



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Appendix 7.9

Bat Activity Survey Report



THE
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PICKERINGS FARM PENWORTHAM BAT ACTIVITY SURVEY REPORT

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DRAWINGS

- G6579.003 - Visit 1 - August 2017
- G6579.004 - Visit 2 - September 2017
- G6579.005 - Visit 3 - October 2017
- G6900.006 - Visit 4 - April 2018
- G6900.010 - Visit 5 - June 2018

1.0 Introduction

- 1.1 TEP was commissioned in August 2017 by Taylor Wimpey North West and Homes England to determine the usage of the site, known as Pickerings Farm in Penwortham, by local bat populations for foraging and commuting.
- 1.2 Taylor Wimpey and Homes England are proposing a joint venture for the construction of a large-scale housing development with associated infrastructure and community facilities at the site.

Description of Survey Area

- 1.3 The central grid reference of the survey area is SD 53329 25884 and the location of the survey area is shown in Figure 1 below. Hatched areas within the red line in Figure 1 represent land owned by third parties and these were not subject to surveys.
- 1.4 The survey area comprises pasture and arable fields bounded by hedgerows with residential housing and farm buildings and fragments of other habitats including woodland, scrub, grassland and water bodies. Existing residential development within Penwortham bounds the survey area to the north with Penwortham Way to the west, railway to the east and residential development along Chain House Lane to the south.

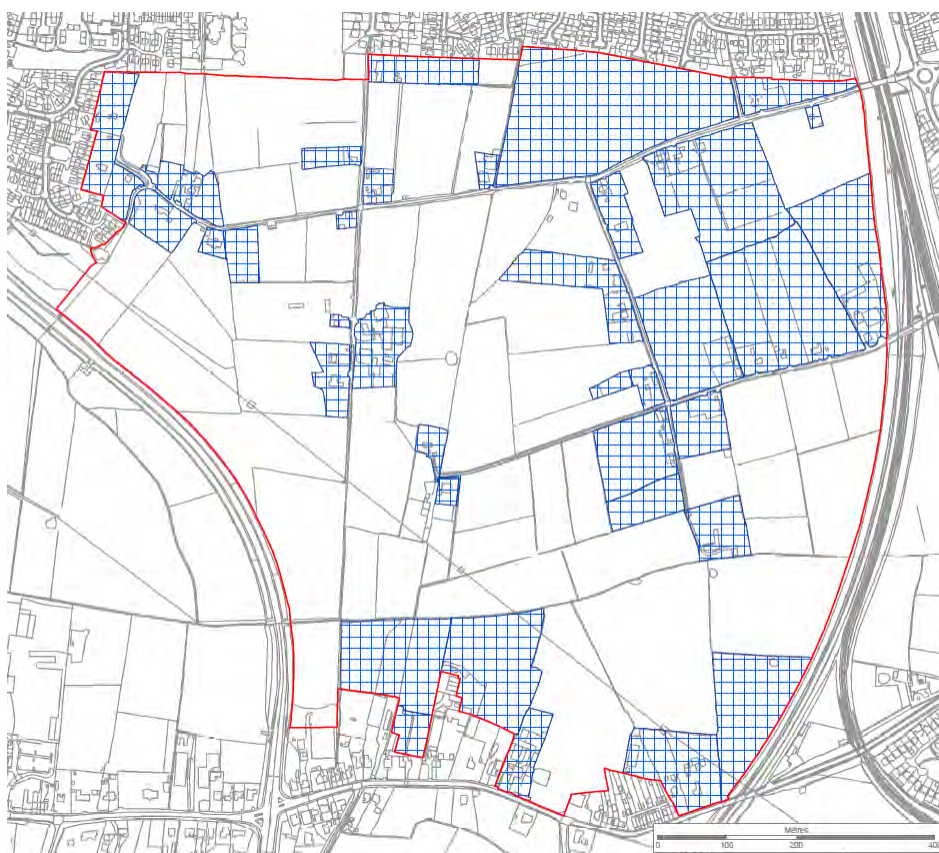


Figure 1: Survey Area Plan. Contains Ordnance Survey data © Crown copyright and database right 2018.

Suitability for Bats

- 1.5 A separate report detailing the roost assessments of trees and buildings within the survey area has been produced (TEP reference: 6900.006).
- 1.6 The hedgerows, trees, ditches and ponds within the survey area provide suitable foraging and commuting habitat for bats, however these habitats cover a relatively small area of the survey area. The remaining habitats are open and exposed with poor structural diversity and these are unlikely to be utilised by bats. Overall the habitats on the survey area are considered to have low suitability for foraging and commuting bats.

2.0 Methods

Transect Survey

- 2.1 In accordance with Bat Conservation Trust (BCT) guidance (Collins 2016¹), habitats of low suitability require one transect survey per season; in spring (April/May), summer (June to August) and autumn (September/October). Two pre-determined transect routes (described as the purple transect and the red transect), to cover all features likely to be of value to foraging and commuting bats, were surveyed to sample bat activity during the peak active season. The transect routes are shown on Drawing G6579.002. These surveys were undertaken in August and September 2017 and April 2018 to cover the spring, summer and autumn seasons. These were supplemented by additional surveys which were completed in October 2017 and June 2018 to sample activity during the late autumn and early summer seasons.
- 2.2 A pair of surveyors walked each transect route using heterodyne (Pettersson D230) and frequency division (Anabat) detectors. The surveys commenced at sunset and continued for at least 120 minutes after sunset in accordance with the 2016 BCT Guidelines. The routes were reversed on alternative visits to optimise sampling efficacy. Number of bat passes², species, behaviour and flight direction were noted at each pre-determined four-minute stop and the intervening walks.
- 2.3 Standardised methods of measuring and recording weather parameters were used e.g. cloud cover (oktas) and wind (Beaufort scale).

Static Monitoring

- 2.4 To accompany the transect surveys static monitoring was undertaken. Eight static detectors were placed close to features of valuable foraging/commuting habitat within the site, as shown on Drawing G6579.002.
- 2.5 Below is a summary of the eight static monitoring locations:
- A – hedgerow in north
 - B – hedgerow adjacent to railway in east
 - C – hedgerow in centre of site
 - D – adjacent to ditch in centre of site
 - E – hedgerow junction in centre of site
 - F – adjacent to ditch in centre of site
 - G – adjacent to wooded pond in west of site
 - H – adjacent to woodland in west of site
- 2.6 Anabat Express and SM2 detectors were used for the static monitoring. In parallel with each transect survey, the statics were set to record for five consecutive nights during favourable weather conditions to monitor bat activity (in line with the 2016 BCT guidance).

¹ Collins, J. 2016. Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition. Bat Conservation Trust.

² A bat pass is defined as the number of bat calls in a continuous sequence; each sequence or pass is separated by 1 second or more in which no calls are recorded (Hundt, 2012).

Sonogram Analysis

- 2.7 Recorded sonograms were analysed using Analook W4.2d software by Lizi Langston, trained to Analook Analysis Advanced Level 3.
- 2.8 For transect data, bat calls were manually verified, automatically (where possible) geo-referenced and digitally mapped using GIS. Mapping of each species is colour coded and flight direction is provided where this was observed.
- 2.9 The monitoring data was scanned using an automated *Pipistrellus* sp. filter (developed by TEP) and all non-pipistrellus calls then manually verified. Data is presented as an activity index of average bat passes per night (ppn; total number of passes divided by the number of nights monitored).

Limitations

Overall

- 2.10 Some species, such as brown long-eared bats *Plecotus auritus* can be relatively difficult to detect due to the low amplitude (i.e. quiet) calls. Presence of brown long-eared was recorded on site but the activity of this species may be underestimated. The conclusions and interpretation in this report takes this into consideration.
- 2.11 Bats vary their calls dependent on the habitats they fly in and on their activity (commuting, foraging, social interaction, etc). It is not always possible to identify bat calls to species level owing to the overlap of call parameters between some species and/or poor quality recordings (e.g. brief and distant passes). In these cases, it is accepted that species are identified to genus level or group level (e.g. *Myotis*, *Myotis/Plecotus* and *Nyctalus/Eptesicus*) (Russ, 1999). Where call parameters are inconclusive the species has been labelled as 'unknown'. This ensures the dataset is interpreted accurately and transparently.

Transect Surveys

- 2.12 During the August 2017 survey no bat call recordings were obtained for the purple transect. Surveyors were able to identify bats to species level during the survey and therefore this was not considered to be a significant constraint.
- 2.13 Light rain showers occurred during the August survey but bat activity was still recorded and therefore this was not considered to be a significant constraint.

Static Monitoring

- 2.14 During the September 2017 monitoring, one of the detectors (Location H) only recorded for four nights. During the October 2017 monitoring no data was recorded at Location E. This was due to equipment malfunction. Due to the additional surveys undertaken in 2017 and 2018 these were not considered to be significant constraints.
- 2.15 There was a light rain shower between 19:50 and 20:20 on September 14th and during the September monitoring the temperature dropped to 9°C each night. This is not atypical for this time of year and, as bat activity was still recorded, this wasn't considered to be a significant constraint.

3.0 Results

3.1 Records of pipistrelle bats were returned within 1km of the site in the desk based assessment produced by TEP in June 2018 (Report Ref: 6900.007).

Transect Surveys

3.2 Results are displayed in Drawings G6579.003 to G6579.005 and G6900.006 and G6900.010. Survey timings and weather conditions are presented in Table 1 below.

Table 1: Transect Survey Dates, Times and Weather Conditions

Visit	Date	Start Time	End Time	Sunset	Weather at Start	Weather at End
1	22/08/17	20:25	22:17	20:25	21°C, no rain or wind	20°C, no rain or wind
2	14/09/17	19:30	21:28	19:30	13°C, light rain shower, no wind	11°C, no rain or wind
3	05/10/17	18:39	20:40	18:39	12°C, no rain or wind	12°C, no rain or wind
4	03/05/18	21:43	23:43	21:43	25°C, no rain or wind	20°C, no rain or wind
5	26/06/18	20:45	22:23	20:45	12°C, no rain or wind	12°C, no rain or wind

- 3.3 The activity transects revealed at least three species of bat across the survey area;
- Common pipistrelle *Pipistrellus pipistrellus* as well as passes of unconfirmed *Pipistrellus* species.
 - Noctule *Nyctalus noctula* as well as passes of unconfirmed big bat species
 - Unconfirmed *Myotis* bat.
- 3.4 Activity levels were relatively consistent throughout the months and were evenly spread across the survey area. Pipistrelle species were the most frequently recorded with occasional passes from noctule and, less frequently, *Myotis* species.
- 3.5 Foraging hotspots and commuting routes were concentrated along hedgerow networks, particularly the species-rich hedgerows with trees. However no pattern was noted across the surveys which would indicate that any particular hedgerows are more important than others. The remainder of the site comprises open fields which were used less by bats.
- 3.6 No incidental activity which could be linked to potential specific roost sites was observed during the transect surveys. The activity levels within the survey area were relatively low with no clear peaks at dusk when emergence would occur.

Static Monitoring

3.7 Recorded bat passes have been analysed with regard to spatial distribution (comparing activity across locations at one time), and temporal distribution (how activity changes over time) across the survey area. Results are first presented in a series of graphs below, with detailed description to follow.

Spatial Distribution

3.8 Figures 2 to 6 below show the spatial distribution of bat activity across the survey months.

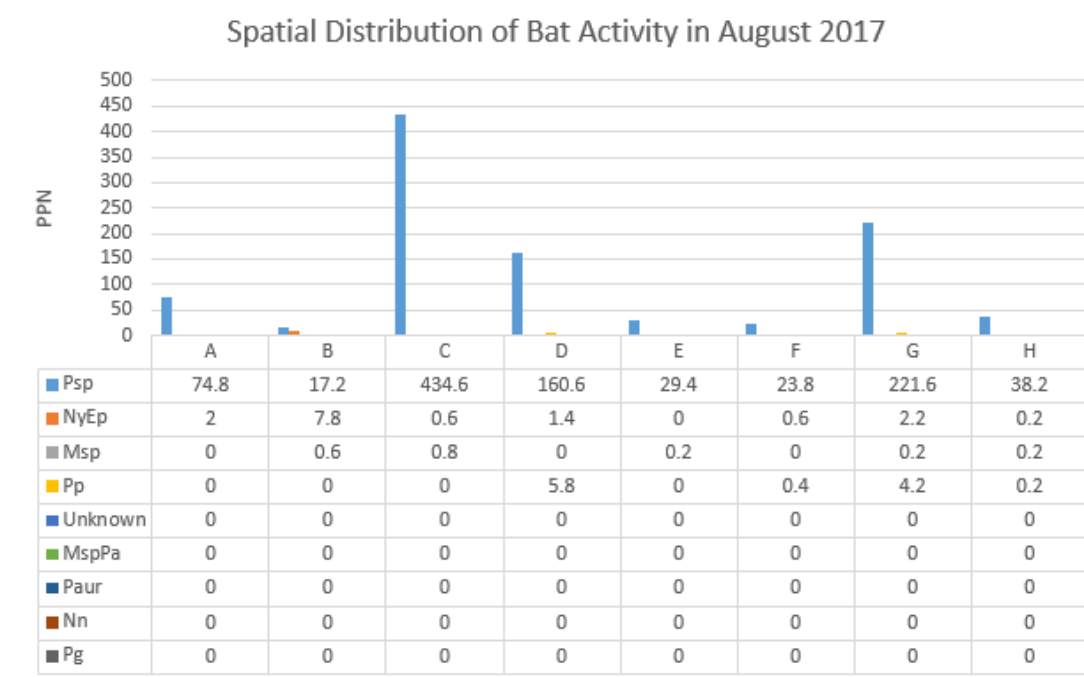


Figure 2: Spatial Distribution of Bat Activity in August 2017

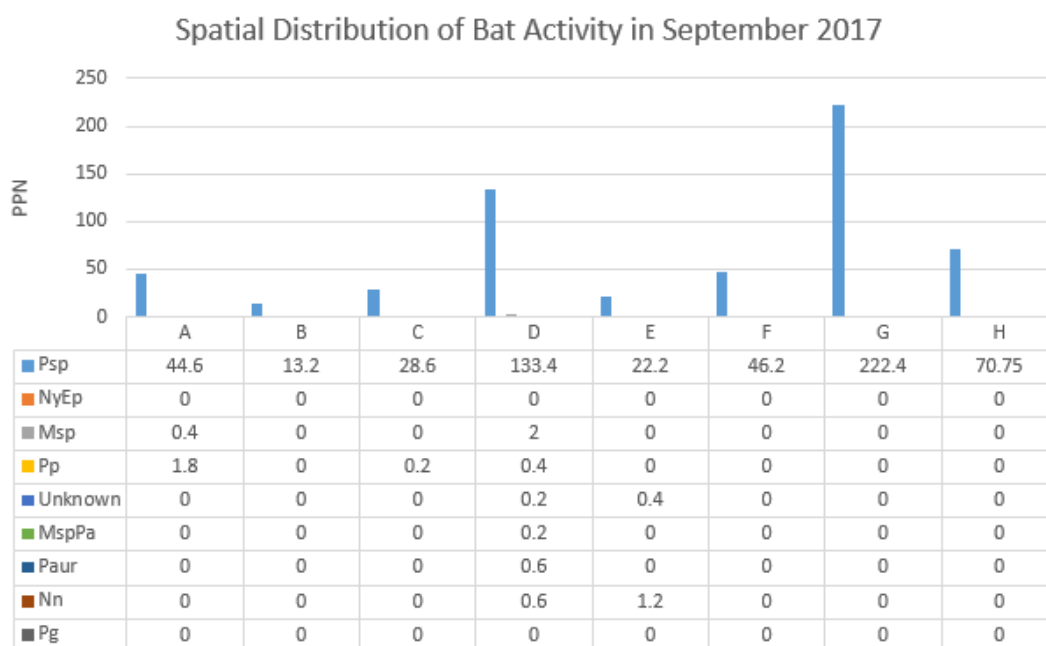


Figure 3: Spatial Distribution of Bat Activity in September 2017

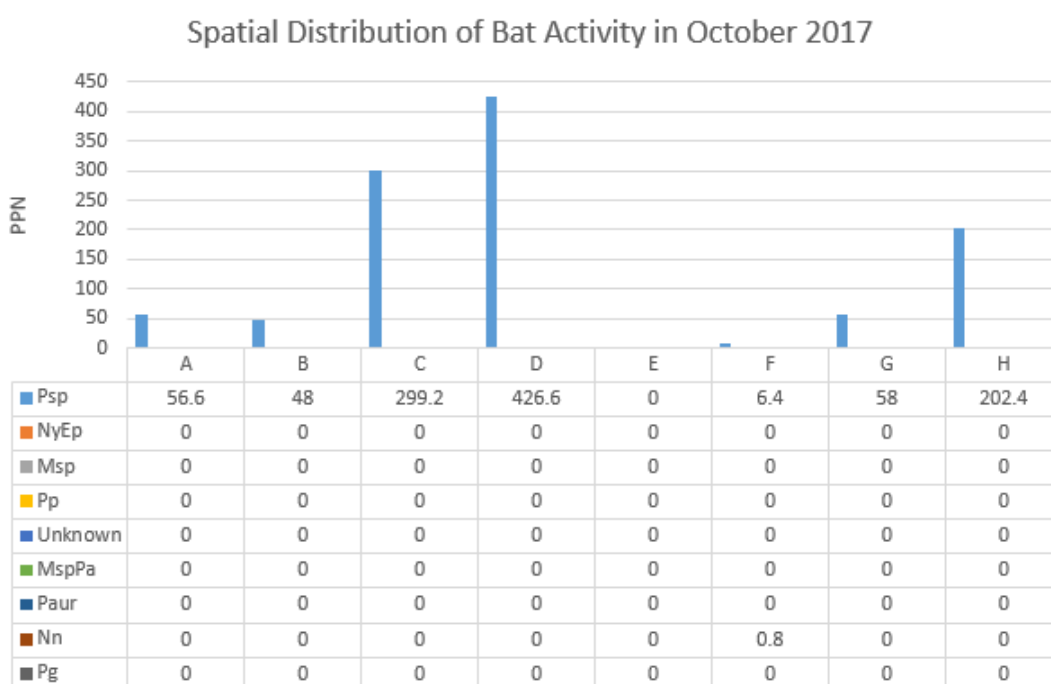


Figure 4: Spatial Distribution of Bat Activity in October 2017

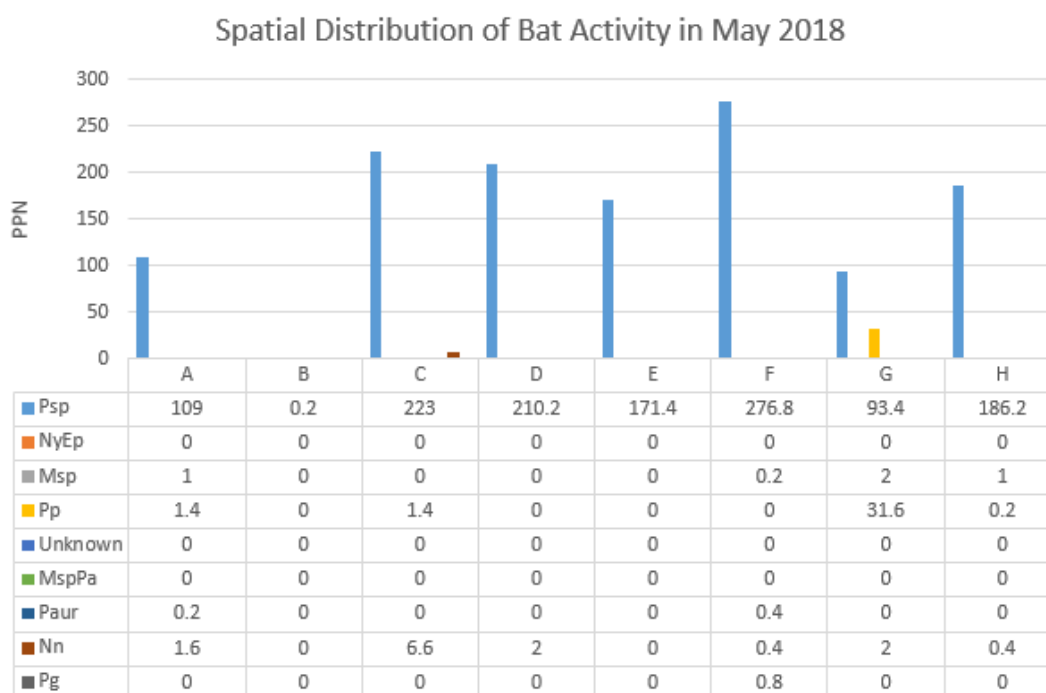


Figure 5: Spatial Distribution of Bat Activity in May 2018

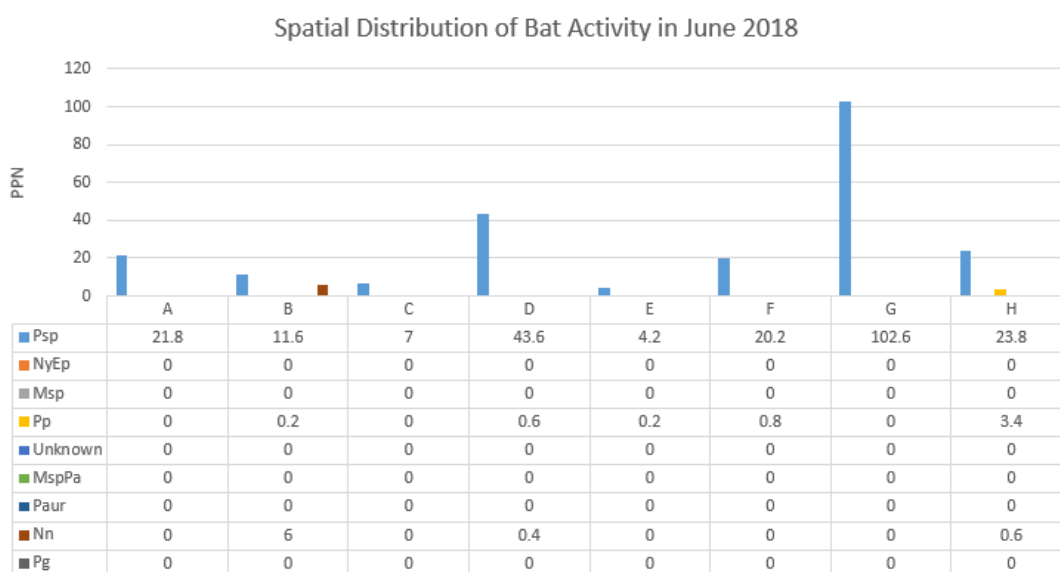


Figure 6: Spatial Distribution of Bat Activity in June 2018

Temporal Distribution

3.9 Figures 7 to 14 show the temporal distribution of bat activity across the eight static detector locations.

Temporal Distribution of Activity at Location A

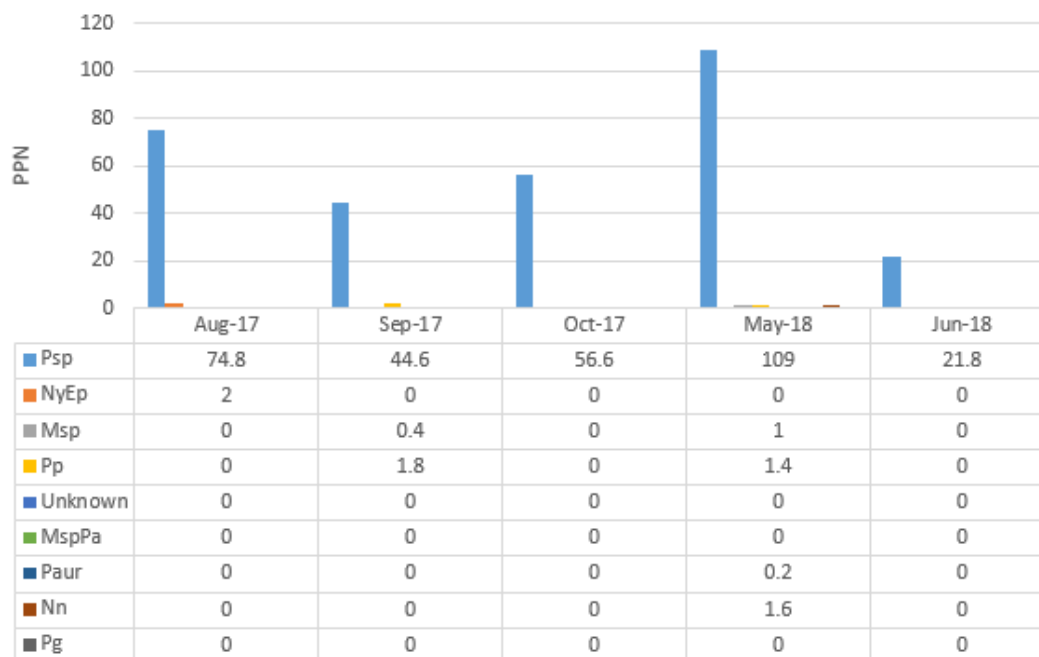


Figure 7: Temporal Distribution of Bat Activity at Location A

Temporal Distribution of Activity at Location B

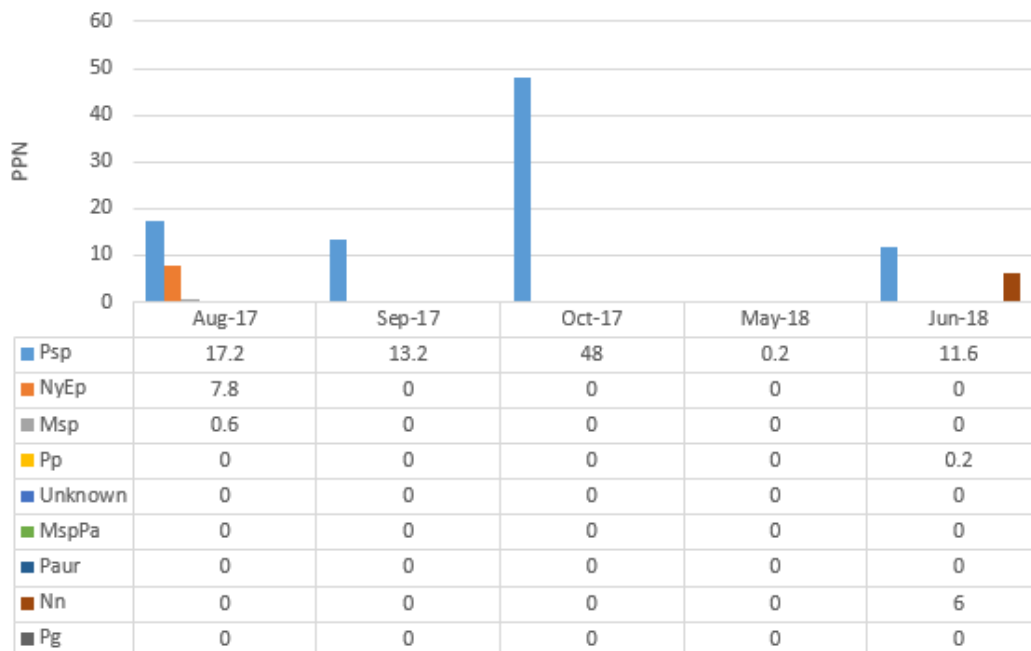


Figure 8: Temporal Distribution of Bat Activity at Location B

Temporal Distribution of Activity at Location C

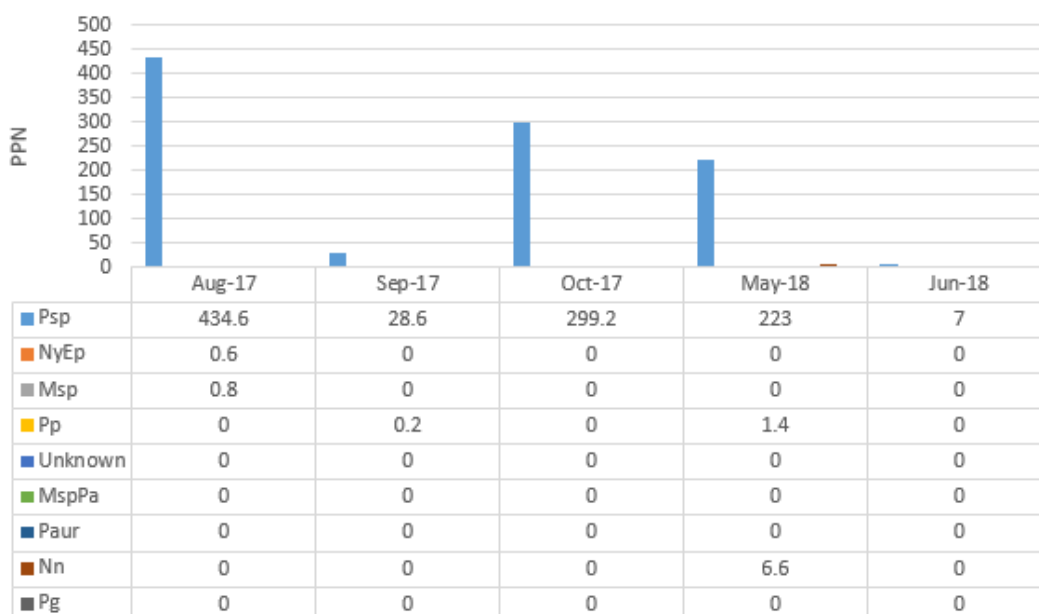


Figure 9: Temporal Distribution of Bat Activity at Location C

Temporal Distribution of Activity at Location D

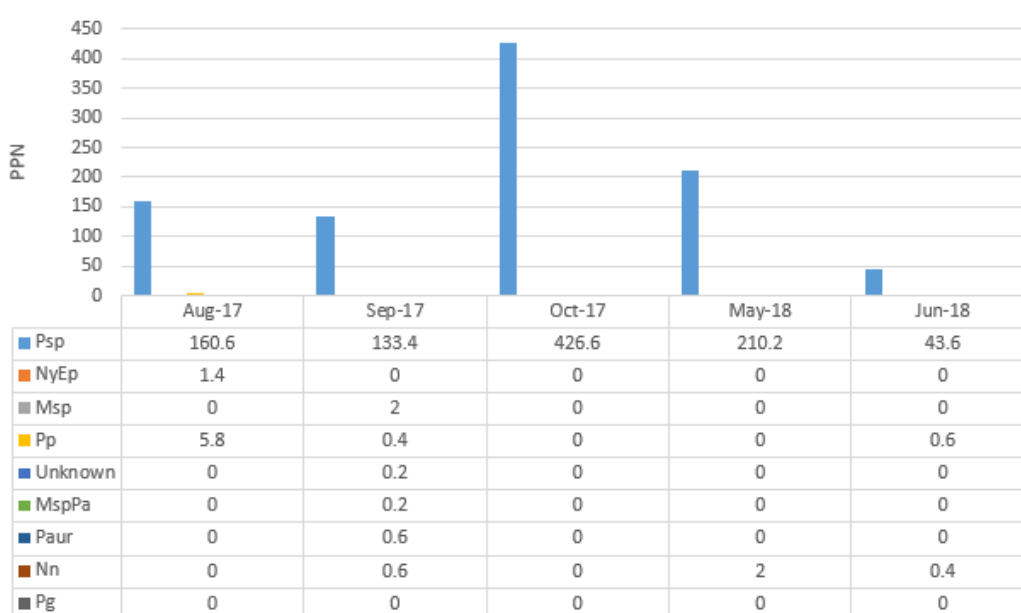


Figure 10: Temporal Distribution of Bat Activity at Location D

Temporal Distribution of Activity at Location E

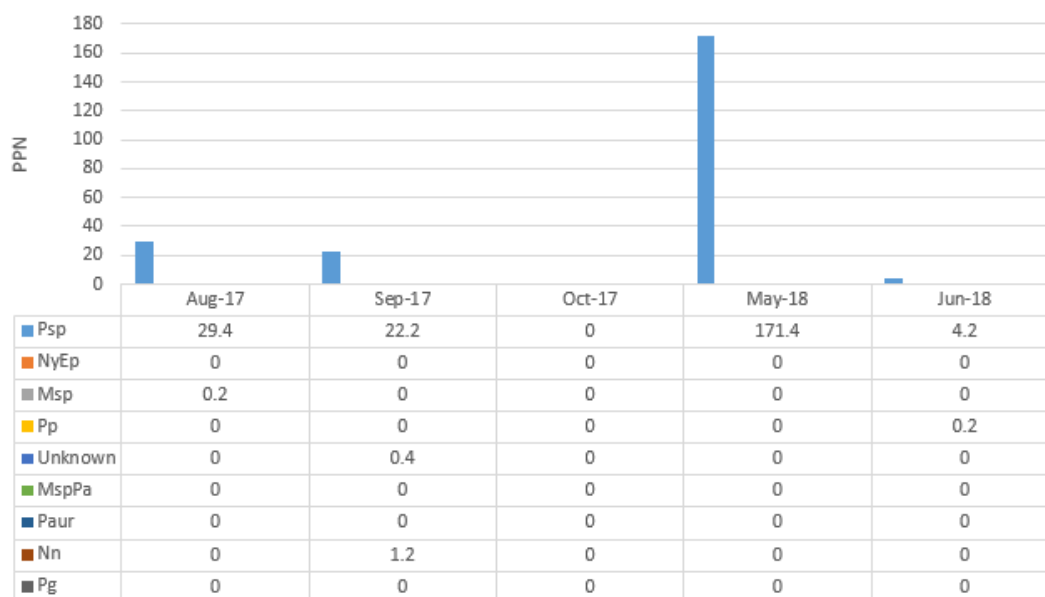


Figure 11: Temporal Distribution of Bat Activity at Location E

Temporal Distribution of Activity at Location F

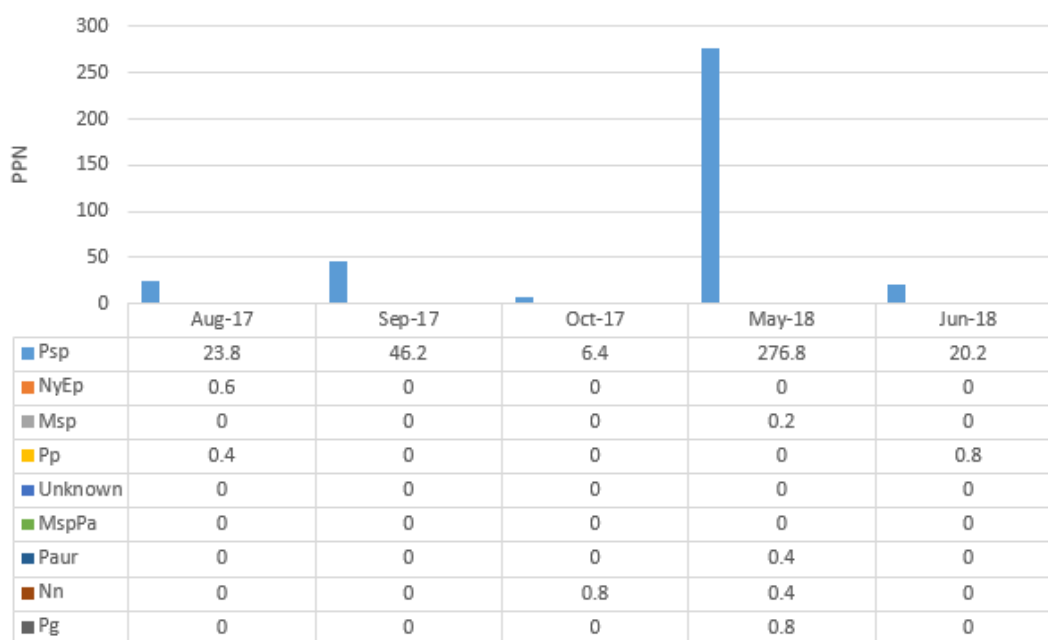


Figure 12: Temporal Distribution of Bat Activity at Location F

Temporal Distribution of Activity at Location G

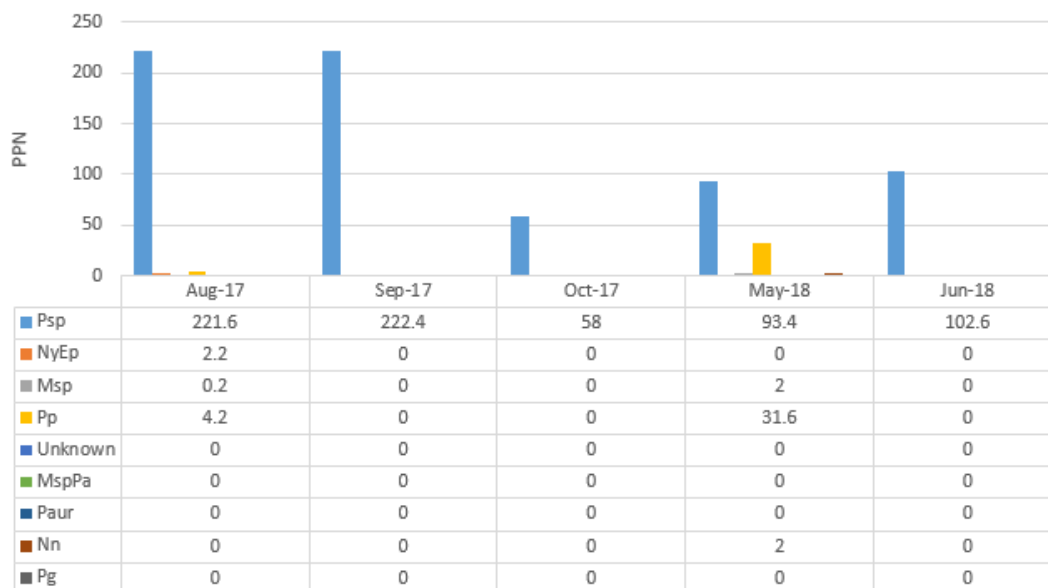


Figure 13: Temporal Distribution of Bat Activity at Location G

Temporal Distribution of Activity at Location H

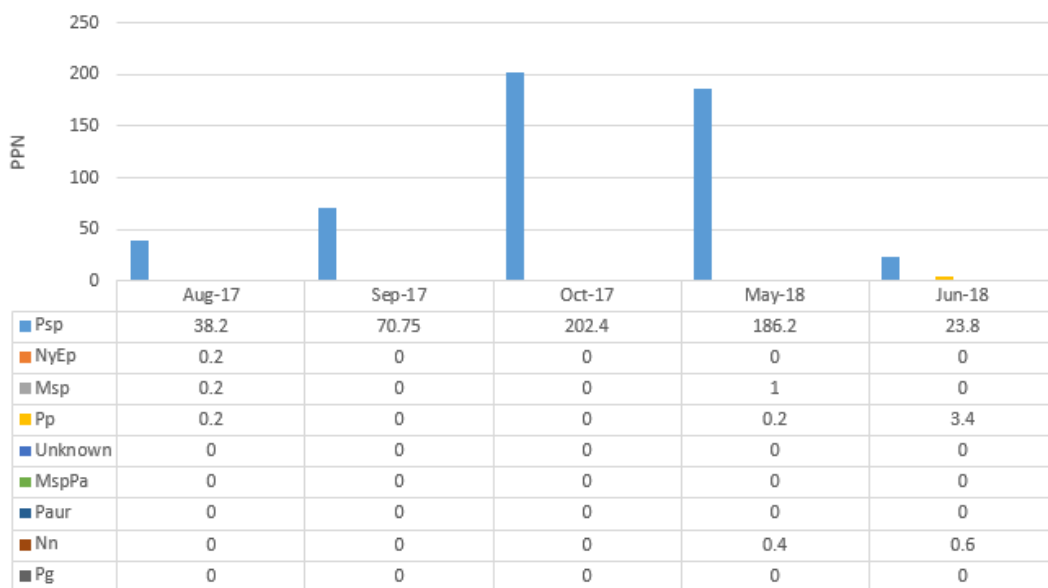


Figure 14: Temporal Distribution of Bat Activity at Location H

4.0 Interpretation

Species Composition

- 4.1 Six confirmed species of bat were recorded in the survey area. Common and soprano pipistrelle bats were the most frequently recorded and activity was relatively low and spread evenly across the survey area. Foraging hotspots and commuting routes were identified along hedgerows particularly the species-rich hedgerows with trees. Occasional passes were noted across the survey area by big bat species, including noctule. Brown long-eared bats and *Myotis* species were also recorded.

The species have been categorised by distribution and rarity (Wray, 2010):

Common (Populations over 100,000 in England)

- Common pipistrelle
- Soprano pipistrelle
- Pipistrelle species
- Brown long-eared bat

Rarer (Populations between 10,000 - 100,000 in England)

- *Myotis* species (including Daubenton's, Natterer's and whiskered/Brandt's/Alcathoe)
- Big bat species (noctule, serotine and Leisler's)

- 4.2 The assemblage recorded a low diversity of bat species. This reflects the habitats present – high quality habitat is limited to the hedgerows within the survey area with the remaining habitats generally of low quality and too exposed to be of value to bats. The survey area also has limited connectivity to suitable habitat in the local area due to its isolation by surrounding major roads and urban development.
- 4.3 The abundance of pipistrelle species reflects the national trend. A reasonable level of *Myotis* species are present. Due to the nature of the habitats present these are most likely to be whiskered bats. A low number of brown long-eared bats are present, most likely due to the relatively low suitability of the habitats within the survey area. *Myotis* and brown long-eared bats tend to favour woodland areas which is located adjacent to the west site boundary.

Spatial Distribution

- 4.4 Species presence at each monitoring location is summarised in Figure 15 below.

	Species Present at Each Location							
	A	B	C	D	E	F	G	H
Psp	Y	Y	Y	Y	Y	Y	Y	Y
NyEp	Y	Y	Y	Y	N	Y	Y	Y
Msp	Y	Y	Y	Y	Y	Y	Y	Y
Pp	Y	Y	Y	Y	Y	Y	Y	Y
MspPa	N	N	N	Y	N	N	N	N
Paur	Y	N	N	Y	N	Y	N	N
Nn	Y	Y	Y	Y	Y	Y	Y	Y
Unknown	N	N	N	Y	Y	N	N	N
Pg	N	N	N	N	Y	N	N	N

Figure 15: Species Presence at each Monitoring Location

Location A

- 4.5 Compared to other locations in the survey area activity was moderate. Activity levels at this location were distributed relatively evenly across the survey months with a spike in May and the lowest levels in June. Species diversity was relatively diverse in this location (at least four species including common pipistrelle, myotis sp, brown long-eared bat and noctule).

Location B

- 4.6 Compared to other locations in the survey area activity was relatively low. Activity levels at this location peaked in October with very low activity in May. Species diversity was similar to that of Location A but with no brown long-eared bats recorded.

Location C

- 4.7 Compared to other locations in the survey area activity was relatively high. Activity levels at this location peaked in August with low levels in September and June. Species composition is the same as that of Location B.

Location D

- 4.8 Compared to other locations in the survey area activity was relatively high. Activity levels at this location peaked in October with the lowest levels in June. Species diversity was relatively diverse in this location (at least four species including common pipistrelle, myotis sp, brown long-eared bat and noctule).

Location E

- 4.9 Compared to other locations in the survey area activity was relatively low. Activity levels at this location peaked in May with lower levels in June (no data recorded in October). Species diversity was relatively diverse in this location (at least four species including common pipistrelle, myotis sp, soprano pipistrelle and noctule).

Location F

- 4.10 Compared to other locations in the survey area activity was relatively low. Activity levels at this location peaked in May with lower levels in October. Species diversity was relatively diverse in this location (at least four species including common pipistrelle, myotis sp, brown long-eared bat and noctule).

Location G

- 4.11 Compared to other locations in the survey area activity was relatively high. Activity levels at this location were higher in August with a peak in September and a large drop in October. Species diversity was lower in this location (at least three species including common pipistrelle, myotis sp and noctule).

Location H

- 4.12 Compared to other locations in the survey area activity was relatively moderate. Activity levels at this location peaked in October and May with the lowest levels in June. Species diversity was lower in this location (at least three species including common pipistrelle, myotis sp and noctule).

Temporal Distribution

- 4.13 In August the highest activity within the survey area was at Location C and the lowest was Location B. In September the highest activity was at Location G and the lowest was Location B. In October the highest activity was at Location D and the lowest was at Location F (no data was obtained at Location E in October). In May the highest activity was at Location F and the lowest was at Location B. In June the highest activity was at Location G and the lowest was at Location E.
- 4.14 Species composition was the most diverse in September (at least four species including common pipistrelle, myotis sp, brown long-eared bat and noctule) with the lowest diversity in October (at least two species including pipistrelle sp and noctule).
- 4.15 Species recorded during each month is summarised in Figure 16.

	Species Present During Each Month				
	August	September	October	May	June
Psp	Y	Y	Y	Y	Y
NyEp	Y	N	N	N	N
Msp	Y	Y	N	Y	N
Pp	Y	Y	N	Y	Y
MspPa	N	Y	N	N	N
Paur	N	Y	N	Y	N
Nn	N	Y	Y	Y	Y
Unknown	N	Y	N	N	N
Pg	N	N	N	Y	N

Figure 16: Species Recorded during each Month

5.0 Conclusion

- 5.1 Bat activity was distributed across the survey area, concentrated along the hedgerow networks. Activity levels and species diversity were low across the survey area. The survey area is therefore considered to have low suitability for bats.
- 5.2 A separate report detailing the roost assessments of trees and buildings within the survey area has been produced (TEP reference: 6900.006).
- 5.3 Loss of hedgerows and mature trees within the survey area could result in a reduction in foraging opportunities for local bat populations. Light spill on to retained and newly created habitats, during the construction and operation phases, could also negatively impact bat activity within and adjacent to the survey area.

6.0 Recommendations

- 6.1 Hedgerows within the site should be retained where possible and protected from development in accordance with the recommendations made in the Hedgerow Assessment Report (TEP Report Ref: 6900.003).
- 6.2 Sensitive lighting principles should be implemented during the construction and operation phases of the development. This may include:
- Use of unnecessary lighting will be avoided;
 - Spatial spread of lighting – the horizontal and vertical spread of artificial light will be minimised, and take into account both primary and reflected light sources. Directional lighting can be achieved by angle and orientation of beam, use of a cowl, louvre or other light shield, or a combination of these;
 - Timing and duration of lighting – timers and bespoke dimming regimes may be used to ensure that luminaires are reduced at times of predicted low use. These can be set to change with the seasons and therefore reflect the shifting time of dusk and dawn throughout the year. Motion sensors provide further control to ensure that areas are illuminated only when required; and
 - Intensity and colour of lighting – light intensity will be as low as possible whilst meeting the objectives of the intended function. The colour of lighting will need to take into account the sensitivity of the ecological receptors on site. Light sources selected should emit zero ultra-violet light wherever possible. Interim guidance from the Bat Conservation Trust (2014) recommends that white and blue spectrum light should be avoided or, where white lights are required, these should be of warm/neutral colour and have a peak wavelength above 550 nanometers. Narrow spectrum light sources should be used (to lower the range of species affected by lighting).

Drawings

G6579.003 - Visit 1 - August 2017

G6579.004 - Visit 2 - September 2017

G6579.005 - Visit 3 - October 2017

G6900.006 - Visit 4 - April 2018

G6900.010 - Visit 5 - June 2018

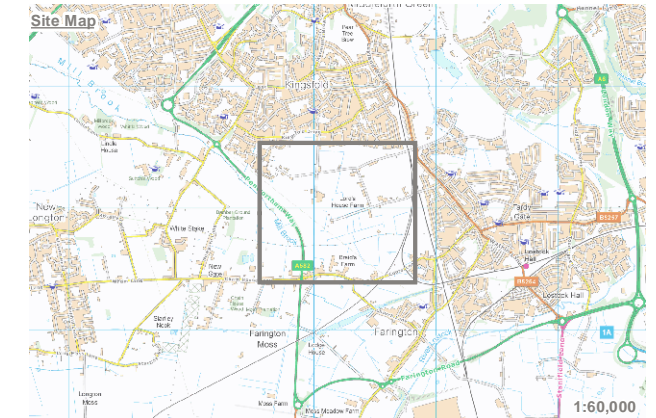


KEY

- Site Boundary
- Noctule
- Common Pipistrelle
- Bat Flightline
(Colour Denotes Bat Species)



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Rev	Description	Drawn	Approved	Date



Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
 Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project
Pickerings Farm, Penwortham

Title
**Bat Transects Survey - Visit 1
 22nd August 2017**

Drawing Number
G6579.003

Drawn	Checked	Approved	Scale	Date
MK	LL	LL	1:4,300 @ A3	23/10/2017

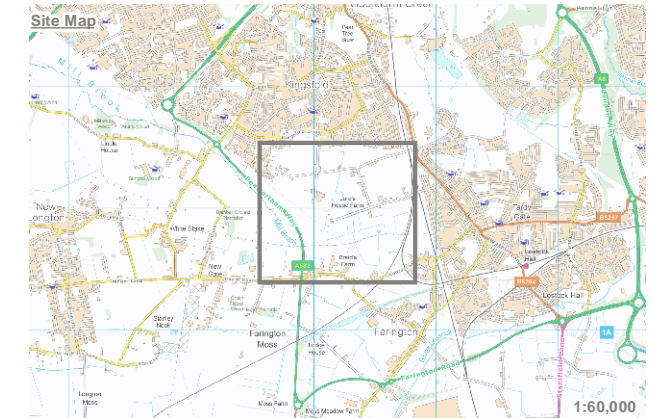


KEY

- Site Boundary
- Myotis Species
- Noctule
- Common Pipistrelle
- Pipistrelle Species
- Bat Flightline
(Colour Denotes Bat Species)



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Rev	Description	Drawn	Approved	Date



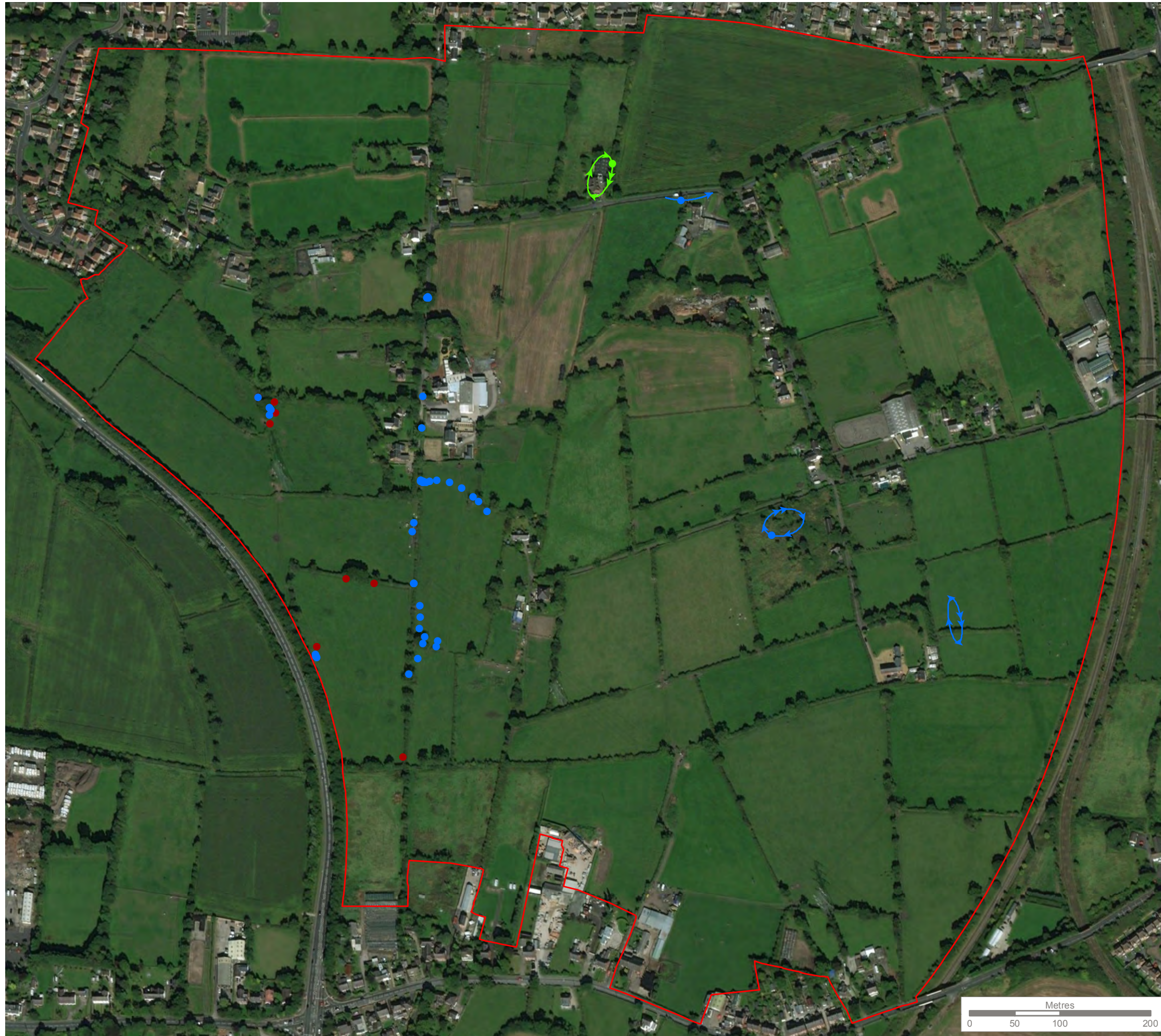
Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
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Project
Pickerings Farm, Penwortham

Title
**Bat Transects Survey - Visit 2
 14th September 2017**

Drawing Number
G6579.004

Drawn	Checked	Approved	Scale	Date
MK	LL	LL	1:4,300 @ A3	23/10/2017

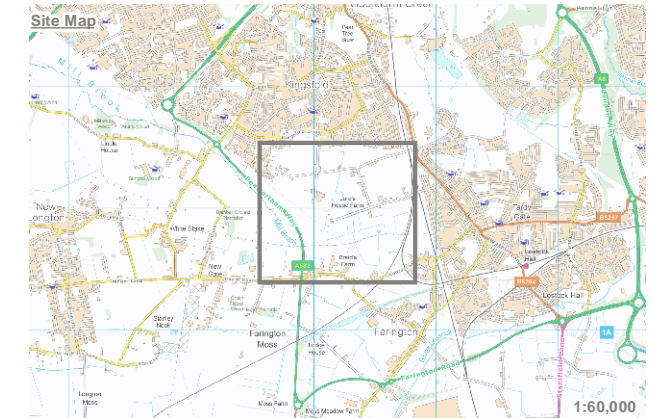


KEY

- Site Boundary
- Big Bats Species
- Soprano Pipistrelle
- Common Pipistrelle
- Bat Flightline
(Colour Denotes Bat Species)



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Rev	Description	Drawn	Approved	Date



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Project
Pickerings Farm, Penwortham

Title
Bat Transects Survey - Visit 3
05th October 2017

Drawing Number
G6579.005

Drawn	Checked	Approved	Scale	Date
MK	LL	LL	1:4,328 @ A3	23/10/2017

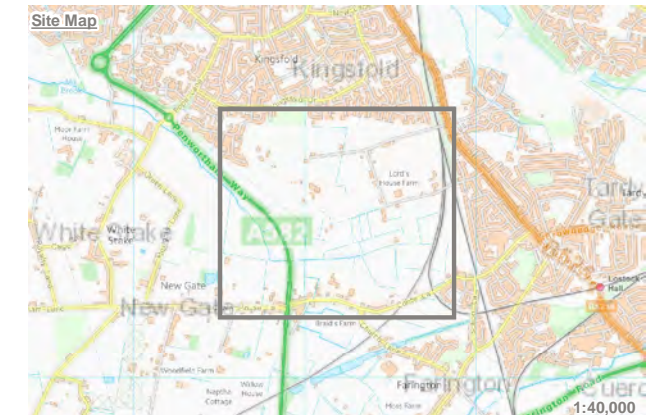


KEY

- Survey Boundary
- Common Pipistrelle
- Bat Flightline
(Colour Denotes Bat Species)



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Project
Pickerings Farm, Penwortham

Title
**Bat Transect Survey
 Visit 4 - 3rd May 2018**

Drawing Number
G6900.006

Drawn	Checked	Approved	Scale	Date
CB	MK	MK	1:4,600 @ A3	03/08/2018

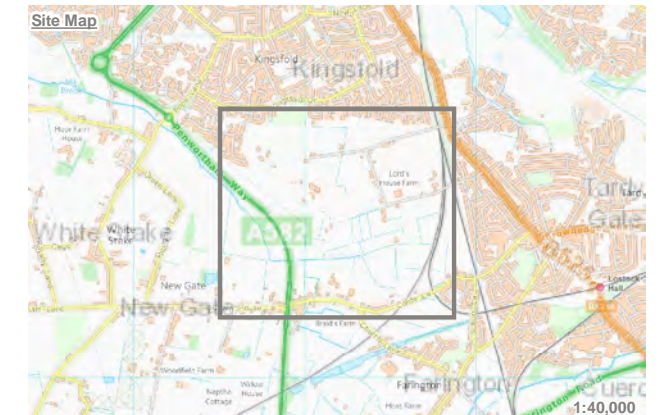


KEY

- Survey Boundary
- Noctule
- Common Pipistrelle
- Unknown Species
- Bat Flightline
(Colour Denotes Bat Species)



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Rev	Description	Drawn	Approved	Date



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Project
Pickerings Farm, Penwortham

Title
**Bat Transect Survey
 Visit 5 - 26th June 2018**

Drawing Number
G6900.010

Drawn	Checked	Approved	Scale	Date
CB	MK	MK	1:4,600 @ A3	03/08/2018



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Appendix 7.10

Bat Roost Survey Report



THE
ENVIRONMENT
PARTNERSHIP



PICKERINGS FARM PENWORTHAM BAT ROOST REPORT

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APPENDICES

APPENDIX A: Aerial Tree Inspections Survey Data

DRAWINGS

G6900.011 Ground Based and Aerial Tree Inspection Results

1.0 Introduction

- 1.1 TEP was commissioned by Taylor Wimpey North West and Homes England, in March 2018, to assess the suitability of buildings and trees within a site, known as Pickerings Farm in Penwortham, for roosting bats.
- 1.2 Taylor Wimpey and Homes England are proposing a joint venture for the construction of a large-scale housing development with associated infrastructure and community facilities at the site.

Description of Survey Area

- 1.3 The central grid reference of the survey area is SD 53329 25884 and the location of the survey area is shown in Figure 1 below. Hatched areas within the red line in Figure 1 represent land owned by third parties and these were not subject to surveys.
- 1.4 The survey area comprises pasture and arable fields bounded by hedgerows with residential housing and farm buildings and fragments of other habitats including woodland, scrub, grassland and water bodies. Existing residential development within Penwortham bounds the survey area to the north with Penwortham Way to the west, railway to the east and residential development along Chain House Lane to the south.

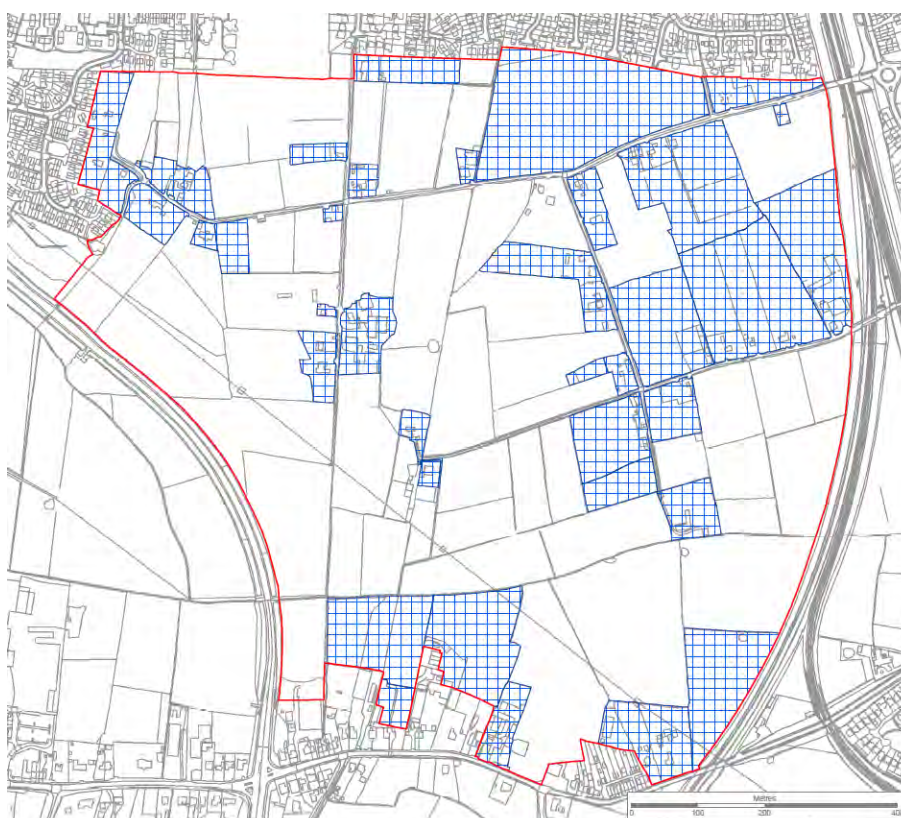


Figure 1: Survey Area Plan. Contains Ordnance Survey data © Crown copyright and database right 2018.

Site Suitability for Roosting Bats

- 1.5 A separate report detailing bat foraging and commuting activity across the survey area has been produced (TEP reference: 6900.003). No incidental roosting behaviour was noted during these surveys.
- 1.6 The site contains a large number of mature trees, particularly within field boundary hedgerows. There are also numerous buildings, largely associated with residential or agricultural use, which could be suitable for roosting bats.

2.0 Method

Buildings

Preliminary Roost Assessment

- 2.1 Buildings within the survey area were assessed in line with the Bat Conservation Trust (BCT) Guidelines (Collins, 2016¹) for their potential to support roosting bats. The survey was undertaken by TEP bat licensed ecologist Lizi Langston (Natural England Class 2 Survey Licence number: 2016-22843-CLS-CLS) on the 26th to 28th March 2018.
- 2.2 The buildings were subject to an external assessment for bat roost suitability, where accessible, to identify any suitable potential roost features (PRF's) for use by bats such as crevices, cracks, holes and any other potential access points into the structures. PRF's were inspected to assess their suitability for use by bats using a torch and binoculars. Inspection of features included determining presence of any signs of bats roosting within the buildings including; droppings, feeding remains and other indicative marks.
- 2.3 The buildings were then categorised in accordance with the criteria set out in the BCT Guidelines (Table 1).

Table 1: Bat Roosting Habitat Categories (BCT, 2016)

Category	Roosting Habitats
Negligible	No potential roost features are present that are likely to be used by bats.
Low	A structure or tree of sufficient size and age to contain potential roost features but none seen from the ground or features seen with only limited roosting potential.
Moderate	A structure or tree with one or more potential roost features that could be used by bats due to its size, shelter, protection, conditions and surrounding habitat, but which is unlikely to support a roost of high conservation status (maternity or hibernation).
High	A structure or tree possessing one or more potential roost features that are suitable for use by larger numbers of bats on a regular bases and potentially for longer periods of time, due to its size, shelter, protection, conditions and surrounding habitat.
Confirmed Roost	Evidence of roosting bats has been identified within the structure or tree.

¹ Collins J. 2016. Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition. Bat Conservation

Limitations

- 2.4 The majority of these surveys were undertaken from a distance, due to access constraints, and not all building elevations were visible.
- 2.5 No internal building assessments could be undertaken during the survey.

Trees

Ground Based Tree Assessment

- 2.6 Trees within the survey area were assessed in line with the BCT Guidelines for their potential to support roosting bats. The survey was undertaken by TEP bat licensed ecologist Lizi Langston (Natural England Class 2 Survey Licence number: 2016-22843-CLS-CLS) on the 26th to 28th March 2018.
- 2.7 The ground based assessment of the trees involved the surveyor searching from the ground for any PRF's which may be used by bats, using binoculars. Most tree roosts are created by one or a combination of the following:
- Old woodpecker holes;
 - Splits in trunk, bough or large branches;
 - Rot holes in trunk, bough or large branches;
 - Holes formed by two boughs or branches growing in contact;
 - Loose or lifting bark; and
 - Underneath a covering of dense latticed creeper, usually ivy (*Hedera helix*).
- 2.8 The trees were then categorised in accordance with the criteria set out in the BCT Guidelines (Table 1).

Limitations

- 2.9 Due to access restrictions to some land parcels within the survey area, it was not possible to view the entirety of several trees included within the survey. However the majority of these trees were confirmed to have moderate or high suitability for roosting bats, due to the presence of potential roost features, and therefore required aerial inspections. Therefore this was not considered to be a significant limitation.

Aerial Tree Inspections

- 2.10 Following the ground based assessment, trees categorised as moderate or high were subject to aerial inspection. The survey was undertaken by Stewart Bradshaw, an experienced tree climber and bat ecologist (licence ref: 2015-118116-CLS-CLS) between 23rd July and 3rd August 2018. PRF's were searched for evidence and/or suitability for roosting bats with the aid of high powered torch and endoscope.
- 2.11 The trees were then categorised in accordance with the criteria set out in the BCT Guidelines (Table 1).

Limitations

- 2.12 Due to access restrictions to some land parcels within the survey area, as well as presence of nesting birds and health and safety issues regarding cattle, it was not possible to complete aerial inspections of several trees included within the survey. However the majority of these trees were confirmed to have moderate or high suitability for roosting bats during the ground based assessment, and therefore were subject to back tracking surveys. Therefore this was not considered to be a significant limitation.

Back Tracking Surveys

- 2.13 Following the aerial inspection, trees categorised as moderate or high were subject to back tracking surveys. Trees within the survey area were grouped into six survey "zones", as shown in Figure 2 below.
- 2.14 Zones that contained trees with high suitability (Zones 3, 4 and 6) were subject to three back tracking surveys. Zones that contained trees with moderate suitability only (Zones 1 and 5) were subject to two back tracking surveys. The number of surveyors (one or two per zone) was determined based on the number of trees, size of area and accessibility.



Figure 2: Back Tracking Survey "Zones" at Pickerings Farm

- 2.15 Surveyors were positioned along potential bat commuting features within each zone and moved in the same direction with an aim to identify bats re-entering roosts at dawn or moved in the opposite direction with an aim to identify bats emerging from roosts at dusk. The back tracking surveys were carried out in line with the 2016 BCT Guidance. Dusk surveys commenced 15 minutes prior to sunset and finished 90 minutes after sunset. Dawn surveys commenced 90 minutes prior to sunrise and finished 15 minutes after sunrise. Surveyors used heterodyne detectors (Petterson D230) and frequency division (Anabat SD2 and Express) detectors to record bat calls. Sonogram analysis was undertaken by Lizi Langston, trained to Advanced Level 3 Analook Analysis.

Limitations

- 2.16 Back tracking surveys could not be undertaken in Zone 2 due to health and safety issues associated with cattle and night time working.

3.0 Results

- 3.1 Records of pipistrelle bats were returned within 1km of the survey area in the desk based assessment produced by TEP in June 2018 (Report Ref: 6900.007).

Buildings

- 3.2 There are five buildings located within the survey area as shown in Figure 3 below.

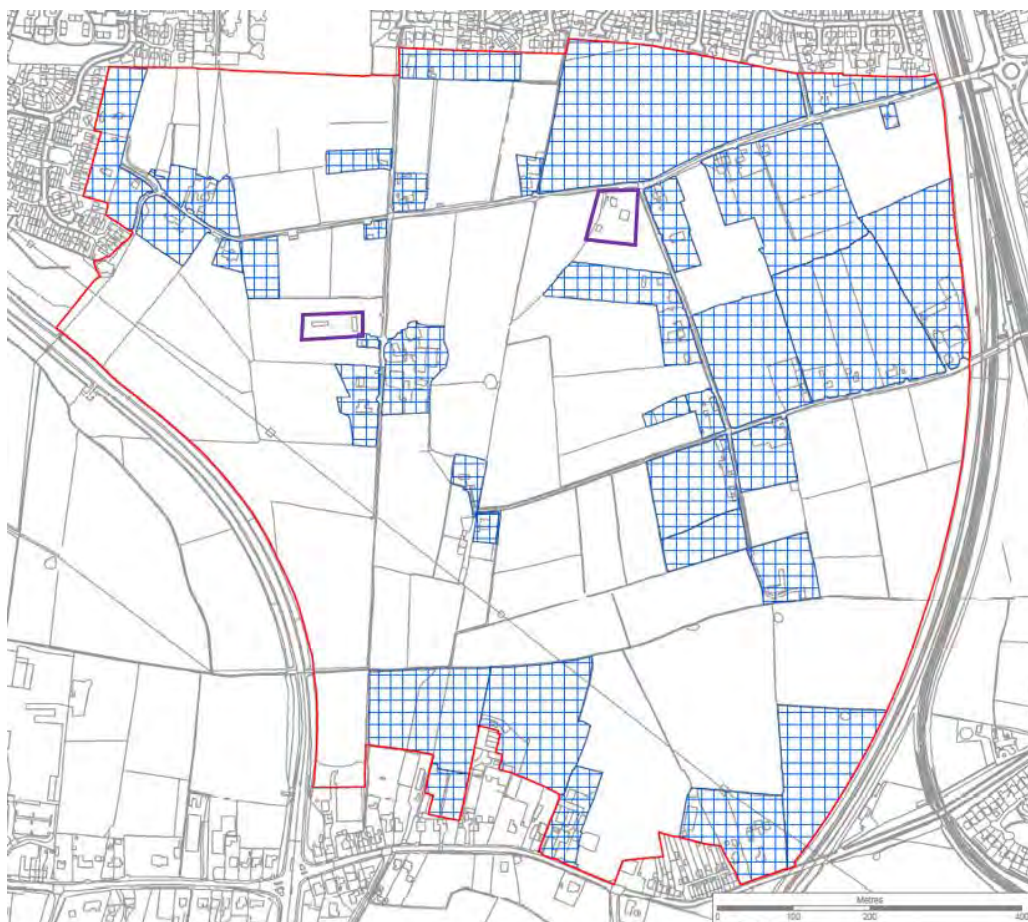


Figure 3: Building Locations

- 3.3 The two buildings in the western part of the survey area are agricultural buildings which are constructed of corrugated metal and concrete. Buildings of this type of construction do not typically form suitable bat roosting habitat as potential roost features such as crevices and cracks rarely form and the internal structures are generally cold and draughty.

3.4 The three buildings in the northern part of the survey area comprise a house and two outbuildings. The house is a bungalow with brick walls and a pitched tile roof with skylights, indicating that the loft has been converted into living space and that no roof voids are present. The north, east and west elevations could be viewed from Bee Lane and the brick work and roof tiles were found to be in excellent condition with no potential roost features identified. The south elevation was partially visible from Lord's Lane and also appeared to be in excellent condition. The two outbuildings are formed of corrugated metal and concrete and, as for the two buildings in the western part of the survey area, these are not anticipated for form suitable roosting habitat.

Trees

Ground Based and Aerial Inspections

3.5 There are a large number of trees, ranging from young to mature, within the survey area, largely associated with field boundary hedgerows. Mature tree species include:

- Elder *Sambucus nigra*
- Sycamore *Acer pseudoplatanus*
- Ash *Fraxinus excelsior*
- English oak *Quercus robur*
- Alder *Alnus glutinosa*
- Willow species *Salix sp*
- Cherry species *Prunus sp*
- Oak species *Quercus sp*

3.6 The number of trees with low, moderate or high roosting suitability within the survey area are summarised in Table 2 below and illustrated on Drawing G6900.011. No confirmed roosts were identified during these surveys.

Table 2: Trees with Roosting Suitability at Pickerings Farm

Roosting Suitability	Number of Trees
Low	92
Moderate	35
High	15
Total number of trees	142

Back Tracking Surveys

3.7 Survey details are provided in Table 3 below.

Table 3: Back Tracking Survey Details for Pickerings Farm

Date	Zone(s)	Start Time	End Time	Sunrise	Weather
09/08/18	3 to 5	04:08	05:53	05:38	14C, no rain or wind
14/08/18	1 and 6	04:17	06:02	05:47	14C, no rain or wind
22/08/18	1 and 3 to 6	04:31	06:16	06:01	17C, no wind or rain
04/09/18	1 and 3 to 6	04:54	06:39	06:24	13C, no rain or wind

- 3.8 No roosts were identified during the back tracking surveys, in the trees nor incidentally in nearby buildings.
- 3.9 Bat activity during the surveys was very low with only occasional passes from common pipistrelle *Pipistrellus pipistrellus*, heading away from the survey zones. This corresponds with the bat activity levels recorded during the transect and static monitoring surveys (TEP report reference: 6900.003).

4.0 Conclusions




- 4.1 The buildings within the survey area are considered unlikely to support roosting bats, however a full detailed inspection could not be undertaken due to access issues.
- 4.2 142 trees were identified to contain potential roost features ranging from low to high roost suitability. No confirmed roosts were identified during the back tracking surveys or incidentally during the bat activity surveys. Zone 2 could not be surveyed due to health and safety concerns regarding night time working and the presence of cattle.
- 4.3 Due to the low levels of bat activity across the survey area it is not anticipated that any roosts of significant conservation status, such as maternity roosts, are currently present within the site or nearby. However there is the potential for smaller roosts to use the survey area throughout the year and some of the high suitability trees could also provide hibernation opportunities for bats.
- 4.4 Loss of these trees would result in a reduction in roosting habitat locally and could lead to the damage or destruction of bat roosts, if present.





5.0 Recommendations




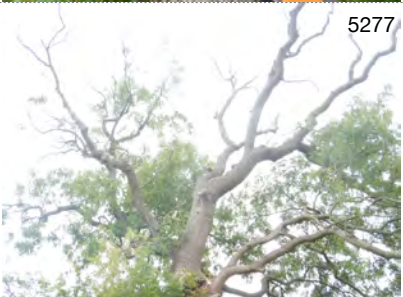
- 5.1 If buildings are to be affected by the proposals then a full internal and external roost assessment should be undertaken. If evidence of roosts is found or if the building(s) are found to contain potential roost features then nocturnal roost surveys may be required.
- 5.2 Trees with roosting suitability, particularly those with high and moderate suitability, should be retained and protected in line with recommendations made within the Arboriculture Impact Assessment (TEP Ref: 6900.011).
- 5.3 Prior to felling any trees with high or moderate suitability should be subject to nocturnal roost surveys to identify whether roosts are present. If roosts are identified a total of three nocturnal roost surveys will be required, for roost characterisation, to inform a Natural England licence application to fell the affected tree(s). The Natural England licence application will include the implementation of Reasonable Avoidance Measures and mitigation measures.
- 5.4 Reasonable Avoidance Measures will be implemented for any trees, with low to high roosting suitability, to be felled within the scheme. This may include sensitive work programming, precommencement inspections and soft felling under the supervision of a licensed bat ecologist.
- 5.5 Where trees with moderate or high suitability are lost alternative roosting habitat, such as bat boxes, should be incorporated into the scheme. The number and specification of the boxes will be dependent on the scale of loss.





APPENDIX A: Aerial Tree Inspections Survey Data





TEP - Pickering's Farm - Penwortham





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T92	Ash	15	80		5267 Multi stemmed ash tree with partial ivy covering to lower half of main stems. Minor knot holes in stem and limbs.	Negligible	Unsuitable for roosting bats.	No
T92.1	PRF1	4	All around		5268 Multiple knot holes with no suitable cavity from 4 to 6m.	Negligible	Unsuitable for Bats	No
T92.2	PRF2	Base	All around		5269 Light ivy cover from base to 6 m. It does not cover any cavities and is not thick enough to form a roosting feature.	Negligible	Unsuitable for Bats	No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T91	Oak	17	70		5270 Mature oak, partial dead ivy cover on main stem, tear out and knot holes located on south side of tree	Low		No
T91.1	PRF1	7.5	S		5271 40 x 5cm tear out on south side of tree. There is a minor cavity that is open to the elements with 5cm horizontal travel.	Low	Suitable as night roost	No
T91.2	PRF2	6	S		5272 Knot hole on end of fractured limb to the south side of tree. 5 cm entrance and 15cm horizontal travel. Cavity is dry	Low	Suitable as night roost	No
T91.3	PRF3	3	S		5273 Rot hole on trimmed limb. Not suitable for roosting bats	Negligible	Not suitable for bats	No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T90	Ash	15	1		5276 Mature ash on field boundary, rot holes and knot holes in lead stems, checked and unsuitable below 7m, unsafe above. Precautionary moderate as features could not be checked.	Moderate	Precautionary moderate as some features could not be safely checked.	Yes
T90.1	PRF1	5	E		5274 Large tear out on main stem from east to south side. 70 x 40cm. Nesting / drey material. Negligible potential. Open to the elements.	Negligible	Unsuitable.	No
T90.2	PRF2	5	All.		5275 Knot holes below 7m checked and have no suitable features.	Negligible		No
T90.3	PRF3	>7	All		5277 Knot holes and woodpecker holes above 7m not checked as the tree is rotten and unsafe to climb above this point. Precautionary moderate.	Moderate		Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T89	Ash	15	1		5278 Mature ash in field boundary hedgerow. Dead limbs, tear outs, rot holes, and woodpecker holes in the crown.	Moderate		Yes
T89.1	PRF1	8.1	N		5279 Tear out in the vertical limb on the north side of the tree open to the elements. 45cm x10cm entrance into cavity 25cm wide x 40cm wide. Nesting material can be seen inside.	Negligible	Not suitable for bats	No
T89.2	PRF2	7.5	E		5280 Split in limb that travels the full length 1.5 m of dead/decaying limb located on the east side of the tree. Small cavity at the end of the limb < 10cm	Negligible	Not suitable for bats	No
T89.3	PRF3	7.5	Central		5281 Snapped off branch with a upward facing cavity 15cm diameter with 30cm downward travel.	Negligible	Not suitable for bats	No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T89.4	PRF4	7	N	 5282	Vertical tear out on limb that sits on north side of the tree. 2cm wide and vertical travel of 1mt open to the elements	Negligible	Not suitable for bats	No
T89.5	PRF5	5	E	 5283	Knot hole on underside end of limb. Entrance is 15cm wide with 15cm of horizontal travel wide cavity.	Low	Potential night roost. In a couple of years could work well as roost	No
T89.6	PRF6	5	E	 5284	Small tear out on end of limb on the east side of tree. 8cm by 15 cm entrance with minor cavity with no travel	Negligible	Not suitable for bats	No
T89.7	PRF7	5	E	 5285	Woodpecker hole on dead decaying limb to the east side of the tree. Dry cavity with entrance of 5cm horizontal travel of 25cm	Moderate	Potential for small roost	Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T88	Ash	18	70		5286 Mature ash in hedgerow. Ivy from base, knot holes and deadwood in the crown. Nesting birds present unable to climb. Precautionary moderate, as knot holes look suitable through binoculars and torch.	Moderate	Unable to climb due to nesting birds.	Yes
T88.1	PRF1	4	NE		5287 Nesting wood pigeon present.	Moderate	Precautionary moderate due to nesting birds.	Yes
T87	Ash	15	60		5294 Ash tree in field on corner of fence line. Deadwood fungus, and knot holes on main stem and in crown.	Moderate		Yes
T87.1	PRF1	3	N		5288 Knot hole on main stem 10cm diameter entrance into 5cm diameter cavity with 10cm upward travel. Wet, slug filled.	Negligible	Unlikely to be used as slug filled.	No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T87.2	PRF2	4	N	 5290	Tear out at 4m on main stem beneath huge bracket fungus. No suitable cavity.	Negligible		No
T87.3	PRF3	9	S	 5292	Two knot holes on vertical limb in the south of the crown. <7cm diameter entrance with no suitable cavities.	Negligible		No
T87.4	PRF4	7	S	 5293	Tear out on underside of main stem from 5 - 7m. Bark is healing, with closed callus rolls, and a woodpecker hole at the top of the feature. 5cm diameter entrance into dry downward cavity with 10cm diameter for 20cm.	Moderate		Yes
T86	Ash	14	70	 5299	Mature ash tree showing signs of ash dieback chalara large amount of cankers creating some low suitability features.	Low		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T86.1	PRF1	Base to 10	All	 5296	Bark on all sides of the tree, at all heights, has a series of cankers and scars which offer low potential roosting features for single bats.	Low		No
T86.2	PRF2	8m	W	 5298	Tear out on limb to the west side of the tree. 30 x 5cm entrance into 5cm diameter horizontal cavity dry at entrance wet at back of cavity.	Low		No
T85	Ash	15	40	 5300	Ash tree on garden boundary adjacent public footpath. Knotholes in crown on all aspects. Not climbed as on private land.	Moderate		Yes
T84	Ash	15	60	 5301	Ash tree on garden boundary adjacent public footpath. Knotholes in crown on all aspects. Not climbed as on private land.	Moderate		Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T83	Ash	10	50		5304 Ash tree on Bee Lane, with rot hole in pruned limb at 4m on west side, possibly leading through to rot hole on east side of main stem at the same height. Not climbed as wood pigeons are nesting in the hole.	Moderate	Not climbed nesting wood pigeons.	Yes
T83.1	PRF1		4		5306 Hole with wood pigeons nest inside.	Moderate		Yes
T82	Ash	15	70		5307 Ash tree in hedgerow adjacent Bee Lane with missing limbs, and rot holes in the crown.	Moderate		Yes
T82.1	PRF1	6	E		5308 Rot hole on underside of horizontal limb. 15cm x 2m. Open to the elements, unsuitable for roosting bats.	Negligible		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T82.2	PRF2	7	Centre	 5309	Long tear out in vertical limb in centre of crown. 15cm x 3m. Callus rolls on sides, with a plate of heartwood, which is hollow behind. Entrance at base of callus roll. 5cm entrance into dry upward cavity for 1m. Old nesting materials present.	Moderate		Yes
T82.3	PRF3	7	E	 5310	Woodpecker hole on vertical limb facing north in the east of the crown. 7cm diameter entrance, into smooth cavity partially wet, with 10cm downward travel. Knot hole on same limb has no cavity.	Low		No
T81	Ash	13	1		Mature ash tree in hedgerow on bee lane. Tear out and knot holes visible. At the base of the tree it has been hollowed out by lightning strike. Hollow stem has covered cavity for 1m into lead stem on west side of tree which has day roosting potential.	Moderate		Yes
T81.1	PRF1	5	S	 5311	5 x15cm tear out goes in 10cm tapering cavity with 5cm of upwards and downward travel dry but full of cobwebs	Low	Suitable for single bats.	No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T81.2	PRF2	4	W	 5314	West facing knot hole at 4m, 10 cm entrance into 5cm open cavity no upward or downward travel. Potential as night roost for single bats.	Low		No
T80	Alder	7	40	 5317	Mature alder in field hedgerow. Rot holes in main stem and branches.	Moderate		Yes
T80.1	PRF1	2	E-W	 5316	Main stem cavity at 2m on east and west sides. 20cm diameter cavity with 1m upward and downward travel, cavity above at 3m let's water run through. Hollow main stem.	Moderate		Yes
T79	Alder	7	40	 5316	Mature alder in field hedgerow. Rot holes in main stem and branches	Moderate		Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T79.1	PRF1	2	S	 5319	Hollow main stem with cavities at 2m on south and 3.5m on west sides. Dry inside but water will run through in wet weather.	Moderate		Yes
T78	Alder	7	30	 5320	Alder in field hedgerow boundary. Not climbed as on private land.	Moderate		Yes
T78.1	PRF1	3	S	 5321	Hollow main stem, with woodpecker holes at 2m and hole on top of main stem, likely that water runs through.	Moderate	Cluttered.	Yes
T77	Sycamore	13	40	 5023	Sycamore in field hedgerow boundary. Not climbed as on private land.	Moderate		Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T60	Sycamore	10	45		5352 Sycamore in field hedgerow. Deadwood in crown, knotholes on main stem. All knotholes on main stem checked.	Low		No
T60.1	PRF1	6.5	N		5353 Tear out at the top of the main limb. 10 x 20 cm entrance with 15cm downward travel the cavity is fully exposed to the elements.	Negligible	Not suitable for bats	No
T60.2	PRF2	6	S		5354 Knot hole 7cm diameter 10cm of upward travel with 5cm diameter tapering cavity. Bird droppings are also visible. Cavity is open to the elements.	Low	Low potential for a night roost	No
T59	Ash	10	50		5352 Ash in field hedgerow, dead branches in crown, knot holes and tear outs in main stem. Cavity at base, stem hollow from base to 3m.	High		Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T59.1	PRF1	2	N		5355 Cavities at base, 2m and 3m lead into a main stem cavity. 30cm diameter, dry & smooth inside.	High	Potential for high number of bats, over a prolonged period.	Yes
T59.2	PRF2	6.5	E		5356 Tear out with rot hole leading into vertical stem. 3cm diameter entrance With no suitable cavity.	Negligible		No
T58	Oak	14	70		5357 Mature oak in corner of field. Multiple dead hung up limbs and rot holes.	Moderate		Yes
T58.1	PRF1	5	W		5358 Woodpecker hole on the underside of western limb 7 cm diameter entrance into 15cm diameter dry cavity with 20cm of upward and downwards travel bird nesting material present.	Moderate	Potential for small roost	Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T58.2	PRF2	4.5	S	 5360	Broken limb on south side with splits 1m long in the surface of the cambium, no suitable cavity, no potential for bats.	Negligible	Not suitable for bats	No
T57	Alder	6	30	 5361	Alder in field hedgerow. Light ivy cover from base, deadwood and rotting limbs in the crown.	Negligible	Labelled as sycamore on plan. No sycamore present. Ivy unsuitable for roosting bats.	No
T57.1	PRF1	5	E	 5362	Small knothole in limb, 2cm diameter entrance with no suitable cavity.	Negligible		No
T56	Sycamore	10	60	 5363	Sycamore in corner of field hedgerow. Double crowned. Knot holes and deadwood in main stem and limbs. Wasps nest in main stem cavity at base.	Low		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T56.1	PRF1	<2	S	 5364	Series of connected rot holes on south side of main stem. Wasps nest inside.	Low		No
T55	Oak	8	50	 5365	Small oak in hedgerow with large tear out on the north side	Negligible		No
T55.1	PRF1	4	N	 5366	Tear out on north side of tree 7cm entrance into 7cm shallow cavity with no horizontal or vertical travel.	Negligible		No
T54	Ash	15	70	 5367	Ash tree in field hedgerow boundary. Knot holes on main stem and limbs, deadwood in the crown.	Moderate		Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T54.1	PRF1	6	W	 5371	Hole in end of snapped, downward facing limb, 5cm diameter entrance with minor 5cm cavity.	Negligible		No
T54.2	PRF2	8	S	 5373	Woodpecker hole in horizontal limb in south of canopy, west facing entrance, 7cm diameter into 5cm diameter dry horizontal cavity with 30cm horizontal travel.	Moderate		Yes
T54.3	PRF3	2	N	 5372	Rot hole 10cm diameter entrance with no suitable cavity.	Negligible		No
T53	Ash	12	80	 5374	Ash in field boundary hedgerow, light ivy cover from base into crown, large tear out and cavity in main stem.	Moderate		Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T53.1	PRF1	2	N		5375 Tear out with large open cavity in main stem, 50cm diameter open cavity, with 2m downward travel in main stem. More than 1m of upward travel in vertical limbs, into dry cavities, 20cm diameter.	Moderate	Potential for summer or winter roost. Little clear drop distance when exiting or entering, otherwise would have high potential.	Yes
T52	Ash	10	60		5376 Ash in field boundary hedgerow, adjacent track. Dead and rotting limbs in the crown, ivy cover from the base.	Moderate	Ivy cover and rot holes are unsuitable for roosting bats.	Yes
T52.1	PRF1	Base	N		5377 5378 Cavity at the base of main stem, 50cm triangular entrance into main stem cavity. More than 3m upward travel.	Moderate.	Potential for summer or winter roost. Little clear drop distance when exiting or entering, otherwise would have high potential.	Yes
T51	Ash	15	80		5379 Mature ash with small amount of ivy on lower half of tree. Tear out on east side of tree.	Negligible	No suitable roosting features	No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T51.1	PRF1	3	E		5380 Tear out 60x40 into open cavity exposed heartwood open to the elements not suitable roosting feature.	Negligible	No suitable for bats	NO
T50	Sycamore	8	40		5381 Sycamore on field boundary hedgerow, deadwood in the crown, knotholes on main stem and branches.	Negligible	No suitable features present.	No
T49	Ash	10	80		5382 Dying ash in field, dead limbs and rot holes in the crown. Climbed to 5m, not safe above.	Moderate	Could not be fully inspected as rotting and unsafe.	Yes
T49.1	PRF1	5	S		5383 Knot hole at 5m on south side with callus rolls. 15 x 10cm entrance into 15cm horizontal cavity. Exposed to the elements.	Negligible		No




Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T49.2	PRF2	5.5	S		5384 Woodpecker hole with split bark to right. 5cm diameter into hollow vertical limb, 20cm diameter cavity, 50cm upward, 50cm downward. Likely wet in poor weather. Moderate.	Moderate	Moderate potential, as wood above is rotten, and may let water through in the winter.	Yes
T14	Alder	8	40		5386 Alder in hedgerow adjacent Bee Lane. Light ivy cover from base to 3m, woodpecker test holes, and deadwood in crown.	Negligible		
T14.1	PRF1	Base	All		5387 Light ivy cover from base to 3m, not thick enough to form roosting feature, does not hide any cavities.	Negligible		
T14.2	PRF2	4	N		5388 Woodpecker test holes in limbs. 2cm diameter entrance with no suitable cavities.	Negligible		





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T48	Ash	12	50		5389 Ash on garden boundary adjacent Moss Lane. Broken branches in the crown, knot holes on main stem and limbs. All features checked.	Low		Yes
T48.1	PRF1	4	SW		5390 Knothole on underside of diagonal limb. 7cm diameter entrance into tapering upward cavity, opening into 15cm diameter round cavity. Wet inside, slug filled.	Low	Will develop into more suitable cavity in the future.	No
T48.2	PRF2	3	SE		5391 Knothole on main stem, 7cm diameter entrance into 7cm round cavity. Open to the elements, suitable as night roost.	Low	Suitable for single bats.	No
T47	Oak	10	70		5392 Oak in corner of field hedgerow, adjacent dairy. Ivy clad from base into crown, minor wounds in bark and knot holes. Ivy not thick enough to form a roosting feature, no features found hidden by ivy.	Negligible	No suitable features present.	No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T46	Ash	10	60		5393 Ash in field boundary, adjacent ivy cover from base into crown. Ivy not thick enough to form a roosting feature, no features found hidden by ivy.	Negligible	No suitable features present.	No
T45	Oak	10	80		5394 Stunted Mature oak in field boundary hedgerow. Deadwood, knot holes and rot holes all visible. Partially ivy covered from base to 4m	Moderate		Yes
T45.1	PFR1	4	SW		5395 End of limb tear out creates a 7CM entrance into a 3cm diameter cavity with 40cm of slight upwards travel. A feather was found at the entrance so birds have been using it. Potential for small bat summer roost.	Moderate	Potential for small summer roost.	Yes
T45.2	PFR2	4	E		5396 Knot hole that still has the wood inside, small cavity created at the side of the wood, dry cavity that has a 10 x3cm entrance with 30cm diameter cavity and 30 cm of upward travel.	Moderate	Potential for small summer roost.	Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T44	Ash	18	60		5398 Dying ash tree adjacent Moss Lane. East side of the crown is dead, overhangs the lane and telecoms wires, and is unsafe to climb.	Moderate	East side of crown unsafe to climb. And has knot holes which may lead into suitable cavities. Precautionary moderate as part of tree could not be safely climbed.	Yes
T44.1	PRF1	6	S		5399 Knot hole in vertical section of limb in the south of the canopy. 10cm diameter entrance into 15cm dry horizontal cavity. No upward or downward travel. Open to the elements.	Low	Suitable as night roost.	No
T44.2	PRF2	6.5	S		5400 Knot hole in vertical section of limb in the south of the canopy. 5cm diameter entrance into minor wet cavity with 15cm horizontal travel.	Negligible		No
T44.3	PRF3	7.5	S		5402 Knot hole on south side of vertical limb. 5cm diameter entrance with no suitable cavity.	Negligible		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T44.4	PRF4	7	S		5401 Knot hole in on top of limb in the south of the canopy. 5cm diameter entrance into minor wet cavity with 15cm horizontal travel.	Low	Suitable as night roost.	No
T43	Ash	10	40		5403 Ash on side of Moss Lane. Dead branches and knot holes in the crown, ivy cover from base to 5m.	Low	Ivy cover does not for. Suitable roosting habitat, or cover other cavities.	No
T43.1	PRF1	1	S		5404 Split in vertical limb at 1m with exposed heartwood and callus rolls. Cavity at top of the split with 2cm diameter entrance and 60cm upward travel in slim dry cavity.	Low	Cluttered, low entrance, otherwise would have higher suitability.	No
T43.2	PRF2	3	S		5405 Knot hole on underside of horizontal limb. 5cm diameter entrance with no suitable cavity.	Negligible		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T42	Ash	18	60		5406 Ash tree adjacent Moss Lane. Ivy cover from base to 12m. Climbed, rot holes, but no suitable cavities found. Ivy does not form a suitable roosting feature, or hide other cavities.	Negligible		No
T41	Alder	12	70		5407 Alder in field hedgerow adjacent ditch and high voltage power lines. Ivy cover from base and split with exposed heartwood.	Low	Unsafe to climb as high voltage cables pass within 50cm of crown.	No
T41.1	PRF1	2	W	iPhone	Split ion west side of main stem from base to 2m. Exposed heartwood leading into upwards traveling cavity, 15cm upward travel 5cm diameter. Cluttered entrance.	Low		No
T40	Alder	8	70		5409 Mature alder in boundary hedgerow, multi stem, ivy cladding from base to 7 meters, ivy checked but does not create any roosting feature and does not cover any cavities . knot hole on east side of tree.	Low	Ivy cladding is not suitable to support any bat roost. It is not concealing any cavities.	No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T40.1	Alder	2	E		5408 Knot hole at 2 metres on the east side. Entrance 10 x 5cm entrance, with 20 cm of downward taper cavity. Open to the elements,	Low	Low potential for bats	No
T39	Alder	8	60		5410 Alder in field boundary hedgerow adjacent ditch. Ivy clad from base deadwood and knotholes in limbs. Ivy does not form a roosting feature or conceal cavities.	Low		No
T39.1	PRF1	3	E		5411 Snapped limb with knothole on east side of tree. 10cm diameter entrance downward travelling, dry cavity 5cm diameter for 50cm. Potential for lower number of bats. Will fill with water in wet weather.	Low		No
T38	Alder	8	40		5412 Alder in field boundary hedgerow with snapped limbs in crown, and ivy from base. Ivy does not form a roosting feature, or cover cavities. No suitable roosting features found.	Negligible.		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T38.1	PRF1	4	W	 5414	Rot hole on snapped branch with 10cm diameter entrance into 10cm downward cavity. Open to the elements, wet inside.	Negligible		No
T37	Alder	8		 5413	Alder in field boundary hedgerow, broken branches in crown and knotholes in limbs.	Negligible		No
T37.1	PRF1	4	E	 5415	Rot hole on underside of horizontal section of branch in centre of tree. 10cm x 5cm entrance into shallow wet cavity.	Negligible		No
T36	Oak	6	45	 5416	Oak in field boundary hedgerow. Missing bark, exposed heartwood, and knotholes on main stem and limbs.	Low		



Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T36.1	PRF1	ALL	ALL	5417 5418 5419 5422 	Series of dead and rotting branches throughout the tree. Missing and loose bark, knot holes and rot holes.	Low	Low potential for roosting bats.	No
T36.2	PRF2	4	W	5420 	Loose bark on small snapped horizontal limb. Open to the elements on the west side but minor horizontal travel behind the bark.	Low		No
T36.3	PRF3	3	W	5421 	Knot hole 3cm diameter entrance into 3cm diameter cavity with 5cm of upwards travel.	Low		No
T35	Ash	12	60	5423 	Ash tree in field boundary hedgerow, ivy cover from base to 6m, dead limbs, and knotholes in branches. Ivy does not provide enough cover to form a roosting feature, and no hidden cavities were found.	Low		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T35.1	PRF1	9	N		5425 Knot hole on north side of branch on east of the crown. 10cm diameter entrance into 5cm deep, wet cavity. Exposed and unsuitable for roosting.	Negligible		No
T35.2	PRF2	6	N		5426 Tear out with upward facing cavity. 10cm diameter entrance with 10cm downward travel, nesting materials inside. Open to the elements.	Low		No
T34	Ash	16	70		5427 Ash tree adjacent Lords Lane. The tree is adjacent f Asholm. Ivy covered from base to 7m, knot holes and tear outs throughout the tree.	Low	Low potential for roosting bats	No
T34.1	PRF1	3	W		5428 Knot hole on the west side, 10cm entrance with 5cm of upwards travel. Dry cavity partially covered by ivy.	Low	Low potential for a night roost	No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T34.2	PRF2	6	S		5420 Knot hole, south facing with 7cm entrance no suitable cavity behind.	Negligible		No
T34.3	PRF3	10	E		5420 Snapped branch on the east side with no cavity.	Negligible		No
T34.4	PRF4	5.5	N		Knot hole on the north side of the tree, 5cm diameter with no cavity behind.	Negligible		No
T34.5	PRF5	7	E		5420 Tear out on the east side, 12cm entrance with 5cm horizontal travel no cavity.	Negligible		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T33	Ash	15	60	 5493	Ash on Lords Lane near junction. Not climbed as on private land.	High	Not climbed as on private land. Possible to survey at dusk - dawn from road.	Yes
T33.1	PRF1	4	SE	 5492	Knot hole on major limb, close to main stem. 10cm diameter, potentially into main stem cavity.	High		Yes
	PRF2	4	W	 5493	Knot hole on side of horizontal limb, 10cm diameter smooth cavity inside.	High		Yes
	PRF3	6	W	 5494	Knot hole diagonal limb with potential cavity.	Moderate		Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T32	Alder	10	60	 5434	Alder on corner of Lords Lane and stables. Snapped and rotting limbs in the crown, deep folds in bark on main stem, tear out and missing bark at base.	Low		No
T32.1	PRF1	Base	N	 5435	Tear out at base with exposed heartwood from base to 1.5m, and 10cm of upward travel behind bark. Exposed cavity, unsuitable for roosting bats.	Negligible		No
T32.2	PRF2	1.8	N	 5436	Knot hole on north side of main stem, 3cm diameter entrance into 3cm diameter dry cavity with 10cm upward travel. Suitable as night roost for single or low number of bats.	Low		No
T32.3	PRF3	3	NW	 5437	Snapped limb on main stem, 10cm entrance, downwards into tapering cavity 10cm deep, slug and woodlice.	Negligible		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T32.4								
T31	Alder	8	40	 A photograph of an Alder tree on a roadside. The tree is green and has a thick trunk. In the background, there is a road, a fence, and some buildings. The number 5491 is visible in the top right corner of the image.	Alder on roadside. Minor deadwood and knotholes on main stem and limbs. No suitable features.	Negligible		
T30	Ash	12	60	 A photograph of an Ash tree in a field hedgerow. The tree is large and has a thick trunk. In the background, there is a field and some people. The number 5466 is visible in the top right corner of the image.	Ash in field hedgerow w. Dead wood in crown and knot hole in main stem.	Negligible		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T30.1	PRF1	5.6	E		5467 10cm diameter knot hole. Horizontal travel for 5cm. No suitable cavity. Gooney inside.	Negligible		No
T30.2	PRF2	6.8	E		5468 Tear out 10cm by 5cm entrance. Horizontal travel for 10cm into heart wood. Wet inside.	Negligible		NO
T30.3	PRF3	3	E		5469 Large knot hole on east side of main stem 20 x 15cm, 20cm horizontal travel, open cavity. No suitable cavities.	Negligible		No
T30.4	PRF4	3	N		5470 Tear out in main stem on north side with exposed. Heartwood and callus rolls on sides. No suitable cavity.	Negligible		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T29	Alder	8	25		5471 Alder in field hedgerow,	Low		No
T29.1	PRF1	2	E		5472 5473 Rot hole 4cm entrance, travels 30cm up and down stem, 10cm diameter hole inside. Opens above through another rot hole. Rain will wash through.	Low		No
T28	Ash	12	70		5474 Dying ash in hedgerow. Dead wood in crown. Rot and superficial scars in bark in all areas. Hole SE side from base to 1.8m, exposed heart wood. Woodpecker holes negligible. Precautionary moderate as tree cannot be safely climbed and there are features with potential in the crown.	Moderate	Unsafe to climb due to rot	Yes
T27	Alder	8	60		5475 Alder at end of hedgerow. Large cavity at 2m. Series of knot holes from 3 - 7 meters, all checked.	High		Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T27.1	PRF1	2.5	S	 5476	Main stem cavity at 2.5m. Hollow upwards for at least 2m, dry and smooth, Enclosed from above. Potentially other chambers inside. Entrance 50 by 30 cm where bark is missing, down to 15cm diameter cavity.	High		Yes
T27.2	PRF2	5.5	E	 5477	Rot hole. 7cm diameter entrance. Travels 10m. Full of woodlice / insects.	Negligible		No
T26	Ash	12	65	 5478	Ash at end of hedgerow in corner of field. Light ivy cover. Wasp nest in one knot hole. Callous and knot holes within branches. Precautionary moderate.	Moderate	Unsafe to climb due to wasps nest in tree.	Yes
T26.1	PRF1	4	E	 5479	Knot hole at 4m on E side. 15cm diameter entrance hole. Callous rolls into a main stem cavity, approx 10cm diameter, with upward travel.	Moderate		Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T25	Alder	10	60		5480 Alder within hedgerow. Dead branches and knot holes in crown.knot hole at 3m on south side of main stem, has active wasps nest. Tree unsafe to climb.	High	Unsafe to climb.	Yes
T24	Alder	10	60		5482 Alder in hedgerow. Light ivy cover. Cavity on east side on main stem.	High		Yes
T24.1	PRF1	2	E		5481 Rot hole with 10 x 5cm entrance into 20cm diameter dry smooth main stem cavity. Old bird nesting material and feathers at base. More than a meter upwards travel. Enclosed above.	High	Slightly cluttered entrance.	Yes
T23	Oak	16	70		5486 Oak within hedgerow with ivy cover and dead wood in crown. Large (unused) birds nest in crown, possibly buzzard. Tear out on south side of tree, hanging deadwood in tree.	Low		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T23.1	PRF1	6	N		5483 Split on horizontal limb, to N of tree. Callousing around edges. Open on both sides of limb, max 3cm wide, 50cm long. No upward travel. Could possibly be used as a night roost.	Low		No
T23.1	PRF2	5	N		5484 Split in horizontal branch. 40cm long, entrance gap max 1cm wide, cavity too small for bats.	Negligible		No
T22	Oak	14	70		5487 Oak in hedgerow. Large split in a branch union in southeast side of horizontal limb.	Negligible		No
T22.1	PRF1	4	SE		5488 Rotting branch at 4m on southeast side. Dead limb still in place, 10cm horizontal slug filled cavity behind.	Negligible		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T22.2	PRF2	3.5	SE		5489 Horizontal limb, Split in branch union, exposed. cavity open above and below. 10cm wide. Split tapers down towards main stem. Exposed to the elements.	Negligible		No
T21	Oak	10	70		5490 Oak in hedgerow with ivy cover from base, broad stemmed lower down with minor cavity behind. Thinning as it rises into the crown. Deadwood in crown. No cavities or suitable roosting features found.	Negligible	Ivy does not form suitable roosting feature, no suitable cavities found. Cluttered.	No
T20	Ash	12	80		5495 Ash in hedgerow next to (unused) public footpath. Knot hole to east, rotting and open behind. To the south the tree opens up and is exposed.	High	Climbed to 3m as unsafe beyond that. Most of heartwood missing on south side of the tree, open, but has cavities which can't be checked.	Yes
T20.1	PRF1	2	NW		5496 Tear out on northwest of tree. 50cm diameter cavity travels up and down. Tree completely hollow. Cluster of entrances into main stem cavity.	High		Yes





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T20.2	PRF2	>3	S	5497 5498 5499 	Torn out limb on underside of main stem, hollow, with callus rolls, and the potential for smaller cavities within.	High		Yes
T19	Ash	18	60	5500 	Ash in southwest corner of field boundary hedgerow, ivy clad from 2m into crown, knotholes and deadwood in the crown. Ivy unlikely to provide suitable roosting opportunities. Likely low potential, but given precautionary moderate as unable to climb.	Moderate	Unable to safely climb as next to power line.	Yes
T18	Ash	18	70	5501 	Ash in southeast corner of field boundary hedgerow, ivy clad from 2m into crown, knotholes and deadwood in the crown. Ivy unlikely to provide suitable roosting opportunities. Likely low potential, but given precautionary moderate as unable to climb.	Moderate	Unable to safely climb as next to power line.	Yes
T17	Alder	8	45	5502 	Alder in field hedgerow. Ivy clad from base deadwood and knotholes in crown.	Low		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T17.1	PRF1	Base	S		5504 Thick ivy stems forming a mat, with minor gaps below which could be used by single or low numbers of roosting bats.	Low		No
T17.2	PRF2	3	S		5507 Rot hole on south side of limb at 3m.	Negligible		No
T16	Ash	10	50		5503 Ash tree in field hedgerow rot holes on main stem and ivy clad from base to 9m.	Low		No
T16.1	PRF1	4	S		5505 Rot hole on south side of main stem. 7x5cm entrance with no travel no suitable cavity.	Negligible		No





Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T12	Oak	10	50		5511 Mature oak in field hedgerow, series of rot holes and deadwood, large split in main stem at 2 meters.	High	High potential for bats	Yes
T12.1	PRF1	5.3	E		5514 Tear out on east side of the tree, 10 x 4cm entrance into tapering cavity with 7cm of horizontal travel.	Low	Low potential for night roost	No
T12.2	PRF2	2	E		5515 Rot hole at 2 meters on the east side of the main stem, 30 x 10cm entrance leading into 30cm diameter dry tapering main stem cavity, with > 1m of upward travel.	High	High potential for summer roost	High
T11	Oak	12	60		Mature oak in field hedgerow, light ivy cladding from base to 9m which does not form or conceal roosting features. Deadwood and knot holes in the crown.	Low		No

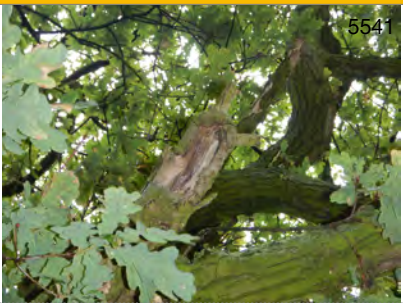



Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T11.1	PRF1	7	Ne		5518 Woodpecker hole on the underside of a main limb, 7cm entrance with 20cm of horizontal travel and 5cm of upwards travel.	Low	Low potential night roost	No
T11.2	PRF2	6	N		5519 Tear out 30cm entrance with exposed bark and no suitable cavity.	Negligible	Not suitable for bats	No
T9	Ash	7	60		Ash tree in field boundary hedgerow. Ivy cover from base, tear outs and deadwood in the canopy.	High	No safe anchor points in the top of the tree so inspected to 4m. Other potential features above.	Yes
T9.1	PRF1	2	W		Tear out in main stem at 2m, leading into main stem cavity, more than 1m downward travel, more than 1m upward travel in hollow leader.	High		Yes

Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T10	Oak	10	70		5522 Oak in field boundary hedgerow with deadwood and missing limbs in the crown, and tear out on west side of main stem.	Low		No
T10.1	PRF1	1.5			5523 Knot hole on west side of main stem at 1.5m, 15 x 8cm entrance with 30cm horizontal travel in 10cm diameter tapering cavity. Open to the elements.	Low	Cavity is too small and open to be used by large number of bats, or as a day roost.	
T8	Oak	8	60		5524 Oak in field hedgerow on northern boundary, adjacent ash. Deadwood and knotholes in the crown, split on east side of main stem from base to 3m.	High		Yes
T8.1	PRF1	<3	E		5525 Split in main stem from base to 3m, closing at the top, leading into series of cavities with more than 1m of upward travel. No	High		Yes

Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required	
T7	Oak	12	50		5528	Oak in field hedgerow deadwood and knotholes in the crown.	Low		No
T7.1	PRF1	3	S		5526	Snapped limb with rot hole at base. Minor cavity at base of dead limb, 10cm horizontal travel. Suitable as night roost.	Low		No
T7.2	PRF2	3.5	W		5527	Knot hole 15mm entrance with no 10cm cavity	Low		No
T6	Ash	14	70		5536	Series of knot and rot holes, from 3 to 8 meters. Main stem cavity and dead wood in crown. Inspection abandoned due finding nesting swallows.	High	Main stem cavity currently has swallow's in it, but would make good large cavity for bats.	Yes

Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T6.1	PRF1	4	S	 5537	Main stem cavity entrance on the north and south side. Entrance on south side 10cm by 5cm entrance on north side 30cm by 15 cm with > 1 meter upwards travel. Dry cavity	High	High potential for stunner roost	Yes
T6.2	PRF2	5	W	 5538	Rot hole at end of limb, not inspected	Mod	Not inspected due to nesting birds	Yes
T6.3	PRF3	6	S	 5539	Tear out, from limb on se side of tree, not inspected	Mod	Not inspected due to nesting birds	Yes
T5	Ash			 5535	Ash in field hedgerow, mature with deadwood in the canopy and crown, series of knot and rot holes .	High	High potential for roosting bats	Yes

Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T5.1	PRF1	7	E	5532 5531 5530 	Cavity in main stem with two entrances, 10 x 10cm entrance with 30cm diameter cavity, upwards travel of > 1 meter.	High	High potential for summer roost	Yes
T5.2	PRF2	5	Nw	5534 	Snapped off limb 10cm callus roll but no cavity	Negligible	Not suitable for bats	No
T4	Oak			5542 	Oak in field boundary hedgerow.	Moderate		Yes
T4.1	PRF1	3	N	5540 	Knot hole, 10cm diameter entrance 10cm into tapering cavity with 20cm upward and downward travel.	Moderate		Yes

Tree / feature number	Species	Height	DBH / Aspect	JPEG	Description	Suitability	Comments	Further survey / mitigation required
T4.2	PRF2	5	E	 5541	Snapped limb on east side of crown with minor callus roll. No suitable cavity.	Negligible		No
T3	Alder	7	60	 5543	Alder in field boundary light ivy clad from base into crown knot hole on east side	Mod		No
T3.1	PRF1	3	E	 5544	Knot hole on east side of tree, 5x15cm entrance into 10cm diameter dry cavity, 70cm downward travel nesting materials present at bottom of cavity.	Mod		Yes
T2	Ash	8	60		Ash in field hedgerow in SW corner of field. Snapped limbs and deadwood in the crown.	Low		No

Add appendix content here.

DRAWING

G6900.011 Ground Based and Aerial Tree Inspection Results

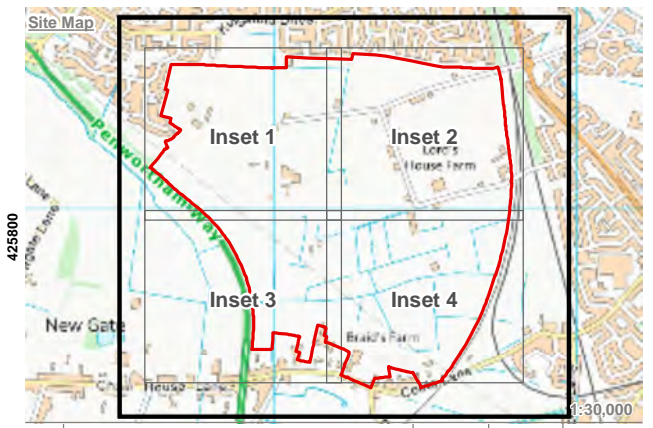


KEY

- Survey boundary
- Broad-leaved tree with high bat potential
- Broad-leaved tree with moderate bat potential
- Broad-leaved tree with low bat potential

Note:
Tree ID numbers refer to trees subject to aerial inspections.

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Rev	Description	Drawn	Approved	Date

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Project
Pickerings Farm, Penwortham

Title
Ground Based and Aerial Tree Inspection Results - Overview

Drawing Number
G6900.011 Sheet 1 of 5

Drawn MK	Checked LL	Approved LL	Scale 1:5,000 @ A3	Date 06/09/2018
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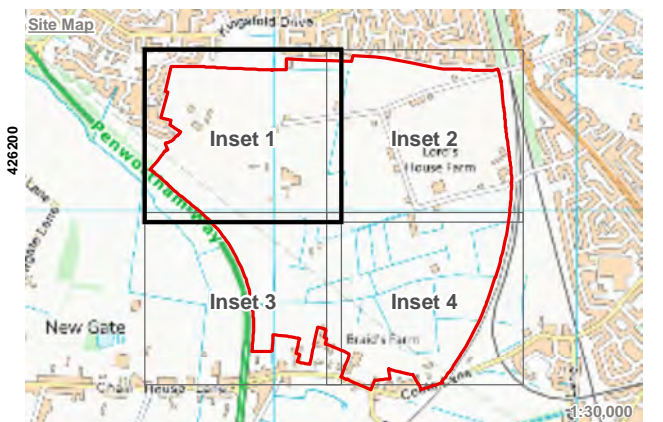
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Project
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Title
Ground Based and Aerial Tree Inspection Results - Inset 1

Drawing Number
G6900.011 Sheet 2 of 5

Drawn	Checked	Approved	Scale	Date
MK	LL	LL	1:2,250 @ A3	06/09/2018



KEY

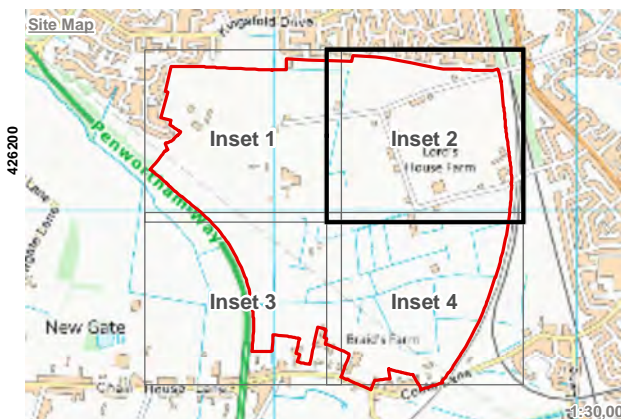
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- Broad-leaved tree with low bat potential

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Title
Ground Based and Aerial Tree Inspection Results - Inset 2

Drawing Number
G6900.011 Sheet 3 of 5

Drawn	Checked	Approved	Scale	Date
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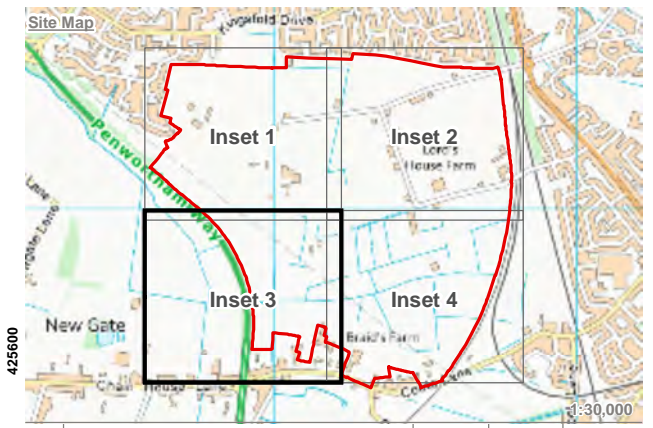
KEY

- Survey boundary
- Broad-leaved tree with high bat potential
- Broad-leaved tree with moderate bat potential
- Broad-leaved tree with low bat potential

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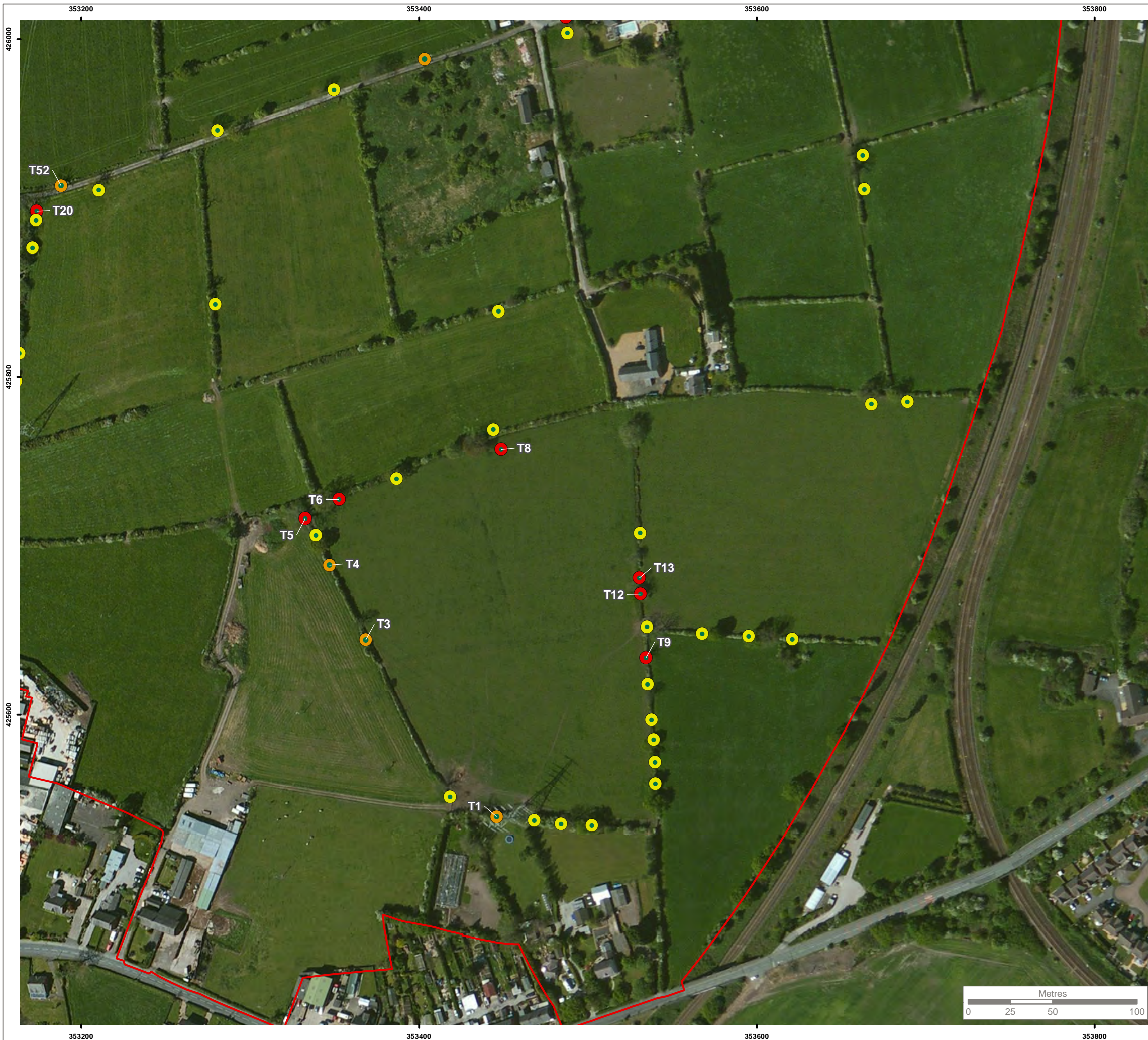
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Title
Ground Based and Aerial Tree Inspection Results - Inset 3

Drawing Number G6900.011	Sheet 4 of 5
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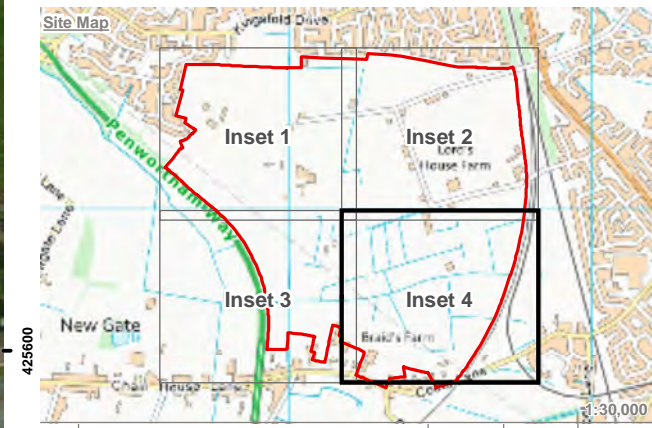
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- KEY**
- Survey boundary
 - Broad-leaved tree with high bat potential
 - Broad-leaved tree with moderate bat potential
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Title
Ground Based and Aerial Tree Inspection Results - Inset 4

Drawing Number
G6900.011 Sheet 5 of 5

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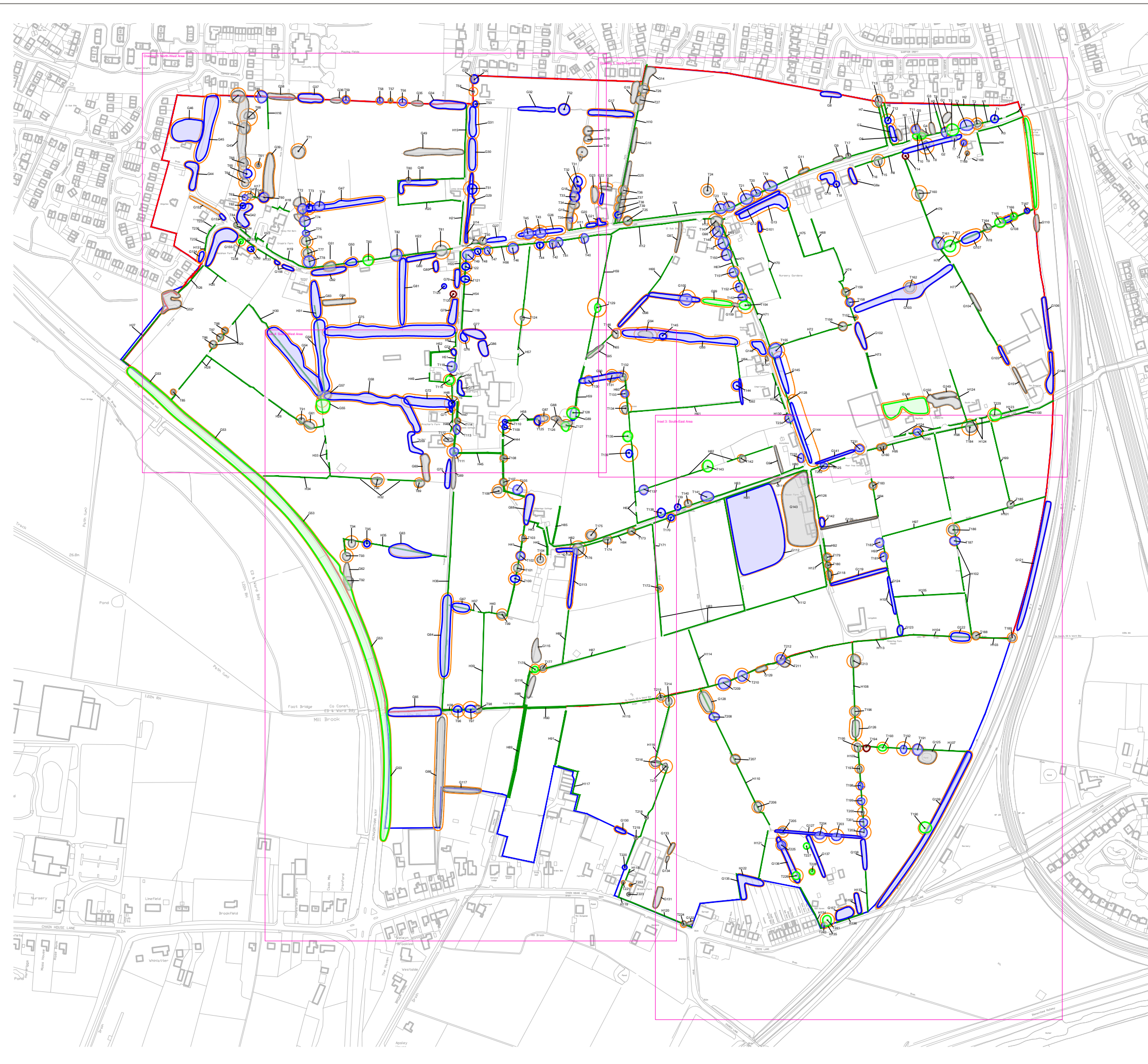
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Appendix 7.11

Arboricultural Survey





KEY

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-  T1 Individual trees
-  G1 Groups of trees
-  H1 Hedgerow
-  Root Protection Area (RPA)
-  Survey Boundary
-  Survey Boundary
-  Tree Preservation Order

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

-  Category A (High quality)
-  Category B (Moderate quality)
-  Category C (Low quality)
-  Category U (Unsuitable for retention)
-  Hedgerow (Not categorised)

NOTE: This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).



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Rev	Description	Drawn	Approved	Date
A	Added New Application Boundary	AAB	RMG	13.11.2018

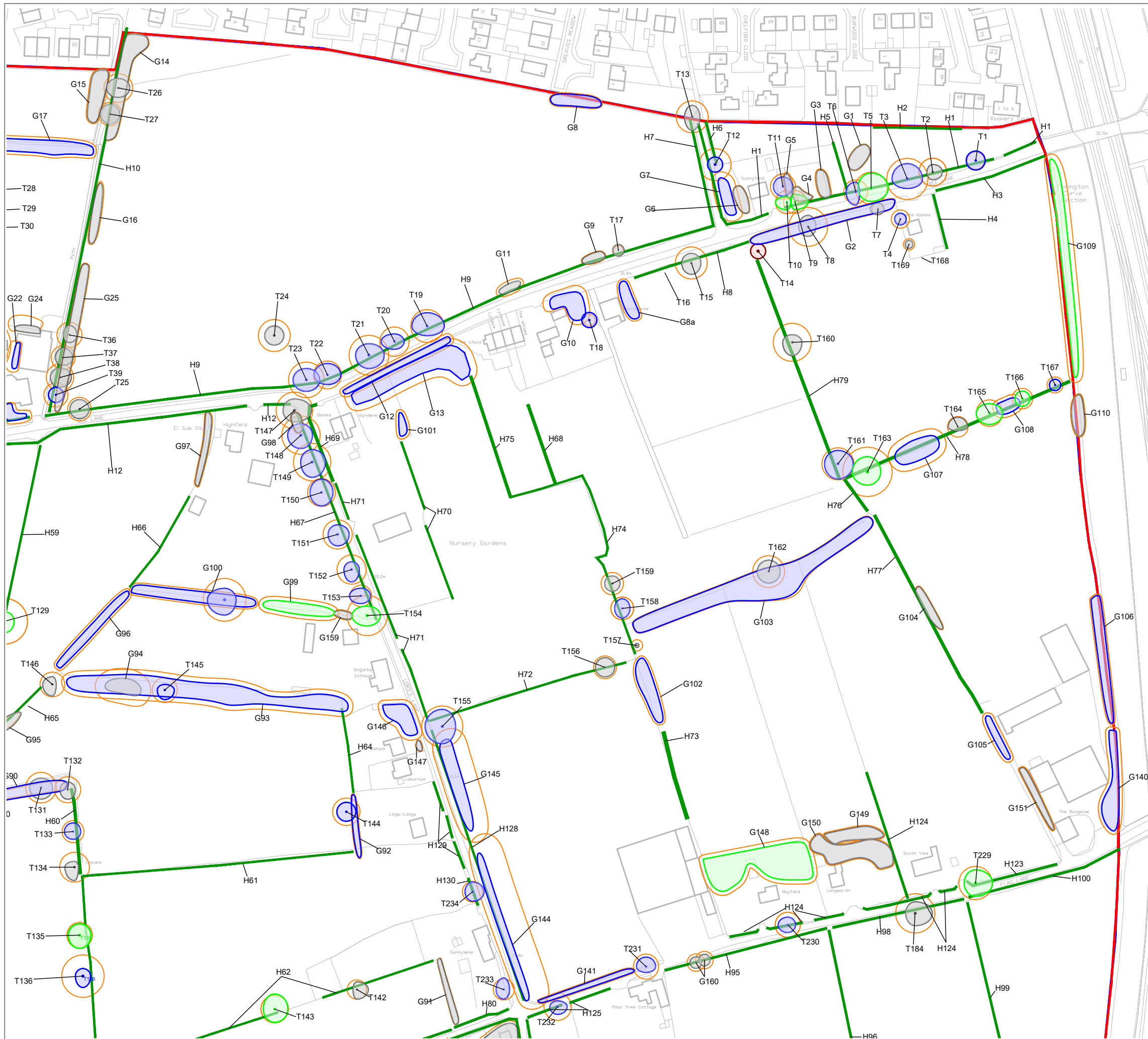


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Project
Pickerings Farm, Penwortham
Arboricultural Assessment
Title
Drawing 1: Tree Constraints Plan [Overview]

Drawing Number
D6900.001

Drawn	Checked	Approved	Scale	Date
AAB	RMG	JGS	1:5,000 @ A3	04/09/2018



KEY

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- T1 Individual trees
- G1 Groups of trees
- H1 Hedgerow
- Root Protection Area (RPA)
- Survey Boundary
- Survey Boundary
- Tree Preservation Order

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Rev	Description	Drawn	Approved	Date
A	Added New Application Boundary	AAB	RMG	13.11.2018

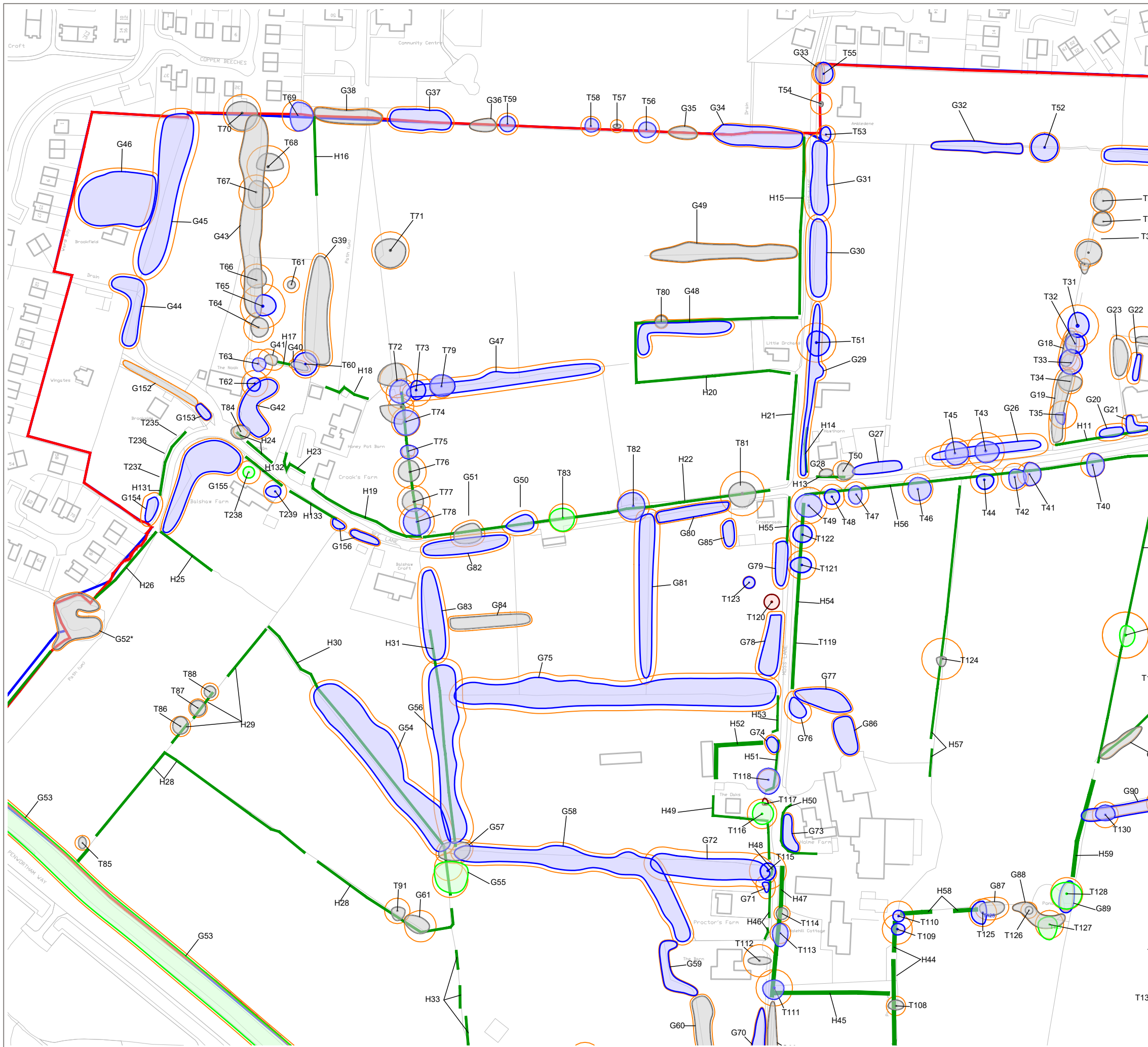


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Project
Pickerings Farm, Penwortham
Arboricultural Assessment
Title
Drawing 1: Tree Constraints Plan [Inset 1]

Drawing Number
D6900.002

Drawn	Checked	Approved	Scale	Date
AAB	RMG	JGS	1:2,000 @ A3	05/09/2018



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- T1 Individual trees
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- H1 Hedgerow
- Root Protection Area (RPA)
- Survey Boundary
- Survey Boundary
- Tree Preservation Order

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Rev	Description	Drawn	Approved	Date
A	Added New Application Boundary	AAB	RMG	13.11.2018

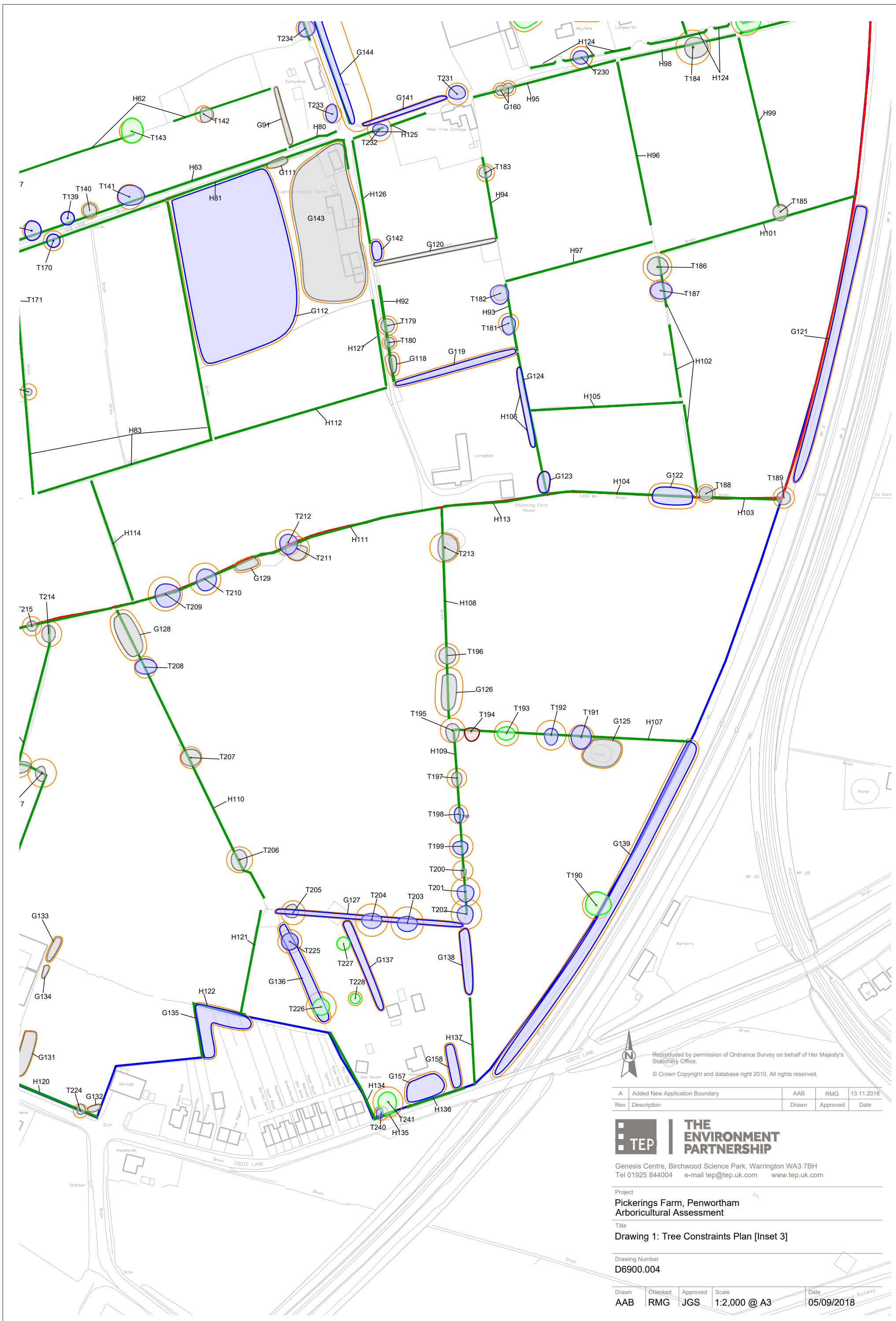


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Project
Pickerings Farm, Penwortham
Arboricultural Assessment
Title
Drawing 1: Tree Constraints Plan [Inset 2]

Drawing Number
D6900.003

Drawn	Checked	Approved	Scale	Date
AAB	RMG	JGS	1:2,000 @ A3	05/09/2018



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Rev	Description	AAB	RMG	Date
A	Added New Application Boundary			13.11.2018



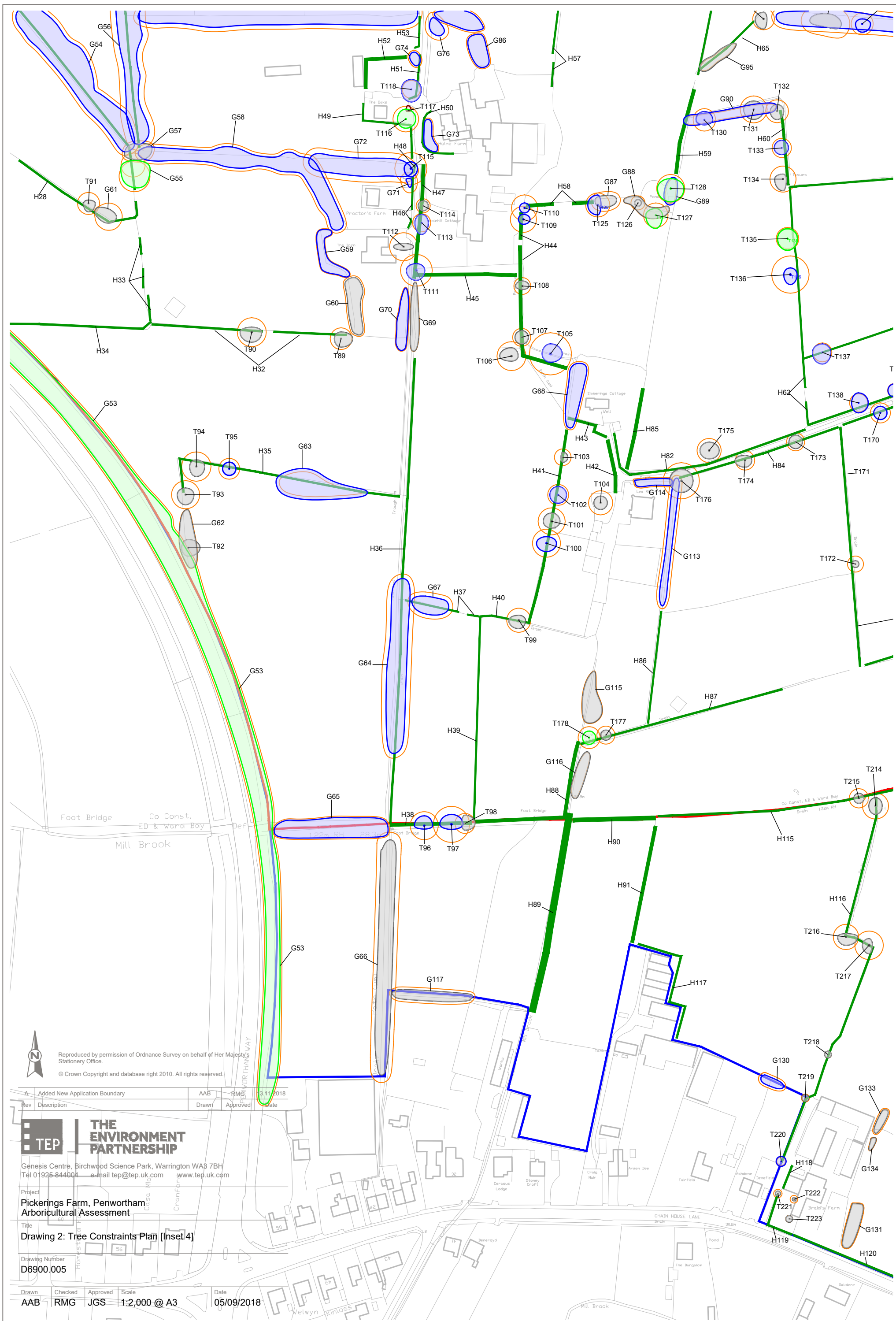
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Project
**Pickerings Farm, Penwortham
Arboricultural Assessment**

Title
Drawing 1: Tree Constraints Plan [Inset 3]

Drawing Number
D6900.004

Drawn	Checked	Approved	Scale	Date
AAB	RMG	JGS	1:2,000 @ A3	05/09/2018




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Rev	Description	Drawn	Approved	Date
A	Added New Application Boundary	AAB	RMS	03.11.2018


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Project
Pickerings Farm, Penwortham
 Arbicultural Assessment

Title
Drawing 2: Tree Constraints Plan [Inset 4]

Drawing Number
D6900.005

Drawn	Checked	Approved	Scale	Date
AAB	RMG	JGS	1:2,000 @ A3	05/09/2018

APPENDIX A: Arboricultural Survey Data Sheets



Surveyor [Angus Blankenstein](#)
 Date [01/05/2018](#)
 Town [Penwortham](#)
 Site [Pickering's Farm](#)
 Dwg Ref [D6900.001-005](#)

Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m ²)		Long, Medium, Short	Y/N
Trees																			
T1	English oak	5.0	378	3.0	5.0	5.0	5.0	5.0	0.0	N	Middle Age	Good	Trifurcate at base; crossing branches; good form; minor bark wounds; crown lifted to 2m	B,1	4.5	64.5		Long	
T2	Common alder	9.0	608	2.0	4.0	4.0	5.0	3.0	0.0	NE	Mature	Fair	Growing in hedgerow on roadside; ivy covered trunk and into canopy; epicormic shoots; reduced branches; failed branches; bifurcate at base; bark wounds on branches; crossing branches; bat potential	C,1	7.3	167.4		Medium	
T3	English oak	12.0	900	1.0	8.0	5.0	8.0	8.0	2.5	N	Mature	Good	Growing within hedgerow on roadside; trifurcate at 2.5m; reduced back over road; moderate deadwood; barbed wire embedded in trunk; cavity on eastern trunk; wounds from branch removal on trunk; bat potential	B,1	10.8	366.4		Long	
T4	English oak	10.0	400	1.0	3.0	3.0	3.0	3.0	2.0	W	Middle Age	Good	Good form; barbed wire embedded into trunk; small deadwood	B,1	4.8	72.4		Long	
T5	English oak	12.0	700	1.0	8.0	7.0	9.0	7.0	4.0	SE	Mature	Good	Growing in hedge on roadside; trifurcate at 4m; crown lifted over road to 5m; broken branches; branch removal on east and west; dead ivy on trunk; moderate deadwood	A,1	8.4	221.7		Long	
T6	English oak	9.0	520	1.0	5.0	7.0	2.0	5.0	2.0	S	Mature	Fair	Bifurcate at 2m; dead ivy on trunk; moderate deadwood; dead branches in top canopy; main leader to north failed; branches removed towards road; suppressed to east by T5; bat potential	B,1	6.2	122.3		Long	
T7	Common alder	12.0	503	4.0	3.0	3.0	3.0	4.0	0.0	N	Middle Age	Fair	Multi-stemmed at base; tall slender form; ivy covered trunk and into canopy; crossing branches; broken branches	C,1	6.0	114.7		Medium	

APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T8	Common alder	9.0	850	1.0	6.0	5.0	4.0	5.0	3.0	N	Middle Age	Fair	Densely ivy covered trunk and into canopy; epicormic shoots; large amount of deadwood; failed branches with decay evident; trifurcate at 4m	C,1,2	10.2	326.9		Medium	
T9	English oak	12.0	500	1.0	4.0	4.0	7.0	2.0	4.0	NE	Middle Age	Good	Trifurcate at 4m; minor deadwood in lower canopy; canopy growing together with T9	A,1	6.0	113.1		Long	
T10	English oak	12.0	500	1.0	3.0	4.0	2.0	6.0	4.0	E	Middle Age	Good	Bifurcate at 4m; suppressed to east by T8; bird box; minor bark wounds	A,1	6.0	113.1		Long	
T11	English oak	11.0	550	1.0	5.0	5.0	5.0	5.0	0.0	SW	Middle Age	Good	Multi-stemmed at 2m; restricted access; some lower branches removed; minor branch socket cavities developing	B,1	6.6	136.8		Long	
T12	English oak	12.0	700	1.0	4.0	4.0	4.0	4.0	2.0	S	Mature	Fair	Large decay in trunk on west side; restricted view as behind fence; wound and cavity on southern branch; bark wounds on branches; bifurcate at 2m; bat potential	B,1	8.4	221.7		Long	
T13	White willow	10.0	700	1.0	6.0	7.0	4.0	4.0	0.0	N	Mature	Fair	Third party tree in rear garden; two stems twisted and fused together; large wounds from failed branches with some decay; new re-growth; broken branch hanging to west; bat potential	C,1	8.4	221.7		Medium	
T14	Common ash	10.0	1000	1.0	4.0	4.0	4.0	4.0	5.0	S	Mature	Dead	90% standing deadwood; lower branches removed	U	0.0	0.0		Short	
T15	Common alder	10.0	700	1.0	5.0	6.0	5.0	5.0	2.0	N	Middle Age	Fair	Growing in hedge; densely ivy covered; multi-stemmed at 2m; crossing branches; bat potential	C,1	8.4	221.7		Medium	
T16	English oak	7.0	600	1.0	0.0	3.0	0.0	4.0	0.0	NE	Mature	Dead	Standing deadwood; large wound from failed branch	U	0.0	0.0	Removed	Short	
T17	Sycamore	6.0	210	1.0	3.0	3.0	3.0	3.0	0.0	S	Middle Age	Fair	Crossing branches; epicormic; growing in hedge	C,1	2.5	20.0		Long	
T18	Goat willow	10.0	257	5.0	4.0	4.0	4.0	4.0	1.5	SW	Middle Age	Good	Multi-stemmed at 1.5m; good form; lower branches removed; crossing branches; some stems fused together	B,1	3.1	29.9		Medium	
T19	Common ash	13.0	720	1.0	7.0	5.0	9.0	8.0	3.0	NE	Mature	Good	Roadside tree; moderate deadwood; bifurcate at 3m; previously crown reduced; some minor decay evident	B,1	8.6	234.5		Long	

APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T20	Common ash	12.0	640	1.0	4.0	4.0	5.0	7.0	4.0	SE	Mature	Good	Bifurcate at 4m; roadside tree; reduced; wounds from pruning; dead ivy on trunk; barbed wire embedded into trunk	B,1,2	7.7	185.3		Long	
T21	Common ash	10.0	870	1.0	6.0	7.0	8.0	7.0	4.0	N	Mature	Fair	Large branches reduced; new growth from stubs; wounds from failed branches; crossing branches; numerous branch socket cavities	B,1,2	10.4	342.4		Long	
T22	English oak	12.0	610	1.0	6.0	5.0	7.0	7.0	4.0	S	Mature	Fair	Roadside tree; large wound on south side from failed branch; previously crown reduced; bifurcate at 4m; crossing branches; a few broken branches; bat potential	B,1,2	7.3	168.3		Long	
T23	English oak	12.0	780	1.0	6.0	6.0	7.0	7.0	3.0	W	Mature	Fair	Roadside tree; previously crown reduced; wounds from branch removals; cavities; slight lean south-east; growing in hedge; crossing branches; bat potential	B,1,2	9.4	275.2		Long	
T24	Common ash	12.0	700	1.0	5.0	5.0	5.0	5.0	4.0	E	Mature	Fair	Growing in open field; some ivy on trunk; cavities from failed branches; bat potential; old Inonotus hispidus bracket; woodpecker holes on upper stem; close ploughing with suspected root damage	C,1	8.4	221.7		Short	
T25	Common ash	10.0	517	2.0	5.0	5.0	5.0	5.0	1.0	NE	Mature	Fair	Bifurcate at base; stems fused together; tight unions; wounds from broken branches by traffic; ivy in trunk	C,1	6.2	120.7		Medium	
T26	Common alder	12.0	630	1.0	5.0	5.0	6.0	6.0	2.0	N	Mature	Fair	Growing within G14; large cavities and splits; moderate deadwood; crossing branches; slight lean east; sparse canopy; bat potential	C,1	7.6	179.6		Medium	
T27	Common alder	11.0	510	1.0	5.0	5.0	5.0	5.0	4.0	N	Mature	Fair	Growing within G14; small cavity to west at 2m; second leader possibly failed; epicormic shoots; sparse crown	C,1	6.1	117.7		Medium	
T28	Common alder	11.0	544	2.0	6.0	5.0	5.0	5.0	3.0	W	Middle Age	Fair	Sparse crown; wounds from branch failures; holes and cavities; crossing branches; bat potential	C,1	6.5	133.9		Medium	
T29	Common ash	12.0	466	4.0	5.0	2.0	4.0	5.0	0.0	NE	Mature	Fair	Multi-stemmed at base; hollow in trunk at base; large wounds from previous branch failures; old pollard; decaying stems; growing on stream edge	C,1	5.6	98.1		Long	

APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T30	Goat willow	7.0	222	5.0	7.0	6.0	6.0	2.0	0.0	E	Middle Age	Fair	Multi-stemmed at base; canopy touching ground; one branch broken and hanging; crossing stems and branches; bark wounds; spreading form	C,1	2.7	22.4	Removed	Medium	
T31	Common alder	6.0	326	2.0	5.0	1.0	3.0	2.0	2.0	NW	Middle Age	Fair	Growing on edge of stream; dense ivy on trunk; crossing branches; wounds from branch failures; reduced	C,1,2	3.9	48.1		Medium	
T32	Common ash	10.0	530	1.0	5.0	5.0	5.0	5.0	4.0	NE	Middle Age	Fair	Barbed wire embedded into trunk; wounds from failed branches; crossing branches; holes and cavities; trifurcate at 4m; slightly sparse crown; moderate deadwood; bat potential	B,1,2	6.4	127.1		Long	
T33	Common ash	9.0	394	2.0	7.0	6.0	6.0	6.0	0.0	NE	Middle Age	Fair	Bifurcate at base; crossing branches; dense vegetation at base; minor bark wounds	B,1,2	4.7	70.3		Long	
T34	Common ash	12.0	533	3.0	3.0	5.0	6.0	6.0	0.0	S	Mature	Fair	Multi-stemmed at base; dense vegetation at base; crossing branches; moderate deadwood	C,1,2	6.4	128.6		Long	
T35	Common alder	9.0	600	1.0	1.0	5.0	1.0	4.0	3.0	N	Mature	Fair	Epicormic shoots on trunk; twisted stems; wounds from failed branches; burred trunk; slight lean west; suppressed to north-east by T33	B,1,2	7.2	162.9		Long	
T36	Common alder	9.0	550	1.0	5.0	4.0	4.0	3.0	4.0	S	Middle Age	Poor	Multi-stemmed at base; main stem and smaller stems with lots of nails in bark and extensive decay; large wounds from failed branches; slightly sparse crowns; cavity; bat potential	C,1	6.6	136.8		Medium	
T37	Common alder	12.0	524	3.0	5.0	4.0	5.0	4.0	0.5	E	Mature	Fair	Multi-stemmed at 0.5m; ivy on trunk and into canopy; crossing branches; large wounds from failed branches; growing on stream edge; large failed branch to east; elder in canopy; bat potential	C,1	6.3	124.0		Medium	
T38	Common alder	11.0	600	1.0	5.0	5.0	6.0	5.0	4.0	E	Mature	Fair	Growing on edge of stream; ivy on trunk; reduced branches; moderate deadwood; sparse canopy; broken branches; lean east on bank; multi-stemmed at 4m; bat potential	C,1	7.2	162.9		Medium	

APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T39	Common ash	12.0	530	1.0	4.0	4.0	4.0	4.0	1.5	NW	Mature	Good	Bifurcate at 1.5m; stems fused together; ivy on trunk and into canopy; reduced lower branches; large exposed roots in path	B,1	6.4	127.1		Long	
T40	Common alder	7.0	540	1.0	4.0	4.0	4.0	5.0	3.0	E	Mature	Good	Growing in H12; ivy covered trunk and into canopy; reduced branches; minor wounds on branches	B,1,2	6.5	131.9		Medium	
T41	Common alder	8.0	520	1.0	6.0	6.0	6.0	3.0	3.0	NW	Mature	Good	Growing in H12; ivy covered trunk and into canopy; reduced branches; minor wounds on branches; suppressed to west	B,1,2	6.2	122.3		Medium	
T42	Common ash	8.0	590	1.0	4.0	6.0	6.0	3.0	4.0	NE	Mature	Good	Growing in H12; ivy covered trunk and into canopy; reduced branches; minor wounds on branches; moderate deadwood	B,1,2	7.1	157.5		Medium	
T43	Common ash	10.0	810	1.0	5.0	6.0	7.0	5.5	4.0	E	Mature	Fair	Growing within G26; multi-stemmed at 4m; previously reduced; good regrowth; minor bark wounds	B,1,2	9.7	296.8		Long	
T44	Common alder	8.0	600	1.0	3.0	5.0	5.0	4.0	2.0	N	Mature	Good	Roadside tree; bifurcate at 2m; dead ivy on trunk; wounds from failed branches; holes and cavities; slight lean north; epicormic shoots; crossing branches; bat potential	B,1	7.2	162.9		Long	
T45	Common ash	11.0	800	1.0	5.0	5.0	5.0	5.0	1.5	W	Mature	Good	Bifurcate at 1.5m; bark wounds; some dieback with moderate deadwood; broken branches and stubs	B,1	9.6	289.5		Long	
T46	Common alder	10.0	660	1.0	6.0	6.0	7.0	5.0	4.0	NE	Middle Age	Good	Dense ivy on trunk and into canopy; wounds from failed branches; multi-stemmed at 4m; roadside tree; bat potential	B,1	7.9	197.1		Long	
T47	Common alder	8.0	550	1.0	4.5	5.0	3.0	4.0	4.0	S	Mature	Good	Dense ivy on trunk and into canopy; wounds from failed branches; multi-stemmed at 4m; roadside tree; bat potential	B,1	6.6	136.8		Long	
T48	Common alder	8.0	540	1.0	4.0	4.0	4.0	4.0	3.0	N	Mature	Good	Dense ivy; roadside tree; minor deadwood; crossing branches	B,1	6.5	131.9		Long	
T49	Common ash	11.0	790	1.0	6.0	6.0	7.0	7.0	3.0	NE	Mature	Good	Large wounds from failed branches to north; dense ivy; holes in branches; moderate deadwood; bifurcate at 3m; wounds on branches; bat potential	B,1	9.5	282.3		Long	
T50	Silver birch	10.0	450	1.0	4.0	4.5	6.0	3.0	3.5	SW	Mature	Fair	Third party; dense ivy on trunk; bark wounds; broken branches; bat potential	C,1	5.4	91.6		Medium	

APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T51	Common ash	12.0	860	1.0	6.0	7.0	7.0	5.0	4.0	E	Mature	Good	Bifurcate at 4m; large branches previously crown reduced; good re-growth; growing within G29; slightly asymmetrical crown	B,1	10.3	334.6		Long	
T52	Common ash	14.0	650	1.0	7.0	7.0	7.0	7.0	3.0	S	Middle Age	Good	Restricted access due to location in garden; base not visible; cavity in trunk on west side; previously reduced; good form and vigour; balanced crown; bat potential	B,1	7.8	191.1		Long	
T53	Cherry	8.0	400	1.0	4.0	3.5	2.5	3.0	2.0	S	Middle Age	Good	Multi-stemmed at 2m; tall slender form; growing in front garden of property; crossing branches	B,1	4.8	72.4		Medium	
T54	Portuguese laurel	4.0	469	3.0	1.0	1.5	1.0	1.0	0.0	NE	Middle Age	Fair	Multi-stemmed at base; previously heavily reduced to 4m; vigorous new regrowth	C,1	5.6	99.5		Medium	
T55	Common ash	10.0	500	1.0	6.0	5.0	5.0	4.0	4.0	S	Middle Age	Good	Bifurcate at 4m then northern stem splits into 2 again; previously reduced; crossing branches; good form	B,1	6.0	113.1		Long	
T56	Sycamore	10.0	570	1.0	4.0	4.0	5.0	4.0	3.0	W	Middle Age	Good	Multi-stemmed at 4m; young branches shooting from base; crossing branches; good form; large crack with internal decay from 2-4m north	B,1	6.8	147.0		Medium	
T57	Hawthorn	5.0	284	3.0	1.0	1.0	2.0	2.0	0.0	NE	Middle Age	Fair	Multi-stemmed; crossing stems and branches; minor deadwood; brambles at base; some stems fused together	C,1	3.4	36.5		Long	
T58	Sycamore	9.0	430	1.0	4.0	3.0	4.0	3.0	2.0	W	Middle Age	Good	Single stem; bifurcate at 6m; minor deadwood; good form; cavity on main leader	B,1	5.2	83.6		Long	
T59	Sycamore	9.0	470	1.0	4.0	4.0	4.0	4.0	2.0	W	Middle Age	Good	Bifurcate at 2m; minor deadwood; small hole in branch stub	B,1	5.6	99.9		Long	
T60	Common ash	12.0	610	1.0	6.0	6.0	6.0	6.0	4.0	N	Middle Age	Good	Bifurcate at 4m; dense ivy on trunk; minor deadwood; low growing branches; crossing branches; barbed wire embedded into trunk; bat potential	B,1	7.3	168.3		Long	
T61	Apple	5.0	350	1.0	2.0	2.0	2.0	2.0	2.0	N	Middle Age	Poor	Growing in middle of field; suckering at base; ivy in trunks; major deadwood; in decline; large decay cavity at base to south-west	C,1	4.2	55.4		Short	
T62	English oak	12.0	570	1.0	3.0	4.0	3.0	4.0	2.0	S	Middle Age	Good	Canopy touching house; minor deadwood; wounds from broken branches; good form; balanced crown	B,1	6.8	147.0		Long	

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Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T63	Sycamore	12.0	630	1.0	3.0	4.0	4.0	3.0	3.0	N	Middle Age	Good	Bifurcate at 3m; ivy on trunk; minor deadwood; small broken branches; good form; balanced crown	B,1	7.6	179.6		Long	
T64	Common ash	13.0	650	1.0	5.0	5.0	5.0	4.0	1.5	S	Mature	Fair	Bifurcate at 6m; trunk growing into wooden fence; major deadwood; wounds from failed branches; ivy on trunk	C,1	7.8	191.1		Long	
T65	Common ash	12.0	969	2.0	6.0	5.0	7.0	4.0	4.0	S	Mature	Fair	Dense ivy on trunk; bifurcate at base; moderate deadwood; bat potential	B,1	11.6	425.1		Long	
T66	Common ash	9.0	700	1.0	6.0	4.0	5.0	5.0	1.5	E	Middle Age	Poor	Dense ivy on trunk; major deadwood; wounds; splits and cavity; broken branches; bat potential	C,1,2	8.4	221.7		Long	
T67	Common ash	12.0	750	1.0	6.0	8.0	7.0	4.0	2.0	N	Middle Age	Fair	Dense ivy on trunk; wounds from failed branches and decay in branches; moderate deadwood; cavities on branches to north side; hole in decayed branch to south; bat potential	C,1,2	9.0	254.5		Long	
T68	Common ash	12.0	920	1.0	7.0	2.0	8.0	6.0	1.5	W	Mature	Fair	Barbed wire embedded on trunk; holes in branches; cavities; moderate deadwood; large dead branches in top canopy; bat potential; major dieback with associated dead wood; major failure to south with large cavity at 5m	C,1,2	11.0	382.9		Short	
T69	English oak	12.0	680	1.0	7.0	8.0	8.0	4.0	5.0	E	Mature	Fair	Third party; large wounds from failed branches; splits and crevices; dense ivy; moderate deadwood; bat potential; large pruning wounds with brash piled to south	B,1,2	8.2	209.2		Medium	
T70	Common ash	8.0	417	2.0	4.0	8.0	8.0	5.0	3.0	E	Middle Age	Fair	Bifurcate; stem fused together; tight unions; asymmetrical crown; crossing branches; growing in wooden fence	C,1	5.0	78.8		Medium	
T71	Common ash	14.0	810	1.0	6.0	9.0	8.0	8.0	5.0	S	Mature	Fair	Large wounds from failed branches; extensive fruiting bodies 'inonotus hispidus' on trunk at wound points; moderate deadwood; cavities; wounds on trunk at base; bifurcate at 5m; bat potential	C,1	9.7	296.8		Short	

APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T72	Common ash	17.0	750	1.0	9.0	3.0	5.0	10.0	4.0	NW	Mature	Poor	Kink in stem; fruiting body inonotus hispidus on trunk; many small holes in trunk, possibly from old fruiting bodies; loose bark on decaying stems; major deadwood; in decline; new growth at base; large dead branch	C,1	9.0	254.5		Short	
T73	Common ash	15.0	700	1.0	5.0	5.0	5.0	3.0	4.0	E	Mature	Fair	Ivy on trunk; reduced branch over public footpath; wounds from previous failed branches; crossing branches; moderate deadwood	B,1	8.4	221.7		Long	
T74	Common ash	13.0	620	1.0	6.0	7.0	7.0	6.0	4.0	SW	Mature	Good	Densely ivy covered; moderate deadwood; growing in hedgerow; bat potential	B,1	7.4	173.9		Long	
T75	Sycamore	10.0	280	1.0	3.0	4.0	5.0	4.0	3.5	W	Middle Age	Good	Densely ivy covered; moderate deadwood; growing in hedgerow; bat potential	B,1	3.4	35.5		Long	
T76	Common ash	11.0	780	1.0	7.0	7.0	7.0	7.0	2.0	SE	Mature	Good	Ivy on trunk; moderate deadwood; growing in hedgerow; balanced crown; bird box; good form and vigour	B,1	9.4	275.2		Long	
T77	Common ash	12.0	710	1.0	6.0	5.0	5.0	6.0	2.0	W	Mature	Fair	Fruiting body inonotus hispidus on trunk; moderate deadwood; holes in branches; decayed branches; wounds from failed branch; limbs removed to east; low growing canopy; bat potential; decay pockets with seepage noted	C,1	8.5	228.0		Medium	
T78	Common ash	12.0	760	1.0	7.0	7.0	7.0	7.0	2.0	S	Mature	Good	Branches reduced over footpath; ivy on trunk; crossing branches; moderate deadwood	B,1	9.1	261.3		Long	
T79	English oak	12.0	500	1.0	6.0	5.0	7.0	6.0	2.0	W	Mature	Good	Ivy on trunk; holes in trunk; crossing branches; growing in G47; bat potential	B,1	6.0	113.1	Removed	Long	
T80	Sycamore	5.0	300	1.0	3.0	3.0	3.0	3.0	1.5	N	Middle Age	Fair	Growing in hedge; multi-stemmed at 2m; ivy on trunk; minor deadwood	C,1	3.6	40.7		Long	
T81	Common ash	12.0	958	2.0	6.0	7.0	7.0	7.0	2.5	SE	Mature	Fair	Growing in hedge; main stem bifurcate at 3m; large cavity in union; hollow trunk; further cavities in branches; wounds from failed branches; roadside tree; bat potential; large established basal suckers noted	C,1	11.5	415.3		Medium	

APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T82	Common ash	12.0	700	1.0	7.0	7.0	6.0	8.0	4.0	W	Mature	Fair	Large wounds from failed branches; moderate deadwood; cracks and splits in branches; bat potential; good vigour	B,1	8.4	221.7		Medium	
T83	Common alder	12.0	610	1.0	5.0	7.0	6.0	7.0	4.0	E	Mature	Good	Growing in hedge; small wound from failed branch; cavity at base to south-west; balanced crown; good form and vigour; no major defects noted	A,1	7.3	168.3		Long	
T84	Horse chestnut	9.0	300	1.0	3.0	4.0	5.0	5.0	2.5	E	Middle Age	Fair	Trifurcate at 2.5m; minor bark wounds; crossing branches	C,1	3.6	40.7		Long	
T85	Common alder	5.0	320	1.0	3.0	3.0	2.0	2.0	5.0	N	Middle Age	Fair	Barbed wire embedded into trunk; crown lifted to 4m; moderate deadwood; exposed roots around trodden mud; waterlogging and compaction	C,1	3.8	46.3		Medium	
T86	Common alder	7.0	440	1.0	5.0	4.0	4.0	4.0	4.0	S	Middle Age	Fair	Cavities in trunk; wounds from failed branches; moderate deadwood; bat potential; waterlogging and compaction	C,1	5.3	87.6		Medium	
T87	Common alder	7.0	400	1.0	4.0	4.0	4.0	4.0	4.0	W	Middle Age	Fair	Cavities in trunk; wounds from failed branches; moderate deadwood; bat potential; waterlogging and compaction	C,1	4.8	72.4		Medium	
T88	Common alder	6.0	380	1.0	3.0	3.0	3.0	3.0	2.0	N	Middle Age	Poor	Decayed stem, only 50% remaining; leaning north; deadwood; wounds from failed branches; waterlogging and compaction	C,1	4.6	65.3		Medium	
T89	Common alder	8.0	540	1.0	4.0	5.0	7.0	4.0	2.0	W	Middle Age	Fair	Barbed wire embedded into trunk; moderate deadwood; wounds from failed branches; crossing branches; large wound to south from failed branch with decay evident; bat potential	C,1	6.5	131.9		Medium	
T90	Common ash	12.0	720	1.0	3.0	6.0	6.0	7.0	3.0	W	Mature	Poor	Large cavity at base on south side; barbed wire fence embedded in trunk; Perenniporia fraxinea fruiting body on trunk; extensive decay up stem; dead branch in crown; in decline; bat potential	C,1	8.6	234.5		Short	
T91	Common alder	5.0	550	1.0	2.0	5.0	4.0	3.0	2.0	W	Middle Age	Fair	Dense ivy on trunk and into canopy; minor deadwood; good form; crossing branches; bat potential	C,1	6.6	136.8		Medium	
T92	Common ash	10.0	550	1.0	5.0	5.0	7.0	4.0	2.0	N	Mature	Good	Large exposed roots on trodden soil; ivy on trunk and into canopy; major deadwood; crossing branches; lean east	C,1	6.6	136.8		Medium	

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Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T93	Common ash	10.0	700	1.0	4.0	6.0	5.0	5.0	5.0	S	Mature	Fair	Ivy on stem; large dead branches with decay; moderate deadwood; bat potential; root damage and waterlogging at base	C,1	8.4	221.7		Long	
T94	Common alder	8.0	730	1.0	4.0	6.0	5.0	4.0	3.0	W	Mature	Fair	Wounds from failed branches; holes in stem and branches; slight lean south; crossing branches; moderate deadwood; bat potential; waterlogging and compaction at base	C,1	8.8	241.1		Medium	
T95	Common alder	9.0	520	1.0	4.0	4.0	4.0	4.0	2.0	W	Mature	Fair	Small amount of ivy on trunk; crossing branches; moderate deadwood; reduced branches	B,1	6.2	122.3		Medium	
T96	Common ash	14.0	700	1.0	6.0	2.0	5.0	6.0	5.0	N	Mature	Fair	Bifurcate at 5m; asymmetrical crown; moderate deadwood; dense ivy; large branch lost to south; crossing branches	B,1,2	8.4	221.7		Long	
T97	Common ash	16.0	900	1.0	6.0	3.0	7.0	7.0	3.0	W	Mature	Fair	Ivy on trunk; large branches removed; moderate deadwood; crossing branches; branch wounds growing on side of ditch to south	B,1,2	10.8	366.4		Long	
T98	Common alder	5.0	500	1.0	5.0	4.0	6.0	2.0	2.0	N	Mature	Poor	Ditch to south; large exposed roots; main leader failed; ivy on trunk; crossing branches; twisted branches	C,1,2	6.0	113.1		Medium	
T99	Common ash	11.0	600	1.0	3.0	5.0	4.0	6.0	1.5	S	Mature	Good	Ivy on trunk and into canopy; minor deadwood; crossing branches; large basal suckers with livestock damage	C,1	7.2	162.9		Medium	
T100	Common ash	12.0	700	1.0	4.0	5.0	6.0	6.0	3.0	W	Mature	Fair	Barbed wire embedded into trunk; moderate deadwood; small crevices; slight lean east; exposed roots; crossing branches	B,1,2	8.4	221.7		Long	
T101	Common ash	12.0	673	2.0	5.0	4.0	5.0	5.0	0.5	N	Mature	Good	Bifurcate at 0.5; crossing branches; moderate deadwood; low growing canopy; some dieback noted	C,1,2	8.1	204.7		Long	
T102	Common ash	9.0	520	1.0	5.0	5.0	5.0	5.0	2.0	W	Mature	Good	Crossing branches; good form; dense canopies; moderate deadwood; branches reduced	B,1,2	6.2	122.3		Long	
T103	Common alder	6.0	416	2.0	3.0	3.0	3.0	1.0	0.0	N	Middle Age	Fair	Bifurcate at base; spreading form; crossing branches; minor bark wounds	C,1	5.0	78.3		Medium	

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Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T104	White willow	8.0	600	1.0	4.0	4.0	4.0	4.0	2.0	N	Middle Age	Fair	Restricted access; multi-stemmed at 2m; dense canopy; crossing branches	C,1	7.2	162.9		Medium	
T105	Common ash	12.0	1050	1.0	6.0	5.0	7.0	5.0	2.5	S	Mature	Fair	Slight lean south towards ditch; large wound from failed branch to east; bifurcate at 2.5m; failed branch to north trunk; reduced branches; moderate deadwood; crossing braches; bat potential; some large dead limbs	B,1,2	12.6	498.8		Long	
T106	Common ash	10.0	720	1.0	5.0	3.0	4.0	7.0	2.0	W	Mature	Fair	Large wound from failed branch to south-east; in decline; top canopy dead; holes in dead branches; cavities; exposed roots; trunk lean east; bat potential; major dieback in upper crown	C,1,2	8.6	234.5		Medium	
T107	Sycamore	9.0	450	1.0	4.0	4.0	4.0	4.0	2.5	N	Middle Age	Fair	Broken hanging branch to south; large amount of deadwood; barbed wire embedded into trunk; bark wounds; small hole in dead branch to south; lean to east	C,1	5.4	91.6		Medium	
T108	Common alder	8.0	420	1.0	3.0	2.0	4.0	4.0	2.5	NE	Middle Age	Fair	Densely ivy covered; elder growing into canopy; minor deadwood; crossing braches; multi stemmed at 2m	C,1	5.0	79.8		Medium	
T109	Common ash	10.0	650	1.0	3.0	3.0	4.0	3.0	4.0	S	Mature	Fair	Easterly lean; dense ivy on trunk; moderate deadwood; large dead branch to east	B,1,2	7.8	191.1		Long	
T110	English oak	10.0	650	1.0	3.0	3.0	3.0	3.0	3.0	W	Middle Age	Good	Easterly lean; ivy on trunk; low growing canopy; moderate deadwood; previously reduced	B,1,2	7.8	191.1		Long	
T111	Common ash	12.0	790	1.0	4.0	6.0	5.0	6.0	3.0	W	Mature	Fair	Trifurcate at 3m; removed branches; small holes in trunk and on branches; moderate deadwood; crossing branches; barbed wire embedded in trunk; bat potential; some large dead limbs	B,1	9.5	282.3		Long	
T112	Common ash	12.0	700	1.0	2.0	2.0	6.0	6.0	4.0	E	Mature	Fair	Growing in front garden of property; dense ivy on trunk and into canopy; large amount of deadwood; wounds from failed branches; asymmetrical crown; in decline	C,1	8.4	221.7		Medium	
T113	Common ash	12.0	450	1.0	5.0	7.0	4.0	4.0	3.0	N	Mature	Fair	Dense ivy; large reduced branches; moderate deadwood; bifurcate at 4m; new-regrowth; growing in hedge	B,1	5.4	91.6		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T114	Sycamore	9.0	350	1.0	3.0	3.0	3.0	3.0	3.0	W	Middle Age	Fair	Dense ivy; dead branches; sparse canopy	C,1	4.2	55.4		Long	
T115	Common ash	15.0	800	1.0	4.0	5.0	4.0	4.0	3.0	SW	Mature	Fair	Growing behind hedge; crossing branches; minor deadwood; low growing canopy; wound from failed branch to north; small Daldinia concentrica on trunk; heavily burred stem	B,1	9.6	289.5		Long	
T116	English oak	12.0	640	1.0	6.0	5.5	6.0	5.0	3.0	W	Middle Age	Good	Dense ivy on trunk and into canopy; low growing canopy; crossing branches; minor deadwood; road 1m to east	A,1	7.7	185.3		Long	
T117	Cherry	7.0	500	1.0	3.0	0.5	2.0	1.0	2.0	N	Middle Age	Dead	Standing dead tree	U,1	0.0	0.0		Short	
T118	English oak	11.0	450	1.0	6.0	7.5	6.0	6.0	3.0	S	Middle Age	Fair	Large amount of deadwood; sparse canopy; previously reduced to clear power lines to east	B,1	5.4	91.6		Long	
T119	English oak	12.0	800	1.0	6.0	8.0	8.0	6.0	4.0	SE	Mature	Good	Roadside tree; ivy on trunk and into canopy; small broken branch; trunk lean east	A,1	9.6	289.5	Removed	Long	
T120	Common ash	10.0	750	1.0	4.0	4.0	4.0	4.0	4.0	E	Mature	Poor	Almost dead; roadside tree; holes in branches; ivy on trunk; Daeldinia concentrica on trunk; bat potential	U	0.0	0.0		Short	
T121	Common ash	11.0	620	1.0	4.0	4.0	5.0	6.0	2.0	W	Mature	Good	Branch to west failed; dense ivy covering trunk; failed branches; splits in branches; dense canopies; branches reduced over road; trunk leans to east; bat potential	B,1	7.4	173.9		Long	
T122	Common ash	13.0	600	1.0	5.0	4.0	5.0	5.0	4.0	N	Middle Age	Good	Dense ivy on trunk; crossing branches; minor deadwood	B,1,2	7.2	162.9		Long	
T123	Goat willow	8.0	278	4.0	3.0	3.0	3.0	3.0	1.0	SW	Middle Age	Good	Dense canopy; restricted access; multi-stemmed at 1m; crossing branches	B,1	3.3	34.8		Medium	
T124	Common ash	15.0	890	1.0	1.0	4.0	2.0	3.0	3.0	NW	Mature	Fair	Growing in H57; suckering at base; large deadwood in crown; basal cavity with Perenniporia fraxinea	C,1	10.7	358.3		Medium	
T125	English oak	8.0	600	1.0	6.0	6.0	2.0	6.0	4.0	N	Middle Age	Good	Kink in trunk; minor bark wounds; moderate deadwood; large branch removed; reduced	B,1	7.2	162.9		Long	
T126	Common ash	11.0	350	4.0	2.0	2.0	2.0	2.0	0.0	N	Middle Age	Fair	Multi-stemmed at base; dense ivy on trunk; split apart at base; large bark wounds	C,1	4.2	55.4		Medium	
T127	English oak	12.0	610	1.0	4.0	8.0	4.0	6.0	3.0	NE	Middle Age	Good	Moderate deadwood; good form; low growing canopy; ditch to north; large suspended broken branch	A,1	7.3	168.3		Long	

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Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T128	English oak	12.0	700	1.0	6.0	8.0	8.0	8.0	4.0	E	Mature	Good	Minor bark wounds; bifurcate at 4m; good form; moderate deadwood	A,1	8.4	221.7		Long	
T129	English oak	8.0	1000	1.0	5.0	6.0	5.0	3.0	3.0	E	Mature	Good	Slight stem lean to east; moderate deadwood; holes in branch ends; wounds from branch failures; bifurcate at 3m; bat potential	A,1	12.0	452.4		Long	
T130	Common alder	10.0	560	1.0	5.0	3.0	5.0	5.0	4.0	SW	Middle Age	Good	Ivy on trunk; previously reduced; multi-stemmed at 4m	B,1	6.7	141.9		Medium	
T131	Common ash	12.0	670	1.0	5.0	6.0	6.0	6.0	5.0	W	Mature	Fair	Moderate deadwood; ivy on trunk; growing on edge of ditch; large reduced branches	C,1	8.0	203.1		Medium	
T132	Sycamore	11.0	570	1.0	4.0	4.0	4.0	4.0	3.0	S	Mature	Fair	Large cavity in trunk at base to south side extending to at least 2m; cavities in trunk; dying back in crown; bat potential	C,1	6.8	147.0		Medium	
T133	English oak	9.0	480	1.0	4.5	4.0	4.0	4.5	2.5	W	Middle Age	Fair	Wound from branch failures to west; major deadwood; crossing branches	B,1	5.8	104.2		Long	
T134	Common ash	12.0	650	1.0	3.0	7.0	2.0	5.0	4.0	W	Mature	Fair	Suckering at base; cavity on trunk to east; moderate deadwood; low growing canopy; slight lean east; bat potential; major basal flare with cavity	C,1	7.8	191.1		Medium	
T135	English oak	9.0	560	1.0	6.0	7.0	6.0	6.0	2.0	S	Middle Age	Good	Moderate deadwood; some ivy on trunk; crossing branches; small cavity in main stem at 2m to south	A,1	6.7	141.9		Long	
T136	Common ash	9.0	930	1.0	4.0	6.0	4.0	4.0	3.0	W	Mature	Fair	Ivy on trunk and into canopy; moderate deadwood; large cavity from failed branch to north at 2m; old pollard at 3m; low growing canopy; bat potential	B,1,3	11.2	391.3		Medium	
T137	English oak	7.0	470	1.0	5.0	7.0	5.0	6.0	2.0	W	Middle Age	Good	Minor bark wound from crossing branches; minor deadwood	B,1	5.6	99.9		Long	
T138	Common ash	9.0	450	1.0	6.0	6.0	6.0	4.0	3.0	NW	Middle Age	Good	Ivy on trunk; roadside trees; bifurcate at 3m; moderate deadwood; good form	B,1,2	5.4	91.6		Long	
T139	Sycamore	7.0	350	1.0	4.0	4.0	4.0	4.0	3.0	W	Middle Age	Good	Bifurcate at 1.5m; stems fused together; crossing branches; good form; barbed wire embedded in trunk on north side; minor deadwood	B,1,2	4.2	55.4		Long	
T140	Common ash	11.0	420	1.0	4.0	4.0	4.0	4.0	2.5	SE	Middle Age	Fair	Suckering at base; moderate deadwood; some ivy on trunk; barbed wire embedded into trunk on north side	C,1	5.0	79.8		Long	

APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T141	Common ash	12.0	620	1.0	7.0	5.0	9.0	7.0	2.0	N	Mature	Good	Small amount of ivy on trunk; moderate deadwood; low growing canopy; reduced over road	B,1	7.4	173.9		Long	
T142	Common ash	7.0	420	1.0	4.0	5.0	6.0	2.0	4.0	W	Middle Age	Fair	Bifurcate at 4m; large deadwood; wounds at base; bark wounds; compaction to east	C,1	5.0	79.8		Medium	
T143	Common ash	14.0	600	1.0	8.0	7.0	7.0	6.0	4.0	W	Mature	Good	Moderate deadwood; good form; crossing branches; no major defects noted	A,1	7.2	162.9		Long	
T144	Common pear	7.0	600	1.0	5.0	5.0	5.0	5.0	2.0	N	Mature	Good	Multi-stemmed at 2m; suckering at base; crossing branches good form; minor deadwood; minor bark wounds	B,1	7.2	162.9		Long	
T145	Common ash	14.0	550	4.0	3.0	5.0	5.0	4.0	0.0	W	Mature	Fair	Multi-stemmed at base; stem to south west reduced to 1m; reduced to south; wound from failed branch; occluded cavity to north side; bat potential	B,1	6.6	137.0		Long	
T146	Common ash	10.0	540	1.0	4.0	6.0	2.0	5.0	4.0	N	Mature	Fair	Wound from failed branch; hole in trunk to south side; occluded cavities; moderate deadwood; bifurcate at 4m; bat potential	C,1	6.5	131.9		Medium	
T147	Common ash	15.0	800	1.0	6.0	6.0	9.0	6.0	2.0	E	Mature	Fair	Roadside tree; extensive bark wounds on east side from passing vehicles; failed branch to east; wounds from failed branches; 2 branches failed to west; ivy on lower trunk	C,1,2	9.6	289.5		Medium	
T148	Common ash	15.0	840	1.0	6.0	7.0	6.0	7.0	3.0	W	Mature	Good	Roadside tree; ivy on lower trunk; moderate deadwood; small holes in braches	B,1,2	10.1	319.2		Medium	
T149	Common ash	15.0	820	1.0	6.5	8.0	7.0	6.0	4.0	W	Mature	Good	Easterly stem lean; ivy on lower trunk; moderate deadwood; small wounds	B,1,2	9.8	304.2		Long	
T150	Common ash	12.0	610	1.0	7.0	7.0	6.0	6.0	4.0	W	Mature	Good	Multi-stemmed at 4m; wounds from failed branches; moderate deadwood; previously reduced branch over road; ivy on trunk and into canopy	B,1,2	7.3	168.3		Long	
T151	Common ash	12.0	640	1.0	5.0	6.0	6.0	5.0	4.0	W	Mature	Good	Ivy on lower trunk; moderate deadwood; crossing branches; small holes in branches; previously reduced	B,1,2	7.7	185.3		Long	
T152	Common ash	12.0	640	1.0	4.0	6.5	4.0	4.0	4.0	SE	Mature	Good	Ivy on lower trunk; moderate deadwood; crossing branches; small holes in branches; previously reduced	B,1,2	7.7	185.3		Long	
T153	Sycamore	10.0	470	1.0	4.0	4.0	5.0	6.0	2.0	N	Mature	Good	Ivy on trunk; good form; minor bark wounds on branches	B,1,2	5.6	99.9		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T154	English oak	12.0	880	1.0	5.0	5.5	7.0	8.0	2.0	W	Mature	Good	Ivy on trunk and into canopy; crossing branches; dense canopy; minor deadwood	A,2,1,2	10.6	350.3		Long	
T155	Common ash	12.0	900	1.0	9.0	9.0	7.0	9.0	4.0	W	Mature	Fair	Growing on south side of ditch; large failed branch to south-east; dead branches in crown; holes in branches; ivy on lower trunk; moderate deadwood; bat potential; large fungal fruiting body of Perenniporia fraxinea at base to north	B,1	10.8	366.4		Medium	
T156	Common ash	11.0	500	1.0	5.0	5.0	5.0	5.0	3.0	NW	Mature	Fair	Growing on north side of ditch; major deadwood; ivy on trunk; wounds from failed branches; holes in branches; dead in top canopy; bat potential	C,1	6.0	113.1		Long	
T157	Common alder	6.0	250	1.0	1.0	1.0	1.0	1.0	3.0	NW	Middle Age	Fair	Growing in H74; dense ivy; crossing branches	C,1	3.0	28.3		Medium	
T158	Common alder	9.0	500	1.0	5.0	5.0	4.0	4.0	1.5	N	Mature	Good	Growing in hedge; sparse ivy on trunk and into canopy; bifurcate at 1.5; few broken branches; crossing branches	B,1	6.0	113.1		Medium	
T159	Common alder	7.0	490	1.0	4.0	4.0	4.0	4.0	2.0	N	Middle Age	Fair	Sparse and some dead ivy on trunk and into canopy; growing in hedge; wounds from branch failures; moderate deadwood; multi-stemmed at 2	C,1	5.9	108.6		Medium	
T160	Common ash	12.0	860	2.0	4.0	7.0	5.0	5.0	0.5	N	Mature	Fair	Bifurcate at 0.5m; northern trunk was once bifurcate but now fused together leaving a hole through trunk; large amount of deadwood; in decline with heavily poached ground to east	C,1	10.3	334.7		Medium	
T161	English oak	9.0	700	1.0	7.0	8.0	8.0	7.0	2.5	W	Mature	Fair	Kink in trunk to south-east; moderate deadwood; crossing branches; small wounds on branches; wounds from failed branches; some branches previously reduced; poached ground to east	B,1	8.4	221.7		Long	
T162	White willow	10.0	700	1.0	6.0	6.0	6.0	6.0	2.5	W	Mature	Fair	Restricted access to survey; trunk to east split away from main trunk leaving a large wound from base to 2m; major dieback noted	C,1	8.4	221.7		Short	
T163	English oak	8.0	1080	1.0	8.0	7.0	7.0	8.0	2.0	W	Mature	Good	Bifurcate at 1m; moderate deadwood; trunk lean to south; barbed wire embedded into trunk; exposed roots to north; growing on slight slope to south; superficial fire damage on main stem; cavity on southern limb with bat potential	A,1	13.0	527.7		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T164	Common ash	9.0	450	1.0	5.0	2.0	5.0	5.0	4.0	E	Middle Age	Poor	Almost dead	C,1	5.4	91.6		Short	
T165	English oak	10.0	580	1.0	5.0	6.0	7.0	7.0	2.0	SW	Mature	Good	Barbed wire embedded in trunk; moderate deadwood	A,1	7.0	152.2		Long	
T166	English oak	9.0	450	1.0	4.0	4.0	4.0	4.0	4.0	W	Middle Age	Good	Restricted access to survey; good form; minor deadwood	A,1	5.4	91.6		Long	
T167	Common ash	8.0	350	1.0	3.0	3.0	3.0	3.0	2.0	SW	Middle Age	Fair	Restricted access to survey; moderate deadwood; wounds from failed braches	B,1	4.2	55.4		Long	
T168	Apple	4.0	164	4.0	1.0	1.0	1.0	1.0	0.0		Middle Age	Fair	Multi-stemmed at base; crossing stems and branches; shrubby form	C,1	2.0	12.2	Removed	Medium	
T169	English oak	7.0	250	1.0	2.0	2.0	2.0	2.0	1.0		Middle Age	Fair	Bifurcate at 1m; split at union to base; crossing branches	C,1	3.0	28.3		Long	
T170	English oak	9.0	500	1.0	4.0	4.0	4.0	4.0	5.0	W	Middle Age	Fair	Roadside tree; ivy on trunk and into canopy; moderate deadwood; small bark wounds on branches	B,1	6.0	113.1		Long	
T171	Common ash	6.0	400	1.0	1.0	1.0	1.0	1.0			Middle Age	Dead	Dead tree; fruiting body on trunk	U	0.0	0.0	Removed	Short	
T172	Common alder	5.0	400	1.0	2.0	2.0	2.0	2.0	2.0	E	Middle Age	Fair	Restricted access to survey; dense ivy on trunk and into canopy; growing in hedge; moderate deadwood	C,1	4.8	72.4		Medium	
T173	Common ash	9.0	450	1.0	3.0	4.0	4.0	4.0	4.0	S	Middle Age	Fair	Roadside tree; cracks and crevices; major dead wood throughout; in decline; bifurcate at 4m; bat potential	C,1	5.4	91.6		Medium	
T174	English oak	8.0	480	1.0	3.0	4.0	4.0	6.0	3.0	W	Middle Age	Fair	Roadside tree; major deadwood; sparse crown; wounds from failed branches	C,1	5.8	104.2		Long	
T175	Common ash	12.0	600	1.0	5.0	5.0	6.0	5.5	2.0	NW	Mature	Fair	Roadside tree; large dead branch to south over Nib Lane; dense ivy; major deadwood; in decline	C,1	7.2	162.9		Medium	
T176	Common ash	12.0	900	1.0	7.0	7.0	7.0	7.0	2.0	W	Mature	Fair	New growth at base; large wound from failed branch; moderate deadwood; trunk lean to south east; bat potential; some major branch failures	C,1	10.8	366.4		Long	
T177	Common ash	8.0	450	1.0	3.0	3.0	3.0	3.0	2.0	W	Middle Age	Fair	Growing in hedge; ivy in trunk; crossing branches; moderate deadwood	C,1	5.4	91.6		Long	
T178	English oak	11.0	550	1.0	4.0	4.0	4.0	4.0	3.5	W	Mature	Good	Ivy on trunk; growing in hedge; crossing branches; moderate deadwood	A,1	6.6	136.8		Long	
T179	Common alder	8.0	480	1.0	4.0	4.0	4.0	4.0	3.0	S	Mature	Fair	Growing in hedge; ivy on trunk; cavity in trunk to north at base; wounds from failed branches; moderate deadwood	C,1	5.8	104.2		Medium	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T180	Common alder	9.0	360	1.0	3.0	3.0	3.0	3.0	2.0	E	Middle Age	Fair	Growing in hedge; cavity on trunk to east; moderate deadwood; wounds from failed branches; bat potential	C,1	4.3	58.6		Medium	
T181	Common ash	9.0	500	1.0	4.0	7.0	4.0	4.0	5.0	S	Middle Age	Good	Growing on east side of ditch; barbed wire embedded in trunk; bifurcate at 4m; dense ivy; moderate deadwood	B,1	6.0	113.1		Long	
T182	Common ash	10.0	350	1.0	5.0	6.5	5.0	6.0	3.0	S	Middle Age	Good	Growing on east side of ditch; barbed wire embedded in trunk; bifurcate at 4m; dense ivy; crossing branches; moderate deadwood	B,1	4.2	55.4		Long	
T183	Common alder	7.0	440	1.0	4.0	3.0	3.5	4.0	3.0	N	Middle Age	Fair	Cavity to east at 3m; large wounds to base on east side; large branch failed in canopy to west	C,1	5.3	87.6		Medium	
T184	Common ash	11.0	860	1.0	6.0	6.5	9.0	5.0	3.0	E	Mature	Fair	Bifurcate at 3m; ivy on trunk and into canopy; moderate deadwood; barbed wire on trunk; holes in branch ends; bat potential; some dieback noted	C,1	10.3	334.6		Medium	
T185	Common ash	9.0	370	1.0	4.0	5.5	4.0	4.5	3.0	S	Middle Age	Fair	Suckering at base; dense ivy; moderate deadwood; growing in hedge	C,1	4.4	61.9		Long	
T186	Common ash	15.0	715	4.0	6.0	5.0	6.5	6.0	0.0	S	Mature	Fair	Suckering at base; ivy on trunk; moderate deadwood; holes in branches ; bat potential; some minor dieback	C,1,2	8.6	231.3		Long	
T187	Common ash	12.0	540	1.0	5.0	5.0	7.0	6.0	4.0	N	Mature	Good	Ivy on trunk; moderate deadwood; suckering at base; trifurcate at 4m; wounds from failed branches; bat potential	B,1,2	6.5	131.9		Long	
T188	Common alder	10.0	456	2.0	4.0	4.0	4.0	4.0	2.0	E	Middle Age	Fair	Ivy covered; suckering at base; moderate deadwood; large wound at base to north	C,1	5.5	94.1		Medium	
T189	Sycamore	10.0	532	3.0	4.0	4.0	4.0	4.0	0.0		Middle Age	Fair	Multi-stemmed; large bark wounds at base; decay in stems; tight unions; crossing branches	C,1	6.4	128.2		Long	
T190	Common oak	11.0	690	1.0	8.0	6.0	9.0	6.5	4.0	W	Middle Age	Good	Restricted access to survey; good form; moderate deadwood; poached ground at base; some small cavities	A,1	8.3	215.4		Long	
T191	Common ash	9.0	620	1.0	7.0	7.0	6.0	6.0	4.0	N	Mature	Fair	Bifurcate at 4m; dense ivy on trunk; moderate deadwood; wounds from failed branches	B,1	7.4	173.9		Long	
T192	English oak	9.0	740	1.0	4.0	6.0	4.0	4.0	2.0	N	Mature	Fair	Large second leader failed to south leaving large wound; ivy on trunk	B,1	8.9	247.7		Long	
T193	English oak	9.0	610	1.0	4.0	4.0	5.0	5.5	2.5	W	Mature	Good	Dead ivy on trunk; wounds from failed branches; moderate deadwood	A,1	7.3	168.3		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T194	Common ash	7.0	550	1.0	2.0	6.0	5.0	4.0	2.0	SW	Mature	Dead	Fallen dead tree	U	0.0	0.0		Medium	
T195	Common ash	9.0	610	1.0	4.0	7.0	4.0	4.0	2.5	S	Mature	Fair	Crossing branches; broken branches; hole in branches; large exposed roots; bark wounds; bat potential	C,1	7.3	168.3		Medium	
T196	Common ash	8.0	600	1.0	5.0	5.0	5.0	5.0	1.5	S	Mature	Fair	Main stem failed leaving large wound and decay; good re-growth from wound point	C,1	7.2	162.9		Medium	
T197	Common ash	8.0	490	1.0	3.5	5.0	3.0	3.0	2.0	W	Mature	Fair	Suckering at base; ivy on trunk; large amount of deadwood; wound from failed branches; holes in dead branch; bat potential; hollow stem	C,1	5.9	108.6		Medium	
T198	Common alder	7.0	470	1.0	4.0	5.0	3.0	2.5	4.0	S	Mature	Fair	Bifurcate at 4m; ivy on trunk; crossing branches; moderate deadwood; growing in hedge	B,1	5.6	99.9		Long	
T199	English oak	8.0	590	1.0	3.0	5.0	4.0	5.0	2.0	W	Mature	Fair	Crossing branches; asymmetrical crown; barbed wire embedded in trunk; moderate deadwood	B,1	7.1	157.5		Long	
T200	English oak	6.0	500	1.0	1.0	4.0	2.0	1.0	2.0	S	Middle Age	Poor	Main leader failed; branch to south failed; small amount of ivy; large deadwood; bat potential	C,1	6.0	113.1		Medium	
T201	English oak	8.0	720	1.0	4.0	6.0	5.0	5.0	3.0	S	Mature	Fair	Small amount of ivy; wounds rom failed branches; moderate deadwood; crossing branches	B,1	8.6	234.5		Long	
T202	English oak	8.0	760	1.0	5.0	6.0	4.0	5.5	2.0	N	Mature	Fair	Stem leans north; large exposed roots; bifurcate at 2m; holes in trunk to south-west at 1.5m; ivy on trunk; wounds from failed branches; moderate deadwood; barbed wire embedded into trunk; cavity to main stem; bat potential	B,1	9.1	261.3		Long	
T203	English oak	11.0	820	1.0	4.0	6.0	8.0	4.0	3.0	N	Mature	Fair	Large deadwood; splits in dead branch; crossing branches; bat potential	B,1	9.8	304.2		Long	
T204	Common ash	11.0	810	1.0	4.0	5.0	6.0	6.0	2.5	SW	Mature	Fair	Cavity on trunk at 0.5m on west side; wounds from failed branches; moderate deadwood; crossing branches; bark wounds	B,1	9.7	296.8		Long	
T205	Common ash	11.0	600	1.0	5.0	3.0	3.0	5.0	3.0	SE	Mature	Poor	Major deadwood; exposed roots; barbed wire embedded into trunk; ivy on trunk	C,1	7.2	162.9		Short	
T206	Common ash	11.0	650	1.0	6.0	6.5	4.5	5.0	2.0	E	Mature	Fair	Growing on west side of ditch; ivy on trunk; wounds rom failed branches; moderate deadwood; bat potential	C,1	7.8	191.1		Long	
T207	Common alder	8.0	540	1.0	5.0	5.0	6.0	6.0	3.0	NW	Mature	Fair	Exposed roots; ivy on trunk; moderate deadwood	C,1	6.5	131.9		Medium	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T208	English oak	8.0	540	1.0	5.0	4.0	7.0	6.0	2.5	SW	Mature	Good	Exposed roots; hole in branch to north side; moderate deadwood; bat potential	B,1	6.5	131.9		Long	
T209	Common ash	12.0	850	1.0	6.0	8.0	9.0	6.0	3.0	W	Mature	Fair	Moderate deadwood; crossing branches; sparse canopy; wounds from failed branches; cavities; bat potential	B,1	10.2	326.9		Long	
T210	English oak	10.0	670	1.0	6.0	7.0	7.0	5.0	2.0	N	Mature	Good	Growing on edge of ditch to north; wounds from failed branches; holes in branches; moderate deadwood; bat potential	B,1	8.0	203.1		Long	
T211	English oak	8.0	610	1.0	2.0	7.0	6.0	7.0	2.0	W	Mature	Fair	Cavity from base to 4m on east side of trunk; large amount of deadwood; exposed roots; barbed wire embedded in trunk; dead branch to east; suppressed to north	C,1	7.3	168.3		Long	
T212	Common ash	12.0	650	1.0	5.0	7.0	5.5	5.0	5.0	S	Mature	Fair	Bifurcate at 5m; wounds from failed branches; moderate deadwood	B,1	7.8	191.1		Long	
T213	Crack willow	10.0	740	2.0	8.0	8.0	8.0	4.0	0.5	N	Middle Age	Fair	Growing on edge of ditch; large bark wounds; decay at base; crossing branches; wound from large failed branch	C,1	8.9	247.7		Medium	
T214	Sycamore	11.0	650	1.0	5.0	5.0	4.0	4.0	3.0	SW	Mature	Fair	Dieback in top crown; wounds from failed branches; tight unions; crossing branches; multi-stemmed at 3m	C,1	7.8	191.1		Medium	
T215	Common ash	11.0	480	1.0	3.0	3.0	3.0	3.0	2.0	N	Middle Age	Fair	Major deadwood in canopy; ivy on trunk; growing within H115; dense canopy; decline in top canopy	C,1	5.8	104.2		Medium	
T216	Common ash	12.0	630	1.0	2.0	5.0	7.0	5.0	2.5	N	Mature	Fair	Dense ivy on trunk and into canopy; wounds from failed branches; holes in branches; moderate deadwood; bifurcate at 2.5m; bat potential	C,1	7.6	179.6		Long	
T217	Common ash	12.0	710	1.0	4.0	5.0	2.0	4.0	3.0	W	Mature	Fair	Dense ivy on trunk and into canopy; wounds from failed branches; holes in branches; large dead branch; multi-stemmed at 3m; bat potential; major limb removed leaving large wound	C,1	8.5	228.0		Medium	
T218	Sycamore	7.0	170	1.0	2.0	2.0	2.0	2.0	2.0	S	Middle Age	Fair	Growing in hedge H116; crossing stems and branches; dense canopy	C,1	2.0	13.1		Long	
T219	Common ash	7.0	200	1.0	2.0	2.0	2.0	2.0	2.0	W	Middle Age	Fair	Growing in hedge H116; dense ivy on trunk; crossing branches; minor deadwood	C,1	2.4	18.1		Long	

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Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T220	Sycamore	11.0	208	3.0	3.0	3.0	3.0	3.0	0.0	SE	Middle Age	Good	Trifurcate at base; behind garden fence; good form; minor bark wounds	B,1	2.5	19.6		Long	
T221	Sycamore	8.0	205	2.0	1.5	1.5	1.5	1.5	0.0	N	Middle Age	Good	Bifurcate at base; previously reduced; crossing branches	C,1	2.5	19.0		Long	
T222	Leyland cypress	7.0	191	5.0	1.0	1.0	1.0	1.0	0.0	N	Middle Age	Fair	Multi-stemmed at base; crown raised to 4m; growing in front garden of property	C,1	2.3	16.6		Long	
T223	Leyland cypress	8.0	171	5.0	2.0	2.0	2.0	2.0	0.0	E	Middle Age	Fair	Growing in front garden of property; crown raised to 3m; dense canopy; multi-stemmed at base	C,1	2.1	13.3		Long	
T224	Common alder	7.0	350	1.0	4.0	2.0	3.0	2.0	2.0	E	Middle Age	Fair	Roadside tree; growing in H128; stem lean to east; large branch broken to south; holes in branches; asymmetrical crown; ivy on trunk; bat potential	C,1	4.2	55.4		Medium	
T225	Common ash	12.0	600	1.0	5.0	5.0	5.0	5.0	2.0	N	Middle Age	Good	Low growing branches to south-east; crossing branches; minor deadwood	B,2	7.2	162.9		Long	
T226	Common ash	16.0	750	1.0	5.0	5.0	5.0	5.0	2.0	E	Mature	Good	Good form and condition; crossing branches; restricted access to base of tree	A,1	9.0	254.5		Long	
T227	Sycamore	8.0	303	4.0	4.0	4.0	4.0	4.0	0.5	E	Middle Age	Good	Multi-stemmed at 0.5m; good form and condition	A,1	3.6	41.6		Long	
T228	Purple beech	8.0	350	1.0	3.0	3.0	3.0	3.0	2.0	E	Middle Age	Good	Good form; minor deadwood; dense canopy	A,1	4.2	55.4		Long	
T229	Common ash	11.0	730	1.0	7.0	7.0	9.0	6.0	4.0	N	Mature	Good	Growing in hedge H123; trifurcate at 4m; reduced over road; good form	A,1	8.8	241.1		Long	
T230	Common alder	12.0	550	1.0	4.0	4.0	4.0	5.0	4.0	E	Middle Age	Good	Garden tree growing behind H124; bifurcate at 3m; Clematis covering trunk and into canopy; crossing branches	B,1	6.6	136.8		Long	
T231	Common alder	12.0	550	1.0	5.0	3.0	5.0	5.0	3.0	W	Middle Age	Fair	Bifurcate at 3m; roadside tree; bird box; minor bark wounds; large cavity at base to north side to approx. 1.5m; decay evident; still has good vigour	B,1,2	6.6	136.8		Medium	
T232	Common alder	9.0	600	1.0	3.0	4.0	5.0	4.0	3.0	N	Middle Age	Good	Ivy covered trunk and into canopy; growing in hedge H125; moderate deadwood; reduced over road; bat potential	B,1	7.2	162.9		Medium	
T233	Elm sp.	11.0	460	1.0	6.0	5.0	3.0	4.0	3.0	W	Middle Age	Good	Bifurcate at 3m; tight unions; previously reduced; dense canopy; crossing branches	B,1	5.5	95.7		Long	
T234	Common ash	11.0	450	1.0	5.0	5.0	6.0	4.0	1.5	S	Middle Age	Good	Large exposed roots; roadside tree; reduced over road; fence to west growing into trunk; crossing branches	B,1	5.4	91.6		Long	
T235	Copper beech	14.0	630	1.0	6.0	6.0	6.0	6.0	4.0	S	Mature	Good	Growing in garden of property; good form	A,1	7.6	179.6	Removed	Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
T236	Common ash	14.0	800	1.0	3.0	4.0	4.0	4.0	6.0	NE	Mature	Good	Growing in garden crown raised to 6m; minor deadwood	B,1	9.6	289.5	Removed	Long	
T237	Common ash	14.0	450	1.0	6.0	6.0	6.0	6.0	4.0	W	Middle Age	Good	Growing in garden; bifurcate at 4m; moderate deadwood; crossing branches	B,1,2	5.4	91.6	Removed	Long	
T238	Atlas cedar	12.0	500	1.0	3.0	3.0	3.0	3.0	3.0	SE	Middle Age	Good	Growing in front garden of property; behind H132; lower branch reduced; good form	A,1	6.0	113.1		Long	
T239	Silver birch	14.0	500	1.0	3.0	3.0	3.0	5.0	0.0	N	Middle Age	Fair	Densely ivy covered trunk and into canopy; possibly bifurcate; growing in front garden of property	B,1	6.0	113.1		Medium	
T240	Plum sp.	8.0	350	1.0	3.0	3.0	1.0	3.0	2.0	S	Middle Age	Fair	Bifurcate at 2m; crossing branches; minor bark wounds; moderate deadwood; previously reduced	B,1	4.2	55.4		Medium	
T241	English oak	12.0	750	1.0	6.0	8.0	5.0	6.0	2.5	S	Middle Age	Good	Bifurcate at 2.5m; moderate deadwood; good form	A,1	9.0	254.5		Long	
T242	Common ash	11.0	591	2.0	6.0	6.0	7.0	6.0	2.5	SE	Middle Age	Fair	Twin-stemmed, numerous broken branches and stubs, failed limbs, ivy on main stem, next to ditch, some large wounds on stem	C,1	7.1	158.0		Medium	
T243	Goat willow	8.0	250	1.0	0.5	5.0	2.0	2.0	2.5	SE	Middle Age	Fair	Formerly multi-stemmed trees with single remaining, high coppice with regrowth, some minor dead wood, large wounds to lower stem and pruning wounds throughout	C,1	3.0	28.3		Medium	
T244	Common ash	15.0	650	1.0	7.0	5.0	5.0	6.0	3.0	E	Middle Age	Fair	Some upper crown suppression, next to footpath with stile attached to stem, pruning wounds throughout, major and minor dead wood in crown	B,1,2	7.8	191.1		Long	
T245	Common ash	10.0	550	1.0	1.0	9.0	2.0	11.0	3.0	W	Middle Age	Fair	Growing on ditch bank, major lean to west with crooked stem	C,1,2	6.6	136.8		Medium	
T246	Common ash	16.0	936	4.0	6.0	8.0	6.0	9.0	4.0	N	Mature	Fair	Very large tree with 4 stems - 5th removed, within G100, ditch to south, good vigour, broken branches and stubs, dead wood in crown	B,1,2,3	11.2	396.6		Medium	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N

Groups

G1	Goat willow, alder	to 8	75-100	>10							Middle Age	Fair	Growing around pond; tall slender form; some multi-stemmed; crossing branches; one failed stem on alder	C,2	Refer to Drawing	n/a		Medium	
G2	Hawthorn, elm sp, oak	8.0	75-100	>50							Middle Age	Fair	Multi-stemmed; unmanaged; young multi-stemmed oak; tall slender form; ivy covered stems; roadside group	B,1,2	Refer to Drawing	n/a		Medium	
G3	Common alder	7.0	75-100	>5							Middle Age	Fair	Multi-stemmed; crossing stems and branches; tall slender form	C,2	Refer to Drawing	n/a		Medium	
G4	Oak, horse chestnut, alder	4.0	75-100	>10							Young to Middle Age	Fair	Multi-stemmed; restricted access to survey	C,2	Refer to Drawing	n/a		Long	
G5	Cypress	9.0	100-200	>3							Middle Age	Fair	Restricted access to survey; 2 or 3 trees in row; good form	C,2	Refer to Drawing	n/a		Long	
G6	Apple	6.0	100-200	2.0							Middle Age	Fair	Both bifurcate at 0.5m; leaning south; crossing branches; sparse canopies	C,2	Refer to Drawing	n/a		Medium	
G7	Alder, English oak	12.0	300-500	6.0							Middle Age	Good	Growing in garden behind hedge; ivy on trunks; one alder slightly suppressed; one oak with slight lean to west; moderate deadwood	B,1,2	Refer to Drawing	n/a		Long	
G8	Cypress	to 8	100-250	3.0							Middle Age	Fair	Third party trees; good form; multi-stemmed at bifurcate form	B,2	Refer to Drawing	n/a		Long	
G9	Sycamore	8.0	10-250	>10							Middle Age	Fair	One large tree with 250 diameter stem; bifurcate at 2m; ivy on trunk and into canopy; small self-set young trees	C,2	Refer to Drawing	n/a		Long	
G10	plum, laurel. Spruce	12.0	75-400	>20							Middle Age	Good	Third party trees; single stem spruce with ivy covered trunks; shrubby laurel; multi-stemmed plum and laurel; dense group	B,1,2	Refer to Drawing	n/a		Long	
G11	Common ash	11.0	200-300	4.0							Middle Age	Fair	Growing in hedge; 2 or 3 trees growing as one; ivy covered; crossing branches	C,2	Refer to Drawing	n/a		Medium	
G12	oak, rowan, white beam	12.0	100-300	8.0							Middle Age	Good	Growing in row along road; minor bark wounds; some bifurcate; crossing branches; tight unions	B,2	Refer to Drawing	n/a		Long	
G13	Blackthorn, plum, cherry, laurel. Holly, elm, rowan, cypress,	to 16	75-600	>100							Middle Age	Good	Dense group of trees; tall slender form with young shrubby blackthorn and holly	B,2	Refer to Drawing	n/a		Long	
G14	Hawthorn, blackthorn, elder, bramble	to 7	75-150	>100							Middle Age	Fair	Multi-stemmed; dense scrub; crossing stems and branches; reduced back along public footpath	C,2	Refer to Drawing	n/a		Medium	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
G15	Blackthorn	to 6	10-75	>100							Young	Fair	Dense scrub	C,2	Refer to Drawing	n/a		Medium	
G16	Hawthorn	7.0	75-150	>50							Middle Age	Fair	Multi-stemmed hawthorn growing on side of stream; crossing stems and branches; bark wounds; slight lean east due to sloping bank; large stem wounds	C,1	Refer to Drawing	n/a		Medium	
G17	Hawthorn, sycamore, alder	to 8	75-400	>50							Middle Age	Fair	Multi-stemmed sycamore; tight unions; bark wounds; all growing on stream edge; low growing multi-stemmed hawthorn; good form alder; dense boundary group	B,2	Refer to Drawing	n/a		Long	
G18	Grey willow, hawthorn	to 8	75-400	>10							Middle Age to Mature	Fair	Some split apart at base; stems growing horizontal on ground to east; crossing stems and branches; some middle aged some mature; spreading form to 8m	C,2	Refer to Drawing	n/a		Medium	
G19	Blackthorn, hawthorn, alder, ash, goat willow, sycamore	to 10	75-400	>10							Middle Age	Fair	Multi-stemmed hawthorn; crossing stems and branches; some with sparse canopies; bark wounds	C,2	Refer to Drawing	n/a		Medium	
G20	Alder, sycamore	14.0	150-350	>10							Middle Age	Fair	Dense ivy covered trunks; crossing branches; multi-stemmed form; tall slender form sycamore; barbed wire embedded in trunk; roadside group	B,1,2	Refer to Drawing	n/a		Long	
G21	Plum, cypress, pine, ash	to 10	100-300	>5							Middle Age	Good	Third party trees; dense cypress and pine; deadwood in lower canopy;	B,2	Refer to Drawing	n/a		Long	
G22	Cypress	7.0	100-300	6.0							Middle Age	Good	Row of cypress; dense group; canopies to ground; crossing branches	B,2	Refer to Drawing	n/a		Long	
G23	Pine, apple, elder	to 12	75-350	>10							Middle Age	Fair	Apple leaning south-east; crossing branches; elder at base; good form pine	C,2	Refer to Drawing	n/a		Long	
G24	Alder, goat willow	to 12	75-350	>10							Middle Age	Fair	Rubble at base; crossing stems and branches; multi-stemmed; low growing canopies	C,2	Refer to Drawing	n/a		Medium	
G25	Alder, hawthorn, goat willow	to 10	75-200	>50							Middle Age	Fair	Multi-stemmed form; growing on slope by stream; bark wounds; crossing branches; decay at base on some stems	C,2	Refer to Drawing	n/a		Medium	
G26	Ash, grey willow, elder, blackthorn, hawthorn, alder	to 6	75-550	>20							Middle Age to Mature	Good	Roadside group; multi-stemmed; crossing stems and branches; ivy in some trees; two mature ash	B,1,2	Refer to Drawing	n/a		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
G27	Common ash; hawthorn	8.0	75-250	>50							Mature	Good	Roadside trees; ivy on trunks; crossing branches; moderate deadwood; reduced over road	B,1,2	Refer to Drawing	n/a		Long	
G28	Cedar, ash	7.0	100-150	2.0							Middle Age	Fair	Multi-stemmed; Third party trees in front garden; crossing branches; wounds on branches; tight union on ash	C,2	Refer to Drawing	n/a		Long	
G29	Horse chestnut, sycamore, blackthorn, ash, hawthorn, willow	to 18	75-400	>100							Middle Age	Fair	Multi-stemmed; linear roadside group that borders garden; shrubby hawthorn and blackthorn; tall slender form ash and willow	B,2	Refer to Drawing	n/a		Long	
G30	White willow; hawthorn	13.0	100-550	>50							Middle Age to Mature	Fair	Linear field boundary group along road; mature multi-stemmed willow; crossing branches; moderate deadwood; good vigour; bark wounds; epicormic shoots; tall slender form; shrubby hawthorn	B,2	Refer to Drawing	n/a		Long	
G31	Hawthorn, willow, alder	13.0	100-650	>50							Middle Age to Mature	Good	One mature willow with DBH of 650; tall slender form alder; shrubby hawthorn	B,2	Refer to Drawing	n/a		Long	
G32	Leyland cypress	4.0	100-200	>5							Middle Age	Good	Dense row of boundary trees; good form and vigour	B,2	Refer to Drawing	n/a		Long	
G33	Leyland cypress	4.0	100-200	8.0							Middle Age	Fair	Row of boundary trees; crown lifted to 3m to west side only; previously reduced; crossing branches; good form	C,2	Refer to Drawing	n/a		Long	
G34	Sycamore, hawthorn	14.0	100-350	>20							Middle Age	Good	Multi-stemmed sycamore; ivy on trunk; tall slender form; crossing branches; tight unions; linear field boundary group; some with barbed wire embedded in trunks; shrubby hawthorn	B,2	Refer to Drawing	n/a		Long	
G35	Ash, grey willow, blackthorn, elder	to 6	10-150	>10							Mature	Fair	Single stem ash with good form; shrubby blackthorn, elder and grey willow with crossing stems and branches and dense bramble understorey	C,2	Refer to Drawing	n/a		Medium	
G36	Sycamore, hawthorn, elder, grey willow; goat willow	5.0	10-150	>10							Middle Age	Fair	Multi-stemmed; shrubby boundary group; crossing stems and branches; ivy on trunks; one dead tree; bramble understorey; willow growing in ditch	C,2	Refer to Drawing	n/a		Long	
G37	Sycamore, ash. Elder	10.0	75-400	>10							Middle Age	Good	Third party boundary group; multi- stemmed; ivy on trunks; sycamore with young shoots at base; shrubby elder; crossing branches; moderate deadwood	B,2	Refer to Drawing	n/a		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
G38	Sycamore, hawthorn	4.0	100-350	>20							Middle Age	Fair	Dense group of multi-stemmed trees; dense ivy covered trunks; shrubby form; crossing stems or branches	C,2	Refer to Drawing	n/a		Long	
G39	Hawthorn, elder, blackthorn, ash, sycamore	9.0	75-300								Middle Age	Fair	Dense field boundary group of shrubby trees; multi-stemmed; crossing stems and branches; ivy on trunks; some leaning; canopies to ground; wide group; wildlife value	C,2	Refer to Drawing	n/a		Long	
G40	Sycamore	14.0	100-250	>5							Middle Age	Fair	Suppressed by T60; asymmetrical crowns; suckering at base; some ivy on trunks	C,2	Refer to Drawing	n/a		Long	
G41	Apple, sycamore	to 13	400-450	2.0							Middle Age	Fair	Poor condition apple; major decay in trunk; large wounds from failed branches with decay; good form sycamore with exposed roots; wound at base to north with peeling bark	C,2	Refer to Drawing	n/a		Medium	
G42	Sycamore	to 14	200-350	>10							Middle Age	Good	Tall slender form; some bifurcate; growing in close proximity to each other; suckering growth	B,2	Refer to Drawing	n/a		Long	
G43	Ash, sycamore, elder, blackthorn, oak	to 5	75-100	>10							Young to Middle Age	Fair	Multi-stemmed; young shrubby form trees; crossing stems and branches	C,2	Refer to Drawing	n/a		Long	
G44	Ash, alder, sycamore, elder	to 12	100-400	>50							Middle Age to Mature	Good	Mature ash and alder in garden boundary group with elder understorey; alder has large wounds from failed branches; crossing branches; one large ash with previous reduction over road; multi-stemmed; good form	B,2	Refer to Drawing	n/a		Long	
G45	Wych elm, elder, sycamore, birch, hawthorn, cherry, oak	to 88	75-500	>100							Middle Age	Good	Dense group of trees; one dead; boundary field group; many multi-stemmed; some middle aged large trees in shrubby hawthorn and elder; minor deadwood	B,2	Refer to Drawing	n/a		Long	
G46	Pine, silver birch, plum, sycamore	9.0	75-500	>100							Middle Age	Good	Restricted access; dense group	B,2	Refer to Drawing	n/a		Long	
G47	Sycamore, hawthorn, ash, oak, hawthorn, blackthorn, alder	to 10	100-400	>50							Middle Age	Fair	Large middle aged alder, ash and oak; field boundary group; shrubby hawthorn and blackthorn; ash has large wounds from failed branches; moderate deadwood	B,2	Refer to Drawing	n/a		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
G48	Apple	5.0	100-300	>10							Middle Age	Fair	Row of apple trees growing around boundary of garden; restricted access; minor bark wounds; crossing branches; moderate deadwood	B,2	Refer to Drawing	n/a		Medium	
G49	Blackthorn, hawthorn, goat willow, alder	7.0	75-150	>50							Middle Age	Fair	Part of field boundary group; spreading form goat willow; shrubby blackthorn and hawthorn; tall slender form alder	C,2	Refer to Drawing	n/a		Medium	
G50	Common ash, Common alder	11.0	100-500	2.0							Mature	Good	Dense ivy on trunks; roadside trees; minor bark wounds; crossing branches; bat potential	B,2	Refer to Drawing	n/a		Long	
G51	Common ash, Common alder	to 10	500-550	2.0							Mature	Poor	Large bark wounds from failed branches; both asymmetrical crowns; large decay in trunk on ash; suckering growth; holes in branches; bat potential	C,2	Refer to Drawing	n/a		Medium	
G52	Alder, sycamore, goat willow, hawthorn, willow, blackthorn, holly	to 10	75-200	>50							Middle Age	Fair	Growing around pond; many multi-stemmed; many growing in pond; bark wounds; goat willow split apart with spreading form; crossing branches	C,2	Refer to Drawing	n/a		Medium	
G53	Oak, sycamore, elm, lime, alder, poplar, ash, hawthorn, cherry	12.0	75-350	>500							Middle Age	Good	Dense roadside group of boundary trees; many multi-stemmed; crossing branches; tall slender form; overhanging into site by 4m; some dead trees; ivy on some trunks; screening value	A,2	Refer to Drawing	n/a		Long	
G54	Common alder, sycamore, oak, ash	12.0	300-700	>20							Mature	Good	Mature trees in linear boundary feature; some with holes in trunks; moderate deadwood; wounds from failed branches; one ash to eastern end with dead in top canopy; bat potential	B,2	Refer to Drawing	n/a		Long	
G55	English oak	12.0	600-770	2.0							Mature	Good	One to east with hole in trunk; moderate deadwood; wounds from failed branches; spreading form; large canopies; crossing branches; bat potential	A,2	Refer to Drawing	n/a		Long	

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Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
G56	Ash, sycamore, alder	12.0	300-700	>20							Mature	Good	Restricted access; mature trees in linear boundary feature; ivy on the trunks of some; moderate deadwood.	B,2	Refer to Drawing	n/a		Long	
G57	Common ash, common alder	to 10	100-550	3.0							Mature	Fair	Holes and cavities in all trees; one with bulging trunk and base; crossing branches; moderate deadwood; wounds from failed branches; barbed wire embedded into trunk; northern most ash with large cavity from base to 4m on north-west side; alders have poor form; holes in trunks and one with partial stem decaying; major deadwood	C,2	Refer to Drawing	n/a		Long	
G58	Common ash, hawthorn; sycamore; oak; common alder	12.0	75-600	>50							Middle Age to Mature	Good	Field boundary group of mature trees and low growing shrubby hawthorn; poor condition ash to western end; good form oak; oak and sycamore to eastern boundary with split and crevices; some suppressed; wounds from failed branches; bat potential	B,2	Refer to Drawing	n/a		Long	
G59	Leyland cypress, hawthorn, pine, elm, cherry	8.0	75-200	>20							Middle Age	Good	Ornamental garden boundary trees; cypress growing as hedge; many shrubs at base; good form pine	B,2	Refer to Drawing	n/a		Long	
G60	Silver birch, willow, alder, rowan, hawthorn, cypress, grey willow, cotoneaster;	10.0	75-300	>30							Middle Age	Good	Tall slender form; alder and birch; some dead blackthorn, dense group; minor deadwood; crossing branches; many multi-stemmed; garden boundary group	C,2	Refer to Drawing	n/a		Long	
G61	Common ash, common alder	to 10	300-690	2.0							Mature	Fair	Poor alder; almost dead; large amount of decay to north and cavity to north east; exposed roots; moderate deadwood; decay on branch ends; bat potential	C,2	Refer to Drawing	n/a		Medium	
G62	Common ash, hawthorn	5.0	100-200	>5							Middle Age	Fair	Hawthorn hedge with gaps and middle aged multi-stemmed ash; bark wounds on lower stems from cattle	C,2	Refer to Drawing	n/a		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
G63	Common alder, oak	11.0	200-500	4.0							Middle Age to Mature	Good	Alder with large broken branch to south; hanging to ground; dense ivy on alders and one oak; two large trees in middle with smaller trees each side; growing in H35	B,2	Refer to Drawing	n/a		Long	
G64	Common ash, Common alder	10.0	400-600	9.0							Middle Age to Mature	Good	Some multi-stemmed; ivy on trunks; mature ash in linear field boundary group; two smaller ash to southern end; ash with crossing branches and good form	B,2	Refer to Drawing	n/a		Long	
G65	Common ash, hawthorn, common alder, cherry	10.0	500-550	>10							Middle Age to Mature	Fair	Dense ivy covered trunks on ash and alder; hawthorn shrubby form; some fallen hawthorn; large cavity on one alder from base to 4m; moderate deadwood	B,2	Refer to Drawing	n/a		Long	
G66	Alder, ash, sycamore, cherry	9.0	75-600	>50							Middle Age to Mature	Fair	Boundary group growing along ditch; multi-stemmed sycamore, suckering at base; multi-stemmed cherry; mature ash with large amounts of deadwood; holes and crevices; bat potential; moderate middle aged oak nearly dead with holes and crevices; ivy on trunks; all growing in hawthorn hedge with some maintained at 2m; some overgrown	C,2	Refer to Drawing	n/a		Long	
G67	Alder, ash	10.0	500-600	2.0							Middle Age	Fair	Dense ivy on trunk and into canopy; growing in H37; ash with asymmetrical crown; moderate deadwood; bat potential	B,2	Refer to Drawing	n/a		Long	
G68	Blackthorn, apple, copper beech, whitebeam, silver birch, hawthorn, sycamore, fir	6.0	75-250	>20							Middle Age	Good	Ornamental garden trees; behind wooden fence; dense canopy	B,2	Refer to Drawing	n/a		Long	
G69	Hawthorn, ash, sycamore	to 8	75-150	>20							Middle Age	Fair	Tall slender form sycamore and ash; multi-stemmed shrubby hawthorn	C,2	Refer to Drawing	n/a		Long	
G70	Hawthorn, elder, rowan	to 7	75-100	>50							Middle Age	Fair	Tall slender form; dense group; multi-stemmed; crossing stems and branches	B,2	Refer to Drawing	n/a		Long	
G71	Sycamore, cypress, elder	12.0	100-400	>5							Middle Age	Good	Growing in corner of garden; good form sycamore	B,2	Refer to Drawing	n/a		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
G72	Common ash, sycamore, oak, cypress, hawthorn	to 12	75-700	>20							Middle Age to Mature	Good	Restricted access; boundary group; mature trees with various spacing within hawthorn hedge	B,2	Refer to Drawing	n/a		Long	
G73	Silver birch, cherry, Leyland cypress	7.0	75-300	>10							Middle Age	Good	Ornamental garden boundary group; good form	B,2	Refer to Drawing	n/a		Medium	
G74	Cherry, apple	to 6	200-400	>3							Middle Age	Good	Part of a group of fruit trees in front garden; multi-stemmed; crossing stems and branches; previously reduced	B,2	Refer to Drawing	n/a		Medium	
G75	Hawthorn, alder, sycamore	to 10	75-600	>50							Middle Age to Mature	Good	Restricted access; surveyed from road; dense boundary group; many multi-stemmed mature hawthorn	B,2	Refer to Drawing	n/a		Long	
G76	Beech, weeping willow	to 12	300-400	2.0							Middle Age	Good	In garden of property, low branches on trunk of beech, tight unions, slightly suppressed by willow, willow slightly suppressed by G77	B,2	Refer to Drawing	n/a		Long	
G77	Leyland cypress	to 13	100-300	>20							Mature	Good	Row of cypress as boundary feature to garden; screening value; good form; dense canopies	B,2	Refer to Drawing	n/a		Long	
G78	Sycamore, ash	to 12	75-400	>20							Middle Age	Good	Roadside trees; dense ivy on trunks; crossing branches; moderate deadwood; reduced over road; bat potential	B,2	Refer to Drawing	n/a		Long	
G79	Blackthorn, ash, hawthorn, alder, sycamore	to 11	75-400	>20							Middle Age	Good	Roadside group; dense ivy on alder; sycamore trifurcate at base; good form; multi-stemmed hawthorn and blackthorn	B,2	Refer to Drawing	n/a		Long	
G80	Sycamore, alder, hawthorn, elder	to 10	100-400	>10							Middle Age	Good	Roadside group; dense ivy on trunks and into canopy; moderate deadwood; bifurcate sycamore; shrubby hawthorn and elder	B,2	Refer to Drawing	n/a		Long	
G81	Alder, ash, oak, sycamore, hawthorn	to 10	100-500	>20							Middle Age to Mature	Good	Dense boundary group; restricted access, surveyed from road; shrubby hawthorn	B,2	Refer to Drawing	n/a		Long	
G82	Alder, elder, ash, sycamore	10.0	100-400	>10							Middle Age	Good	Roadside group; dense ivy on alder; sycamore trifurcate at base; good form; multi-stemmed hawthorn and blackthorn	B,2	Refer to Drawing	n/a		Long	
G83	Ash, sycamore, oak, alder, hawthorn	to 10	100-500	>10							Middle Age	Good	Restricted access; ivy on trunks; growing in hawthorn hedge	B,2	Refer to Drawing	n/a		Long	
G84	hawthorn	to 6	75-200	>10							Middle Age	Good	Overgrown hedge; many multi-stemmed; dense canopies	C,2	Refer to Drawing	n/a		Medium	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
G85	Hawthorn, alder	to 8	100-200	>5							Middle Age	Good	Multi-stemmed; crossing stems and branches; dense canopies; good form	B,2	Refer to Drawing	n/a		Long	
G86	Cypress, cherry, ash, alder	to 10	100-400	>20							Middle Age to Mature	Good	Garden boundary trees; dense crowns; screening value	B,2	Refer to Drawing	n/a		Long	
G87	Sycamore, ash	9.0	400-500	2.0							Middle Age	Fair	One sycamore and one ash; many wounds from failed branches; reduced branches; large cavities in trunk of ash with hollow trunk; large bark wounds on sycamore; holes and crevices; moderate deadwood; bat potential	C,2	Refer to Drawing	n/a		Long	
G88	Hawthorn, ash, alder	to 8	75-150	>20							Middle Age	Fair	Shrubby hawthorn; self set young ash; tall slender form alder	C,2	Refer to Drawing	n/a		Medium	
G89	Alder, hawthorn	to 8	75-300	3.0							Middle Age	Fair	Bark wounds; dense ivy; broken branches; one alder with stem lean west	C,2	Refer to Drawing	n/a		Medium	
G90	Sycamore, hawthorn	to 7	75-150	>50							Middle Age	Good	Shrubby hawthorn; tall slender form self set sycamore	B,2	Refer to Drawing	n/a		Long	
G91	Hawthorn, privet, ash	to 8	75-100	>50							Young to Middle Age	Fair	Multi-stemmed; young tall slender form ash; bark wounds; overgrown privet and hawthorn hedge; screening for property	C,1	Refer to Drawing	n/a		Long	
G92	Leyland cypress	4.0	100-150	>10							Middle Age	Good	Garden boundary feature; topped at 4m; dense canopy	B,2	Refer to Drawing	n/a		Long	
G93	Sycamore, alder, grey willow, hawthorn	to 10	75-500	>100							Middle Age	Good	Dense boundary trees; half dead ash central to group; good form	B,2	Refer to Drawing	n/a		Long	
G94	White willow	5.0	700-800	>5							Mature	Poor	Two willows both with main stem failed; large wounds with extensive decay; splits and crevices; habitat value; bat potential	C,2	Refer to Drawing	n/a		Medium	
G95	Goat willow, hawthorn, sycamore	to 4	75-100	>10							Middle Age	Fair	Multi-stemmed; growing along hedge line; spreading form hawthorn and goat willow; self set ash	C,2	Refer to Drawing	n/a		Long	
G96	Common alder, hawthorn, English oak, common ash	to 10	100-500	>50							Middle Age to Mature	Good	Restricted access to survey; dense group; mature oak and ash; shrubby hawthorn	B,2	Refer to Drawing	n/a		Long	
G97	Common ash, horse chestnut; hawthorn	to 9	75-350	>20							Young to Middle Age	Fair	Garden boundary group of trees; shrubby hawthorn; some middle aged ash with ivy on trunks; some young self set ash	C,2	Refer to Drawing	n/a		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
G98	Common alder, hawthorn	7.0	200-300	4.0							Middle Age	Fair	Two alder and two outgrown hawthorn from hedge; ivy on trunks; slightly suppressed; wounds from broken branches; tall slender form	C,2	Refer to Drawing	n/a		Long	
G99	English oak	to 9	400-500	3.0							Middle Age	Good	Three oaks in row; good form; restricted access; surveyed from road; minor deadwood; low growing canopies	A,2,1,2	Refer to Drawing	n/a		Long	
G100	English oak, Common ash, Common alder, hawthorn	to 7	100-300	>10							Middle Age	Good	Shrubby hawthorn; dense group of trees; good form oak; tall slender form ash and alder	B,2	Refer to Drawing	n/a		Long	
G101	Plum, holly, fir	to 10	100-300	>5							Middle Age	Good	Garden boundary group of ornamental trees; dense group; crossing branches	B,2	Refer to Drawing	n/a		Long	
G102	Hawthorn, sycamore, blackthorn	to 8	75-300	>20							Middle Age	Good	Overgrown hawthorn hedge; middle aged sycamore and ash; minor deadwood; crossing branches	B,2	Refer to Drawing	n/a		Long	
G103	Hawthorn, blackthorn	to 10	75-250	>50							Middle Age	Good	Overgrown hawthorn hedge with middle aged ash; one with tall slender form	B,2	Refer to Drawing	n/a		Long	
G104	Common ash	8.0	100-150	4.0							Middle Age	Fair	Restricted access to survey; tall slender form; one growing into another; crossing branches	C,2	Refer to Drawing	n/a		Long	
G105	Leyland cypress	12.0	100-200	>5							Middle Age	Good	Restricted access to survey; rows of cypress; screening from agricultural buildings	B,2	Refer to Drawing	n/a		Long	
G106	Leyland cypress	12.0	100-200	>20							Middle Age	Good	Restricted access to survey; rows of cypress; screening from agricultural buildings	B,2	Refer to Drawing	n/a		Long	
G107	English oak, common alder	9.0	300-450	2.0							Middle Age	Good	Alder suppressed to west by oak; oak biased crown west; barbed wire in trunks; moderate deadwood in oak; large deadwood in alder; crossing branches	B,2	Refer to Drawing	n/a		Long	
G108	Common ash	to 10	300-350	2.0							Middle Age	Fair	Restricted access to survey; moderate deadwood; crossing branches; bark wounds	B,2	Refer to Drawing	n/a		Long	
G109	English oak, hawthorn	to 12	100-400	>20							Middle Age	Good	Growing on sloped verge toward railway line to east; some multi- stemmed; moderate deadwood; crossing branches; good form	A,2,1,2	Refer to Drawing	n/a		Long	
G110	Hawthorn	to 5	75-150	>5							Middle Age	Good	Shrubby hawthorn growing on verge to railway line to east	C,2	Refer to Drawing	n/a		Medium	
G111	Common ash, hawthorn	to 7	75-100	>5							Mature	Fair	Outgrown hawthorn hedge with tall slender form ash; crossing branches	C,1	Refer to Drawing	n/a		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
G112	Pear, apple	to 8	75-300	>20							Mature	Good	Old orchard fruit trees at various spacings; restricted access to survey	B,2	Refer to Drawing	n/a		Medium	
G113	Common ash, willow, goat willow, hawthorn	to 10	75-400	>50							Middle Age	Fair	Dense spreading form; many multi-stemmed; tall slender form ash and willow	B,2	Refer to Drawing	n/a		Long	
G114	Sycamore, grey willow, cypress, hawthorn, lilac	to 10	75-250	>50							Middle Age	Good	Garden boundary group; dense, crossing stems and branches; tall slender form; shrubby cypress	B,2	Refer to Drawing	n/a		Long	
G115	Grey willow, hawthorn	to 6	75-150	>20							Middle Age	Good	Growing to west of small pond; multi-stemmed; bark wounds; split branch; crossing stems and branches	C,2	Refer to Drawing	n/a		Medium	
G116	Common ash	9.0	75-150	>5							Young to Middle Age	Good	Growing in hedge; self set; bark wounds; tall slender form	C,2	Refer to Drawing	n/a		Long	
G117	Common ash, hawthorn	to 10	400-500	>5							Middle Age	Fair	Densely ivy covered; shrubby hawthorn hedge; moderate deadwood; holes in some branches; wounds from failed branches; bat potential	C,2	Refer to Drawing	n/a		Long	
G118	Common alder	8.0	100-300	4.0							Middle Age	Fair	Growing in hedge; dense ivy on one; 3 with tall slender form	C,2	Refer to Drawing	n/a		Medium	
G119	Hawthorn, blackthorn, English oak, grey willow, elder, holly	to 8	100-300	>50							Middle Age	Good	Dense group of boundary trees; many multi-stemmed; many with tall slender form; crossing branches; bark wounds; growing on south side of ditch	B,2	Refer to Drawing	n/a		Long	
G120	Hawthorn, common ash, apple	to 6	75-150	>20							Middle Age	Fair	Tall slender form ash; poor form shrubby hawthorn and apple; gaps in group	C,2	Refer to Drawing	n/a		Long	
G121	Hawthorn	to 5	75-100	>10							Middle Age	Fair	Dense shrubby outgrown hedge	C,2	Refer to Drawing	n/a		Medium	
G122	Common ash, common alder	to 10	350-600	2.0							Middle Age to Mature	Good	Ivy on stems; minor deadwood; alder slightly suppressed by ash	B,2	Refer to Drawing	n/a		Long	
G123	Apple	to 7	200-300	<5							Middle Age	Good	Growing in garden; ivy on trunks; crossing branches	B,2	Refer to Drawing	n/a		Medium	
G124	Leyland cypress	to 14	100-200	>20							Middle Age	Good	Dense row of cypress; screening value; good form	B,2	Refer to Drawing	n/a		Long	
G125	Hawthorn, grey willow, cherry	to 8	75-400	>10							Middle Age	Fair	Mature cherry; multi-stemmed at base; growing around pond; stem growing horizontal; young tall slender form willow and shrubby hawthorn	C,2	Refer to Drawing	n/a		Medium	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
G126	English oak, common ash	to 8	600-800	2.0							Mature	Fair	Growing either side of ditch; oak has large wound at base and at 2m; hollow trunk with large amount of deadwood; ash has large wound at base with hollow trunk; holes in trunk; bifurcate at 3m; kink in trunk; bat potential	C,2	Refer to Drawing	n/a		Long	
G127	Hawthorn, common alder, common ash,	to 8	100-250	>50							Middle Age	Fair	Garden boundary group; tall slender form; shrubby hawthorn	B,2	Refer to Drawing	n/a		Long	
G128	Common ash	to 9	700-800	2.0							Middle Age	Fair	Growing on west of ditch; wounds on trunk; one suppressed; low growing canopy; holes in branches; bat potential	C,2	Refer to Drawing	n/a		Long	
G129	Crack willow	to 10	100-300	>3							Middle Age	Fair	Multi-stemmed; crossing stems and branches; growing in hedge	C,2	Refer to Drawing	n/a		Medium	
G130	Lombardy poplar, sycamore, hawthorn	to 16	100-500	>5							Middle Age	Good	Restricted access; two Lombardy poplars have good form; sycamore with asymmetrical crown due to poplars; shrubby hawthorn	B,2	Refer to Drawing	n/a		Long	
G131	Common ash	to 5	100-150	3.0							Middle Age	Fair	Three ash trees; bifurcate form; dense canopies; large stacks of cars tyres at base causing compaction around roots	C,2	Refer to Drawing	n/a		Long	
G132	Sycamore	to 7	75-100	3.0							Young to Middle Age	Fair	Young regenerated trees; single stemmed; crossing branches	C,2	Refer to Drawing	n/a		Long	
G133	Goat willow	to 7	75-100	5.0							Middle Age	Fair	Single stemmed; canopies growing as one; crossing branches; twisted stems	C,2	Refer to Drawing	n/a		Medium	
G134	Leyland cypress	to 5	75-150	<5							Middle Age	Fair	Dense group of cypress; canopies to ground	C,2	Refer to Drawing	n/a		Long	
G135	Sycamore, hawthorn, purple plum, common ash	to 8	75-200	>10							Middle Age	Good	Dense boundary group; crossing branches; tall slender form ash	B,2	Refer to Drawing	n/a		Long	
G136	Common ash, silver birch, Leyland cypress; elder, sycamore	to 8	75-200	>30							Middle Age	Good	Dense garden boundary group	B,2	Refer to Drawing	n/a		Long	
G137	Silver birch, Leyland cypress	to 7	100-300	>20							Middle Age	Good	Single stemmed linear boundary group; dense canopies	B,2	Refer to Drawing	n/a		Long	
G138	Silver birch	to 8	100-300	>10							Middle Age	Good	Linear group; single stemmed trees; crossing branches; minor deadwood	B,2	Refer to Drawing	n/a		Medium	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
G139	English oak, Lombardy poplar, hawthorn, goat willow	to 12	100-500	>100							Middle Age	Good	Good form oak with dense canopies and spreading form; shrubby hawthorn and goat willow	B,2	Refer to Drawing	n/a		Long	
G140	Lombardy poplar, sycamore, cherry, field maple, horse chestnut, Leyland cypress, aspen	to 16	100-500	>50							Middle Age	Good	Dense boundary group; reduced cherry; tall slender form some regeneration	B,2	Refer to Drawing	n/a		Long	
G141	Purple plum, white beam, common alder, silver birch	to 12	100-500	10.0							Middle Age to Mature	Good	Roadside verge trees in linear group; good form plum and whitebeam with crossing branches and tight unions typical of species; mature alder with moderate deadwood and large cavities on north side at base with decay evident; broken birch in one alder	B,2	Refer to Drawing	n/a		Long	
G142	Common alder	to 12	100-450	4.0							Middle Age	Good	Growing in hedge H126; one multi- stemmed at base one with single stem; minor deadwood; small broken branch	B,2	Refer to Drawing	n/a		Long	
G143	Hawthorn, elder, common ash, common alder	to 12	75-150	>50							Young to Middle Age	Fair	Restricted access; tall slender form alder growing around buildings; self set ash; dense shrubby elder and hawthorn	C,2	Refer to Drawing	n/a		Medium	
G144	Common ash, common alder	to 11	500-800	6.0							Middle Age to Mature	Good	Roadside trees; dense ivy on trunks and into canopies; reduced over road; moderate deadwood; bat potential	B,1,2	Refer to Drawing	n/a		Long	
G145	Common ash	to 11	500-800	6.0							Middle Age	Good	Roadside trees; dense ivy on trunks and into canopies; reduced over road; moderate deadwood; bat potential	B,1,2	Refer to Drawing	n/a		Long	
G146	Horse chestnut	to 14	300-550	6.0							Middle Age to Mature	Good	Growing in front garden of property; dense group effect; tight unions; crossing branches; overhang road	B,1,2	Refer to Drawing	n/a		Long	
G147	Purple plum	to 10	75-200	>5							Middle Age	Fair	Multi-stemmed; crossing stems and branches; moderate deadwood; dense canopies; one possibly in decline	C,2	Refer to Drawing	n/a		Medium	

APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
G148	Black poplar, sycamore, silver birch, common ash, Leyland cypress, common beech, willow, English oak	to 16	100-500	>30							Middle Age to Mature	Good	Restricted access; planted garden trees; good form and condition	A,2,1,2	Refer to Drawing	n/a		Long	
G149	Silver birch, goat willow	to 8	75-200	>5							Middle Age	Fair	Canopies to ground; shrubby goat willow; part of private garden	C,2	Refer to Drawing	n/a		Medium	
G150	Apple sp.	to 6	75-150	>50							Middle Age	Fair	Small garden orchard of apple trees; crossing branches	C,2	Refer to Drawing	n/a		Long	
G151	Leyland cypress, common ash	to 10	100-250	>5							Middle Age	Fair	Crown lifted to 4m; sparse canopies; bifurcate form	C,2	Refer to Drawing	n/a		Long	
G152	Common ash, hazel, sycamore	to 10	75-200	>20							Middle Age	Good	Dense boundary group; densely ivy covered; tall slender form ash; shrubby hazel	C,2	Refer to Drawing	n/a		Long	
G153	Common ash	to 14	500-700	2.0							Mature	Fair	Densely ivy covered trunks and into canopies; branches reduced; moderate deadwood	B,2	Refer to Drawing	n/a		Long	
G154	Sycamore, hawthorn	to 14	100-650	>5							Middle Age	Good	One single stemmed sycamore one bifurcate at 2m; good form; shrubby hawthorn	B,1,2	Refer to Drawing	n/a		Long	
G155	Hazel, sycamore, hawthorn, elder, silver birch, holly, common ash, common beech	to 14	100-600	>20							Middle Age	Good	Tall slender form birch and sycamore; shrubby hawthorn and elder; ivy on trunks; dense group	B,2	Refer to Drawing	n/a		Long	
G156	Sycamore, common ash, blackthorn	to 12	100-300	>10							Middle Age	Good	Roadside trees; tall slender form; ivy covered trunks; shrubby blackthorn	B,2	Refer to Drawing	n/a		Long	
G157	Sycamore, honey locust; English oak	to 12	75-300	>10							Middle Age	Good	Dense group of trees in private garden; young self set sycamore with tall slender form; good form oak; crown of honey locust slightly sparse	B,2	Refer to Drawing	n/a		Long	
G158	Goat willow, English oak, sycamore	to 12	100-350	>10							Middle Age	Good	Good form oak and sycamore; multi-stemmed goat willow; moderate deadwood	B,2	Refer to Drawing	n/a		Long	
G159	Lawson cypress	up to 12	up to 350	10+							Middle Age	Good	Typical forms, dense screen	C,2	Refer to Drawing	n/a		Long	
G160	Common ash	up to 9	up to 380	2 trees							Middle Age	Fair	Pair of trees within H95, broken branches and stubs, minor dead wood in crowns, some dieback, eastern tree twin-stemmed, occasional branch socket cavities, next to road	C,2	Refer to Drawing	n/a		Medium	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N

Hedges

H1	Hawthorn	2.0	0								Middle Age	Good	Maintained roadside hedge; width 1.5m		Refer to Drawing	n/a		Long	
H2	Leyland cypress	2.0	0								Middle Age	Good	Well maintained garden boundary hedge; width 1m		Refer to Drawing	n/a		Long	
H3	Hawthorn, holly, elm	5.0	0								Middle Age	Fair	Unmanaged hawthorn hedgerow on roadside with multi-stemmed elm and shrubby holly		Refer to Drawing	n/a		Long	
H4	Cypress	3.0	0								Middle Age	Good	Row of boundary trees topped at 3m		Refer to Drawing	n/a		Long	
H5	Hawthorn	5.0	0								Middle Age	Fair	Unmanaged hedge		Refer to Drawing	n/a		Long	
H6	Cypress	4.0	0								Middle Age	Good	Well maintained boundary hedge		Refer to Drawing	n/a		Long	
H7	Hawthorn	4.0	0								Middle Age	Good	Well maintained field boundary hedge; unmanaged few trees to northern end		Refer to Drawing	n/a		Long	
H8	Hawthorn, elder, privet	3.0	0								Middle Age	Fair	Unmanaged hedge		Refer to Drawing	n/a		Long	
H9	Hawthorn, elder	1.0	0								Middle Age	Good	Well maintained hedge		Refer to Drawing	n/a		Long	
H10	Hawthorn, privet	4.0	0								Middle Age	Fair	Unmanaged boundary hedge		Refer to Drawing	n/a		Long	
H11	Ash, hawthorn	3.0	0								Middle Age	Good	Multi-stemmed; self set ash; boundary hedge		Refer to Drawing	n/a		Long	
H12	Hawthorn	1.0	0								Middle Age	Good	Well maintained hedge; width 1m		Refer to Drawing	n/a		Long	
H13	Privet	1.5	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H14	Privet	1.5	0								Middle Age	Good	Well maintained boundary hedge		Refer to Drawing	n/a		Long	
H15	Sycamore, hawthorn; ash	2.0	0								Middle Age	Good	Well maintained hawthorn hedge with tall multi-stemmed old pollarded ash and sycamore;		Refer to Drawing	n/a		Long	
H16	Hawthorn, ash	6.0	0								Middle Age	Poor	lapsed field boundary hedgerow; poorly maintained		Refer to Drawing	n/a		Long	
H17	Privet, bramble	3.0	0								Middle Age	Fair	Shrubby hedgerow		Refer to Drawing	n/a		Long	
H18	Cypress	5.0	0								Middle Age	Fair	Garden boundary hedge; width 2m		Refer to Drawing	n/a		Long	
H19	Hawthorn	3.0	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H20	Hawthorn, goat willow, sycamore	3.0	0								Middle Age	Fair	Majority unmanaged hawthorn with mature goat willow on southern border with DBH of 300 and small sycamore on northern side		Refer to Drawing	n/a		Long	
H21	Hawthorn, elder	3.5	0								Middle Age	Good	Well maintained to 2m; except one overgrown tree around telephone pole		Refer to Drawing	n/a		Long	
H22	Hawthorn	2.0	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
H23	Hawthorn, privet	5.0	0								Middle Age	Fair	Well maintained		Refer to Drawing	n/a		Long	
H24	Hawthorn	3.0	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H25	Hawthorn	1.5	0								Middle Age	Fair	Boundary field hedge; majority topped at 1.5m; few left to grow		Refer to Drawing	n/a		Long	
H26	Blackthorn	5.0	0								Middle Age	Fair	Overgrown hedge to 5m; shrubby multi-stemmed		Refer to Drawing	n/a		Long	
H27	Hawthorn	5.0	0								Middle Age	Fair	Unmanaged hedge, shrubby form		Refer to Drawing	n/a		Long	
H28	Hawthorn	4.0	0								Middle Age	Good	Field boundary hedge		Refer to Drawing	n/a		Long	
H29	Hawthorn	3.0	0								Middle Age	Good	Broken hedge with up to approx. 8m gaps in places		Refer to Drawing	n/a		Long	
H30	Hawthorn	3.0	0								Middle Age	Good	Field boundary hedge		Refer to Drawing	n/a		Long	
H31	Hawthorn	5.0	0								Middle Age	Fair	Unmanaged hedge, shrubby form		Refer to Drawing	n/a		Long	
H32	Hawthorn, blackthorn	3.0	0								Middle Age	Fair	Field boundary hedge		Refer to Drawing	n/a		Long	
H33	Hawthorn, blackthorn	3.0	0								Middle Age	Fair	Unmanaged shrubby form		Refer to Drawing	n/a		Long	
H34	Blackthorn	1.0	0								Middle Age	Fair	Unmanaged shrubby form		Refer to Drawing	n/a		Long	
H35	Hawthorn, blackthorn	5.0	0								Middle Age	Fair	Unmanaged field boundary hedge		Refer to Drawing	n/a		Long	
H36	Hawthorn, blackthorn	5.0	0								Middle Age	Fair	Unmanaged		Refer to Drawing	n/a		Long	
H37	Hawthorn	1.0	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H38	Blackthorn, hawthorn, alder	0.5	0								Middle Age	Good	Maintained hawthorn to north side; unmanaged blackthorn and hawthorn to south side		Refer to Drawing	n/a		Long	
H39	Hawthorn	1.0	0								Middle Age	Good	Maintained at 1m on west side of ditch		Refer to Drawing	n/a		Long	
H40	Hawthorn	1.0	0								Middle Age	Good	Maintained at 1m		Refer to Drawing	n/a		Long	
H41	Hawthorn	2.0	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H42	Privet	2.0	0								Middle Age	Good	Restricted access; well maintained		Refer to Drawing	n/a		Long	
H43	Leyland cypress	3.0	0								Middle Age	Poor	Topped at 3m		Refer to Drawing	n/a		Long	
H44	Hawthorn, holly	1.0	0								Middle Age	Good	Well maintained; along ditch		Refer to Drawing	n/a		Long	
H45	Leyland cypress	4.0	0								Middle Age	Good	Garden boundary hedge; good screening		Refer to Drawing	n/a		Long	
H46	Privet	2.0	0								Middle Age	Good	Maintained garden hedge		Refer to Drawing	n/a		Long	
H47	Hawthorn, sycamore	3.0	0								Middle Age	Good	Maintained hedge to 3m with young self set sycamore		Refer to Drawing	n/a		Long	
H48	Hawthorn	4.0	0								Middle Age	Good	Well maintained garden boundary hedge		Refer to Drawing	n/a		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
H49	Hawthorn	1.5	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H50	Privet	1.5	0								Middle Age	Good	Well maintained hedge		Refer to Drawing	n/a		Long	
H51	Privet	1.5	0								Middle Age	Good	Well maintained garden hedge		Refer to Drawing	n/a		Long	
H52	Hawthorn	2.0	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H53	Hawthorn	2.0	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H54	Hawthorn	0.5	0								Middle Age	Fair	Maintained field boundary hedge; one tree outgrown from hedge around telegraph pole		Refer to Drawing	n/a		Long	
H55	Privet, hawthorn	2.5	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H56	Hawthorn, ivy	2.0	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H57	Hawthorn	0.5	0								Middle Age	Good	Field boundary hedge		Refer to Drawing	n/a		Long	
H58	Hawthorn	2.0	0								Middle Age	Good	Field boundary hedge; maintained to 2m		Refer to Drawing	n/a		Long	
H59	Hawthorn	2.5	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H60	Hawthorn	6.0	0								Middle Age	Fair	Overgrown hawthorn hedge; previously topped at 2m		Refer to Drawing	n/a		Long	
H61	Hawthorn	1.0	0								Middle Age	Good	Well maintained field boundary hedge		Refer to Drawing	n/a		Long	
H62	Hawthorn	4.0	0								Middle Age	Fair	Overgrown hawthorn hedge		Refer to Drawing	n/a		Long	
H63	Hawthorn, blackthorn	1.0	0								Middle Age	Good	Roadside hedge; maintained at 1.5m; shrubby blackthorn in field to north		Refer to Drawing	n/a		Long	
H64	Privet	1.5	0								Middle Age	Good	Garden boundary hedge		Refer to Drawing	n/a		Long	
H65	Hawthorn, blackthorn	3.0	0								Middle Age	Fair	Unmanaged		Refer to Drawing	n/a		Long	
H66	Hawthorn, willow, ash	to 3	0								Middle Age	Fair	Poor form with large gaps; young willow and self set ash		Refer to Drawing	n/a		Long	
H67	Hawthorn	to 4	0								Middle Age	Fair	Roadside hedge		Refer to Drawing	n/a		Long	
H68	Privet	1.5	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H69	Privet, hazel	3.0	0								Middle Age	Good	Garden boundary hedge; well maintained		Refer to Drawing	n/a		Long	
H70	Privet	1.5	0								Middle Age	Good	Well maintained garden boundary hedge		Refer to Drawing	n/a		Long	
H71	Privet, hawthorn, elder, sycamore	2.0	0								Middle Age	Good	Maintained at 2m; 2m wide		Refer to Drawing	n/a		Long	
H72	Blackthorn, hawthorn, sycamore	2.0	0								Middle Age	Good	Field boundary hedge		Refer to Drawing	n/a		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
H73	Hawthorn	3.0	0								Middle Age	Fair	Restricted access to survey; outgrown boundary hedge		Refer to Drawing	n/a		Long	
H74	Hawthorn	1.5	0								Middle Age	Good	Field boundary hedge		Refer to Drawing	n/a		Medium	
H75	Hawthorn, elder	1.5	0								Middle Age	Fair	Field boundary hedge		Refer to Drawing	n/a		Long	
H76	Hawthorn, privet	2.0	0								Middle Age	Good	Boundary hedge		Refer to Drawing	n/a		Long	
H77	Hawthorn	2.0	0								Middle Age	Fair	Small gaps in hedge		Refer to Drawing	n/a		Long	
H78	Hawthorn, ash	2.0	0								Middle Age	Poor	Some outgrown; small shrubby unmanaged; large gaps, self set ash		Refer to Drawing	n/a		Long	
H79	Privet	3.0	0								Middle Age	Good	Garden boundary hedge		Refer to Drawing	n/a		Long	
H80	Privet	2.5	0								Middle Age	Good	Topped at 2.5m		Refer to Drawing	n/a		Long	
H81	Hawthorn	1.5	0								Middle Age	Good	Maintained at 1.5m		Refer to Drawing	n/a		Long	
H82	Hawthorn	3.0	0								Middle Age	Fair	Shrubby unmanaged hedgerow		Refer to Drawing	n/a		Long	
H83	Hawthorn	3.0	0								Middle Age	Fair	Shrubby unmanaged hedgerow		Refer to Drawing	n/a		Long	
H84	Hawthorn	1.0	0								Middle Age	Good	Topped at 1m		Refer to Drawing	n/a		Long	
H85	Hawthorn	1.0	0								Middle Age	Fair	Topped at 1m		Refer to Drawing	n/a		Long	
H86	Hawthorn	2.0	0								Middle Age	Fair	Shrubby outgrown hedge		Refer to Drawing	n/a		Long	
H87	Hawthorn	4.0	0								Middle Age	Fair	Shrubby outgrown hedge		Refer to Drawing	n/a		Long	
H88	Hawthorn, blackthorn	4.0	0								Middle Age	Fair	Shrubby outgrown hedge		Refer to Drawing	n/a		Long	
H89	Hawthorn	5.0	0								Mature	Fair	Tall unmanaged hedge		Refer to Drawing	n/a		Long	
H90	Hawthorn	3.0	0								Middle Age	Good	Field boundary hedge		Refer to Drawing	n/a		Long	
H91	Hawthorn	3.0	0								Middle Age	Good	Field boundary hedge		Refer to Drawing	n/a		Long	
H92	Hawthorn	3.0	0								Middle Age	Fair	Multi-stemmed shrubby unmanaged hedge		Refer to Drawing	n/a		Medium	
H93	Hawthorn	3.0	0								Middle Age	Fair	Previously topped at 0.5m now outgrown		Refer to Drawing	n/a		Long	
H94	Hawthorn	2.0	0								Middle Age	Fair	Multi-stemmed; gaps		Refer to Drawing	n/a		Long	
H95	Hawthorn	1.5	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H96	Hawthorn	2.5	0								Middle Age	Fair	Shrubby form; dense		Refer to Drawing	n/a		Long	
H97	Hawthorn	2.5	0								Middle Age	Fair	Shrubby form; gaps		Refer to Drawing	n/a		Long	
H98	Hawthorn	1.5	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
H99	Hawthorn	3.0	0								Middle Age	Fair	Shrubby unmanaged hedge; few gaps		Refer to Drawing	n/a		Long	
H100	Hawthorn, elder	2.0	0								Middle Age	Good	Topped at 2m		Refer to Drawing	n/a		Long	
H101	Hawthorn, blackthorn	3.0	0								Middle Age	Fair	Unmanaged		Refer to Drawing	n/a		Long	
H102	Blackthorn, hawthorn	3.0	0								Middle Age	Fair	Shrubby unmanaged hedge		Refer to Drawing	n/a		Long	
H103	Hawthorn	3.0	0								Middle Age	Fair	Shrubby unmanaged hedge		Refer to Drawing	n/a		Long	
H104	Hawthorn	3.0	0								Middle Age	Fair	Shrubby unmanaged hedge		Refer to Drawing	n/a		Long	
H105	Hawthorn	3.0	0								Middle Age	Fair	Shrubby unmanaged hedge		Refer to Drawing	n/a		Long	
H106	Hawthorn	3.0	0								Middle Age	Fair	Shrubby unmanaged hedge		Refer to Drawing	n/a		Long	
H107	Hawthorn	2.0	0								Middle Age	Good	Topped at 2m in places		Refer to Drawing	n/a		Long	
H108	Hawthorn	3.0	0								Middle Age	Fair	Shrubby; gaps in places		Refer to Drawing	n/a		Long	
H109	Hawthorn	3.0	0								Middle Age	Fair	Shrubby unmanaged hedge		Refer to Drawing	n/a		Long	
H110	Hawthorn	4.0	0								Middle Age	Fair	Shrubby unmanaged		Refer to Drawing	n/a		Long	
H111	Hawthorn	3.0	0								Middle Age	Fair	Shrubby unmanaged hedge		Refer to Drawing	n/a		Long	
H112	hawthorn	2.5	0								Middle Age	Fair	Boundary hedge		Refer to Drawing	n/a		Long	
H113	Hawthorn	3.0	0								Middle Age	Fair	Shrubby form		Refer to Drawing	n/a		Long	
H114	Hawthorn	to 4	0								Middle Age	Fair	Unmanaged shrubby field boundary hedge		Refer to Drawing	n/a		Long	
H115	Hawthorn	to 3	0								Middle Age	Fair	Unmanaged field boundary hedge		Refer to Drawing	n/a		Long	
H116	Hawthorn, bramble	to 1	0								Middle Age	Good	Well maintained field boundary hedge		Refer to Drawing	n/a		Long	
H117	Hawthorn	to 3	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H118	Hawthorn	to 2	0								Middle Age	Good	well maintained		Refer to Drawing	n/a		Long	
H119	Privet, hawthorn	to 3	0								Middle Age	Good	Well maintained garden hedge		Refer to Drawing	n/a		Long	
H120	Hawthorn	to 2	0								Middle Age	Good	Garden boundary hedge		Refer to Drawing	n/a		Long	
H121	Hawthorn, elder, sycamore	to 2	0								Middle Age	Fair	Field boundary hedge		Refer to Drawing	n/a		Long	
H122	Hawthorn	to 2	0								Middle Age	Fair	Field boundary hedge		Refer to Drawing	n/a		Long	
H123	Hawthorn, sycamore, elder	to 1.5	0								Middle Age	Good	Well maintained around property; slightly unmanaged towards east end		Refer to Drawing	n/a		Long	
H124	Privet	to 3	0								Middle Age	Good	Well maintained garden hedge		Refer to Drawing	n/a		Long	

APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,U (1,2,3)	(m)	(m2)		Long, Medium, Short	Y/N
H125	Leyland cypress	to 1.5	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H126	Hawthorn, ash	to 3	0								Middle Age	Fair	Shrubby hawthorn with tall slender form ash		Refer to Drawing	n/a		Long	
H127	Hawthorn	to 5	0								Middle Age	Good	Field boundary hedge		Refer to Drawing	n/a		Long	
H128	Hawthorn, sycamore	to 1	0								Middle Age	Good	Good form; well maintained		Refer to Drawing	n/a		Long	
H129	Privet	to 3	0								Middle Age	Good	Well maintained garden boundary hedge		Refer to Drawing	n/a		Long	
H130	Hawthorn, hazel, common alder	to 3	0								Middle Age	Good	Well maintained		Refer to Drawing	n/a		Long	
H131	Common beech, hawthorn	to 3	0								Middle Age	Good	Well maintained garden boundary hedge		Refer to Drawing	n/a		Long	
H132	Common beech	to 3	0								Middle Age	Good	Well maintained hedge		Refer to Drawing	n/a		Long	
H133	Common beech	to 2	0								Middle Age	Good	Well maintained garden hedge		Refer to Drawing	n/a		Long	
H134	Laurel	to 2	0								Middle Age	Good	Well maintained hedge		Refer to Drawing	n/a		Long	
H135	Laurel	to 2	0								Middle Age	Good	Well maintained hedge		Refer to Drawing	n/a		Long	
H136	Privet	to 6	0								Middle Age	Fair	Well maintained hedge		Refer to Drawing	n/a		Long	
H137	Hawthorn	to 6	0								Middle Age	Fair	Shrubby outgrown hedge		Refer to Drawing	n/a		Long	

Appendix 8.1

Historic Desk Based Assessment



**HISTORIC
ENVIRONMENT DESK-
BASED ASSESSMENT**

**Pickering's Farm
Penwortham, Lancashire**

November 2018

**Planning Authority:
South Ribble Borough
Council**

**Site centred at:
SD 5320 2609**

**Author:
Pete Owen MCIfA**

**Approved by:
Simon Mortimer MA(Oxon)
MCIfA**

**Report Status:
Final**

**Issue Date:
November 2018**

**CgMs Ref:
24831/01/PO**

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EXECUTIVE SUMMARY

This assessment draws together the available archaeological, historic, topographic and land-use information in order to assess and clarify the heritage significance and archaeological potential of land at Pickering's Farm, Penwortham. It addresses the information requirements set out in the National Planning Policy Framework (NPPF) and provides the proportionate response sought by the NPPF.

The assessment site is centred at National Grid Reference NGR SD 5320 2609 and covers an area of approximately 78ha. The proposals comprise residential-led mixed-use development comprising up to approximately 1,350 houses, along with commercial buildings, education and healthcare facilities, green infrastructure and road access

The assessment has established that there are no designated heritage assets within the study site. Five Grade II Listed Buildings have been identified within the study area, the closest being Nutters Platt Farmhouse which is located approximately 650m to the east of the study site (Figure 2). None of these assets are considered to be at risk of adverse impacts to their settings as a result of the proposed development.

Three non-designated heritage assets are recorded within the study site, all of which represent former farmsteads shown on the 1848 Ordnance Survey map. These assets are of local significance and are not considered to be at risk of adverse impacts as a result of the proposed development.

This assessment has considered the potential for currently unknown archaeological evidence to be present within the study site. Based on the available information there is considered to be low potential for evidence of all periods. However, it is acknowledged that the lack of evidence may reflect the fact that no previous archaeological investigations have been undertaken within the study site or its vicinity.

In light of the above, and in accordance with NPPF, it is considered that the archaeological implications of the proposed development can be addressed by an appropriately worded planning condition requiring a programme of archaeological works to be undertaken prior to development commencing. The first phase of this programme should consist of archaeological evaluation via geophysical survey and /or trial trenching.

1.0 INTRODUCTION AND SCOPE OF STUDY

- 1.1 This historic environment desk-based assessment has prepared by Pete Owen of CgMs Heritage (part of the RPS Group) on behalf of Taylor Wimpey and Homes England
- 1.2 The subject of this assessment, also known as the study site, is land at Pickering's Farm, Penwortham, Lancashire (Figure 1). The study site is located on the southern fringes of Penwortham, approximately 4km to the south of Preston city centre, and is centred at NGR SD 5320 2609. It is bounded to the south by open fields, to the west by the A582 (Penwortham Way), to the north by residential development and to the east by railway lines. The study site covers an area of approximately 78ha and comprises a number of agricultural fields, former farmsteads and other residential and commercial buildings.
- 1.3 This assessment has been prepared in compliance with the National Planning Policy Framework, to identify and provide a description of heritage assets on the site and within a surrounding study area, their significance and the likely effects of the proposed development on that significance. As a result, the assessment enables relevant parties to identify and assess the impact of the proposed development and identify any necessary mitigation measures.
- 1.4 The assessment comprises an examination of evidence contained in the Lancashire Historic Environment Record (HER), Preston Record Office and online resources. Information regarding Scheduled Monuments, Registered Battlefields, Registered Parks and Gardens and Listed Buildings was obtained from Historic England's National Heritage List for England. Information regarding Conservation Areas was obtained from South Ribble Borough Council. Data on non-designated heritage assets and previous archaeological investigations was obtained from the Lancashire HER.
- 1.5 The assessment incorporates both published and unpublished material, and charts historic land-use through a map regression exercise. A site inspection was undertaken on 27th September 2018.

2.0 PLANNING BACKGROUND AND DEVELOPMENT PLAN FRAMEWORK

- 2.1 National legislation regarding archaeology, including scheduled monuments, is contained in the Ancient Monuments and Archaeological Areas Act 1979, amended by the National Heritage Act 1983 and 2002, and updated in April 2014.
- 2.2 In March 2012, the government published the National Planning Policy Framework (NPPF), which was later revised in July 2018. The NPPF is supported by the National Planning Practice Guidance (NPPG), which was published online 6th March 2014 and last updated 28 July 2017 (http://planning_guidance.planningportal.gov.uk).
- 2.3 The NPPF and NPPG are additionally supported by three Good Practice Advice (GPA) documents published by Historic England: GPA 1: The Historic Environment in Local Plans; GPA 2: Managing Significance in Decision-Taking in the Historic Environment (both published March 2015). The second edition of GPA3: The Setting of Heritage Assets was published in December 2017.

National Planning Policy

- 2.4 Section 16 of the NPPF, entitled Conserving and enhancing the historic environment provides guidance for planning authorities, property owners, developers and others on the conservation and investigation of heritage assets. Overall, the objectives of Section 16 of the NPPF can be summarised as seeking the:
- Delivery of sustainable development;
 - Understanding the wider social, cultural, economic and environmental benefits brought by the conservation of the historic environment;
 - Conservation of England's heritage assets in a manner appropriate to their significance; and
 - Recognition that heritage makes to our knowledge and understanding of the past.
- 2.5 Section 16 of the NPPF recognises that intelligently managed change may sometimes be necessary if heritage assets are to be maintained for the long term. Paragraph 189 states that planning decisions should be based on the significance of the heritage asset and that level of detail supplied by an applicant should be proportionate to the

importance of the asset and should be no more than sufficient to review the potential impact of the proposal upon the significance of that asset.

- 2.6 *Heritage Assets* are defined in Annex 2 of the NPPF as: a building, monument, site, place, area or landscape positively identified as having a degree of significance meriting consideration in planning decisions. They include designated heritage assets (as defined in the NPPF) and assets identified by the local planning authority during the process of decision-making or through the plan-making process.
- 2.7 Annex 2 also defines *Archaeological Interest* as a heritage asset which holds or potentially could hold evidence of past human activity worthy of expert investigation at some point.
- 2.8 A *Nationally Important Designated Heritage Asset* comprises a: World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area.
- 2.9 *Significance* is defined as: The value of a heritage asset to this and future generations because of its heritage interest. This interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.
- 2.10 *Setting* is defined as: The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.
- 2.11 In short, government policy provides a framework which:
- Protects nationally important designated Heritage Assets;
 - Protects the settings of such designations;
 - In appropriate circumstances seeks adequate information (from desk-based assessment and field evaluation where necessary) to enable informed decisions;
 - Provides for the excavation and investigation of sites not significant enough to merit *in-situ* preservation.

- 2.12 The NPPG reiterates that the conservation of heritage assets in a manner appropriate to their significance is a core planning principle, requiring a flexible and thoughtful approach. Furthermore, it highlights that neglect and decay of heritage assets is best addressed through ensuring they remain in active use that is consistent with their conservation. Importantly, the guidance states that if complete, or partial loss of a heritage asset is justified, the aim should then be to capture and record the evidence of the asset's significance and make the interpretation publicly available. Key elements of the guidance relate to assessing harm. An important consideration should be whether the proposed works adversely affect a key element of the heritage asset's special architectural or historic interest. Additionally, it is the degree of harm, rather than the scale of development, that is to be assessed. The level of 'substantial harm' is considered to be a high bar that may not arise in many cases. Essentially, whether a proposal causes substantial harm will be a judgment for the decision taker, having regard to the circumstances of the case and the NPPF. Importantly, harm may arise from works to the asset or from development within its setting. Setting is defined as the surroundings in which an asset is experienced and may be more extensive than the curtilage. A thorough assessment of the impact of proposals upon setting needs to take into account, and be proportionate to, the significance of the heritage asset and the degree to which proposed changes enhance or detract from that significance and the ability to appreciate it.
- 2.13 In considering any planning application for development, the planning authority will be mindful of the framework set by government policy, in this instance the NPPF, by current Development Plan Policy and by other material considerations.

Local Planning Policy

- 2.14 The development plan policy framework is provided by the Central Lancashire Core Strategy (2012) and the South Ribble Local Plan (2015).

Central Lancashire Core Strategy

- 2.15 The Central Lancashire Core Strategy contains one relevant policy, Policy 16: Heritage Assets, which states:

Protect and seek opportunities to enhance the historic environment, heritage assets and their settings by:

- a) *Safeguarding heritage assets from inappropriate development that would cause harm to their significances.*
- b) *Supporting development or other initiatives where they protect and enhance the local character, setting, management and historic significance of heritage assets, with particular support for initiatives that will improve any assets that are recognised as being in poor condition, or at risk.*
- c) *Identifying and adopting a local list of heritage assets for each Authority.*

South Ribble Local Plan

- 2.16 The South Ribble Local Plan's policy relating to the study site, Policy C1 – Pickering's Farm, Penwortham, makes no reference to the historic environment or the treatment of heritage assets. However, part d) of Policy G17 – Design Criteria for New Development states that planning permission will be granted for new development, provided that:

The proposal would sustain, conserve and where appropriate enhance the significance, appearance, character and setting of a heritage asset itself and the surrounding historic environment. Where a proposed development would lead to substantial harm or loss of significance of a designated heritage asset, planning permission will only be granted where it can be demonstrated that the substantial public benefits of the proposal outweigh the harm or loss to the asset

- 2.17 When considering the historic environment implications of the proposed planning application for development within the study site, the local planning authority will be guided by the policy framework set by government (NPPF), Policy 16 of the Central Lancashire Core Strategy and the relevant section of Policy G17 of the South Ribble Local Plan.
- 2.18 In line with relevant planning policy and guidance, this desk-based assessment seeks to clarify the site's archaeological potential and the need or otherwise for additional mitigation measures.

3.0 GEOLOGY AND TOPOGRAPHY

Geology

- 3.1 The solid geology of the study site is characterised as mudstone of the Singleton Mudstone Member. This is overlain by Devensian Till (www.bgs.ac.uk 2018). The soils within the study site are characterised as being slowly permeable, seasonally wet, slightly acid but base rich, loamy and clayey (www.landis.org.uk 2018).

Topography

- 3.2 The study site is generally level and lies at approximately 30m AOD. The River Ribble runs approximately 1.5km to the north at its closest point.

4.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND WITH ASSESSMENT OF SIGNIFICANCE

Timescales used in this report:

Prehistoric

Palaeolithic	900,000	-	12,000	BC
Mesolithic	12,000	-	4,000	BC
Neolithic	4,000	-	1,800	BC
Bronze Age	1,800	-	600	BC
Iron Age	600	-	AD 43	

Historic

Roman	AD	43	-	410
Saxon/Early Medieval	AD	410	-	1066
Medieval	AD	1066	-	1485
Post Medieval	AD	1486	-	1799
Modern	AD	1800	-	Present

Introduction

- 4.1 This chapter reviews the available archaeological evidence for the study site and the archaeological/historical background of the general area, and, in accordance with NPPF, considers the potential for any currently unknown archaeological evidence within the study site.
- 4.2 What follows comprises a review of known heritage assets within 1km radius of the study site boundary (also referred to as the study area), together with a historic map regression exercise charting the development of the study area from the 19th century onwards until the present day. The locations of designated assets are shown on Fig. 2 and the locations of non-designated assets are shown on Fig. 3. A gazetteer of heritage assets is presented in Appendix A.
- 4.3 Chapter 5 subsequently considers the site conditions and whether the proposed development will impact the theoretical archaeological potential identified below.

Designated Heritage Assets

- 4.4 There are no Scheduled Monuments, Registered Battlefields, Registered Parks and Gardens or Conservation Areas recorded within the study site or study area. Whilst no Listed Buildings are recorded within the study site itself, five Grade II Listed Buildings are recorded within the study area (Figure 2). The closest to the study site is Nutters Plat Farmhouse, located approximately 650m to the east. There is no inter-visibility between the study site and any of the Listed Buildings and the study site does not form part of their settings.

Non-Designated Heritage Assets

- 4.5 The HER records the locations of three non-designated heritage assets within the study site (Figure 3). All are the sites of former farmsteads and are recorded within the HER as they are shown on the 1848 first edition 6inch Ordnance Survey Map (Figure 4). The HER records the locations of a further 50 non-designated heritage assets within the study area. All are either Post Medieval or Modern and most relate to former or extant buildings and structures. These extant and former structures range in date from a 17th century house (PRN1451) to mid-20th century gas-holders (PRN39167).

Previous Archaeological Work

- 4.6 No previous archaeological investigations are recorded within the study site or its vicinity.

Prehistoric

- 4.7 No Prehistoric heritage assets are recorded within the study site or study area. There is also little evidence for the Prehistoric period within the wider landscape outside of the study area. This probably reflects a preference for the location of settlement sites on higher areas with better drainage, often overlooking rivers, during much of the Prehistoric period within North West England and any activities that took place within the lower, less well drained areas would have been those that left no discernible trace in the archaeological record, such as hunting and the gathering of other wild foods and natural materials. Whilst there are a few notable examples of later prehistoric lowland settlement within the region, such as Brook House Farm in Halewood, Merseyside and Dutton's Farm in Lathom, Lancashire, these sites are considered as somewhat exceptional.

4.8 Given the available evidence, or rather lack of it, there is considered to be low potential for the presence of currently unknown Prehistoric archaeological evidence within the study site.

Roman

4.9 No Roman heritage assets are recorded within the study site or study area. Again, there is little additional evidence in the wider landscape, outside of the study area, for activity during the Roman period. Whilst significant evidence of Roman period settlement and associated activity has been identified at Walton-le-Dale, approximately 3km to the north-east of the study site, nothing has been identified in the area of Penwortham.

4.10 Records relating to Roman material often appear in HERs because of the volume of cultural material relative to most other periods and because much of that material is readily identifiable. The lack of Roman features and material recorded from the study area suggests that the absence of evidence may be genuine and not simply a reflection of the lack of fieldwork.

4.1 On the basis of the above, there is considered to be low potential for the presence of currently unknown Roman archaeological evidence within the study site.

Early Medieval / Medieval

4.2 There are no Early Medieval or Medieval heritage assets within the study site or study area. Penwortham is recorded in Domesday (*Peneverdent*) and by the early 12th century, the manor of Penwortham was the head of a barony held by Warine Bussel. The manor was subsequently acquired by Roger de Lacy in the 13th century. The manor remained in the ownership of the de Lacy family until its sale to Charles 1 in 1628.

4.3 Early Medieval and Medieval settlement is thought to have been located approximately 2.5km to the north of the study site, in the vicinity of the Church of St Mary (which contains fabric dating to the 14th century). There are records of a castle and Benedictine priory at Penwortham during the Medieval period, both of which are also thought to have been located in the vicinity of the Church of St Mary.

- 4.4 During the Early Medieval and Medieval periods, the study site is likely to have formed marginal agricultural land bordering the then extensive mosses to the south and the potential for archaeological evidence of these periods is considered to be low.

Post Medieval & Modern (including map regression exercise)

- 4.5 There are three Post Medieval and Modern non-designated heritage assets recorded within the study site, all of which relate to the sites of former farmsteads that appear on the first edition 6inch Ordnance Survey map published in 1848 (Figure 4). Balshaw Farm and Crook's Farm (PRN39395) are located either side of Bee Lane. Whilst covered by a single HER reference number, the asset represents two separate farmsteads, the surviving buildings of which have been altered or extended during the later 20th and / or early 21st century.
- 4.6 Proctor's Farm (PRN39396) is located on the western side of Moss Lane. The original farmhouse was demolished and rebuilt during the later 20th century, whilst the barn has been converted to residential use. Holme Farm (PRN39397) is located on the eastern side of Moss Lane and the farmhouse has been heavily altered and extended since its original construction.
- 4.2.1 In addition to the three Post Medieval and non-designated heritage assets recorded within the study site, a further 50 Post Medieval and Modern non-designated heritage assets are recorded within the study area. Most of these assets relate to former or extant buildings and structures. These extant and former structures range in date from a 17th century house (PRN1451) to mid-20th century gas-holders (PRN39167). The remaining non-designated heritage assets relate to a Post-Medieval or Modern mill pond (PRN6673), two Modern railway lines (PRN39372 and PRN39984) and a Modern canal tramroad (PRN6696). Whilst relevant to the historic development of the study area, none of these heritage assets are of relevance regarding the archaeological potential of the study site.
- 4.7 The earliest maps to show the study site in any detail are the 1839 Farington and Penwortham tithe maps (not reproduced), which show an identical layout of fields to that shown on the 1848 Ordnance Survey map (Figure 4). None of the field names listed within the tithe schedules are suggestive of archaeological potential. The schedules indicate mixed farming with both arable and pasture listed. The roads and tracks running north-south and east west across the study site are shown.

- 4.8 As stated above the layout of the study site is virtually identical on both the 1839 tithe map and the 1848 Ordnance Survey map. Whilst the study site remains unchanged on the 1894 Ordnance Survey Map (Figure 5), the Farington Connecting Fork railway line is now shown forming its eastern boundary. The line was constructed in the 1880s to connect the L&YR's Liverpool, Blackburn and Accrington line to the L&NW's North Union line. The line and all associate structures lie outside of the study site.
- 4.9 The Ordnance Survey map of 1931 (Figure 6) is the first map to show any discernible change across the study site, with some field boundaries no longer illustrated following the amalgamation of smaller fields into larger ones. Many of the fields remain the same, however. The Ordnance Survey map of 1967-69 (Figure 7) shows further enlargement of some fields and a number of new buildings, such as those to the north of Flag Lane and to the south of Bee Lane. The 2001 Ordnance Survey map (Figure 8) is largely similar, although additional buildings, including a new large commercial building is shown to the north of Flag Lane. Holme Farm is also shown as having undergone expansion.
- 4.10 Assessment of the 2m resolution LiDAR data captured in 2004 (Figure 9) does not indicate the presence of any earthworks associated with significant non-agricultural archaeological remains. No evidence for the presence of ridge and furrow earthworks is visible. Former field boundaries visible on the tithe and early Ordnance Survey maps are visible along with features considered to be geological in origin.

Assessment of Significance (Designated Assets)

- 4.11 Existing national policy guidance for archaeology (the NPPF as referenced in section 2) enshrines the concept of the 'significance' of heritage assets. Significance as defined in the NPPF centres on the value of an archaeological or historic asset for its 'heritage interest' to this or future generations.
- 4.12 No designated heritage assets have been identified within the study site. Five designated heritage assets, all Grade II Listed buildings, are recorded within the 1km study area (Figure 2). Given their Listed status, these assets are considered to have a high level of significance based on a combination of their aesthetic, historic and evidential value.

Assessment of Significance (Non-Designated Assets)

- 4.13 Three non-designated heritage assets are recorded within the study site, all of which

represent the sites of former farmsteads shown on the first edition 6inch Ordnance Survey map (Figure 4). All of the surviving buildings associated with these former farmsteads have been extended and / or altered during the later 20th and early 21st centuries and are types of buildings common within the local area. These assets are, therefore, considered to be of local significance.

- 4.14 Any currently unknown archaeological evidence that may be present within the study site would be of significance if it has potential to contribute to local and regional research agendas.

5.0 SITE CONDITIONS, THE PROPOSED DEVELOPMENT & REVIEW OF POTENTIAL DEVELOPMENT IMPACTS ON ARCHAEOLOGICAL ASSETS

Site Conditions

- 5.1 A walk-over survey was undertaken on the 27th September 2018. The assessment site comprises a number of agricultural fields, the majority of which are under grass (Plates 1 to 5). The fields are generally bordered by mature hedges and trees. Balshaw Farm and Cook's Farm, a non-designated heritage asset is located on either side of Bee Lane, within the north-western corner of the site (Plates 6 and 7). Holme Farm and Proctor's Farm, both non-designated heritage assets, are located on either side of Moss Lane (Plates 8 and 9).
- 5.2 No evidence for the presence of currently unknown archaeological remains was identified during the walk-over survey.

Proposed Development

- 5.3 The site is proposed for a residential-led mixed-use development comprising up to approximately 1,350 houses, along with commercial buildings, education and healthcare facilities, green infrastructure and road access. The majority of the existing buildings, including all of those associated with the three non-designated heritage assets recorded within the study site are to be retained, along with areas of undeveloped land, as illustrated on Figure 7.9 of the Draft Masterplan Document (Taylor Wimpey and Homes England 2018).

Review of Potential Development Impacts on Designated Archaeological Assets

- 5.4 No designated heritage assets have been identified within the study site. Five designated heritage assets, all Grade II Listed buildings, are recorded within the 1km study area, the closest being Nutters Platt Farmhouse which is located approximately 650m to the east of the study site (Figure 2). There is no inter-visibility between these assets and the study site and the study site does not form part of the setting of these assets. Therefore, there is not considered to be any potential for adverse impacts to the significance of these assets as a result of the proposed development.

Review of Potential Development Impacts on Non-Designated Assets

- 5.5 Three non-designated assets are recorded within the study site, all of which represent farmsteads shown on the 1848 Ordnance Survey map. As illustrated on figure 7.9 of the Penwortham Draft Masterplan Document (Taylor Wimpey and Homes England 2018), none of these assets are at risk of direct physical impacts as a result of the proposed development. The setting of these assets, the buildings of which have been altered or extended during the later 20th or early 21st centuries, is considered to be limited to their immediate surroundings, which are also to be retained. None of these assets are, therefore, considered to be at risk of adverse impacts to their significance as a result of the proposed development.
- 5.5.1 This assessment has considered the potential for currently unknown archaeological remains and based on the available evidence there is considered to be low potential for all periods. However, it is acknowledged that the lack of evidence may reflect the fact that no previous archaeological investigations have been undertaken within the study site or its vicinity. Any currently unknown archaeological remains that are present may be truncated or removed during works associated with the proposed development.

6.0 SUMMARY AND CONCLUSIONS

- 6.1 The assessment has established that there are no designated heritage assets within the study site. Five Grade II Listed Buildings have been identified within the study area (Figure 2). None of these assets are considered to be at risk of impacts to their settings as a result of the proposed development.
- 6.2 Three non-designated heritage assets are recorded within the study site, all of which represent former farmsteads shown on the 1848 Ordnance Survey map. These assets are considered to be of local significance and are not considered to be at risk of impacts as a result of the proposed development.
- 6.3 This assessment has considered the potential for currently unknown archaeological remains to be present within the study site. Based on the available information there is considered to be low potential for evidence of all periods. However, it is acknowledged that the lack of evidence may reflect the fact that no previous archaeological investigations have been undertaken within the study site or its vicinity.
- 6.4 In light of the above, and in accordance with NPPF, it is considered that the archaeological implications of the proposed development can be addressed by an appropriately worded planning condition requiring a programme of archaeological works to be undertaken prior to development commencing. The first phase of this programme should consist of archaeological evaluation via geophysical survey and /or trial trenching.

SOURCES CONSULTED

General

Lancashire Historic Environment Record
Preston Record Office

Internet

British Geological Survey – www.bgs.ac.uk
British History Online – <http://www.british-history.ac.uk/>
Domesday Online – <http://www.domesdaybook.co.uk/>
Historic England: The National Heritage List for England –
<http://www.historicengland.org.uk/listing/the-list/>
LandIS (Soilscapes) – www.landis.org.uk
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Cartographic

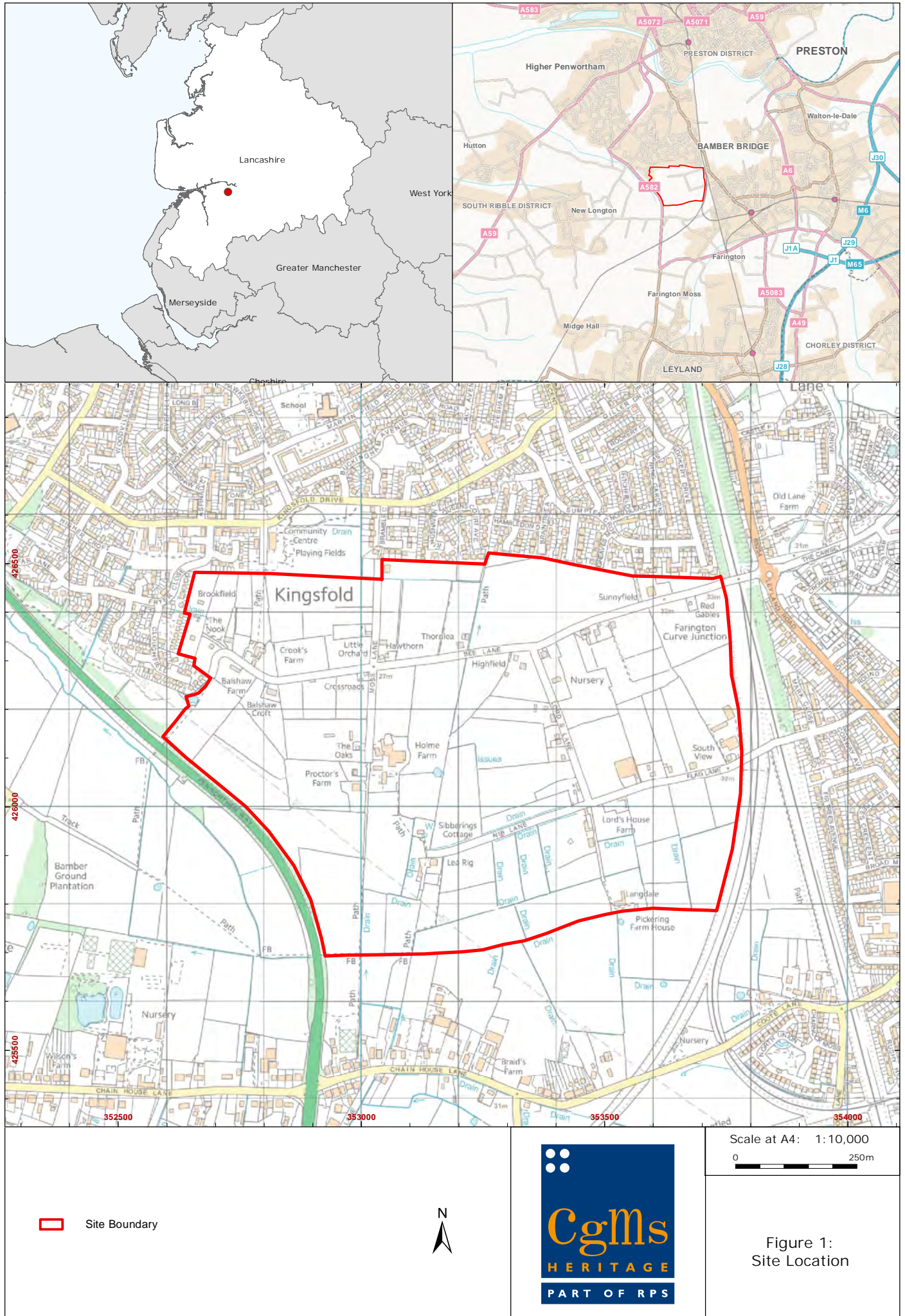
- 1786 Yates' map of Lancashire
- 1818 Greenwood's map of Lancashire
- 1829 Hennett's map of Lancashire
- 1839 Farington tithe map and schedule
- 1839 Penwortham tithe map and schedule

Ordnance Survey 1:2,500

1893, 1911, 1931, 1963, 1993

Ordnance Survey 1:10,000

1848, 1894, 1912, 1931, 1938, 1955, 1967, 1983, 1990, 2001, 2006, 2018





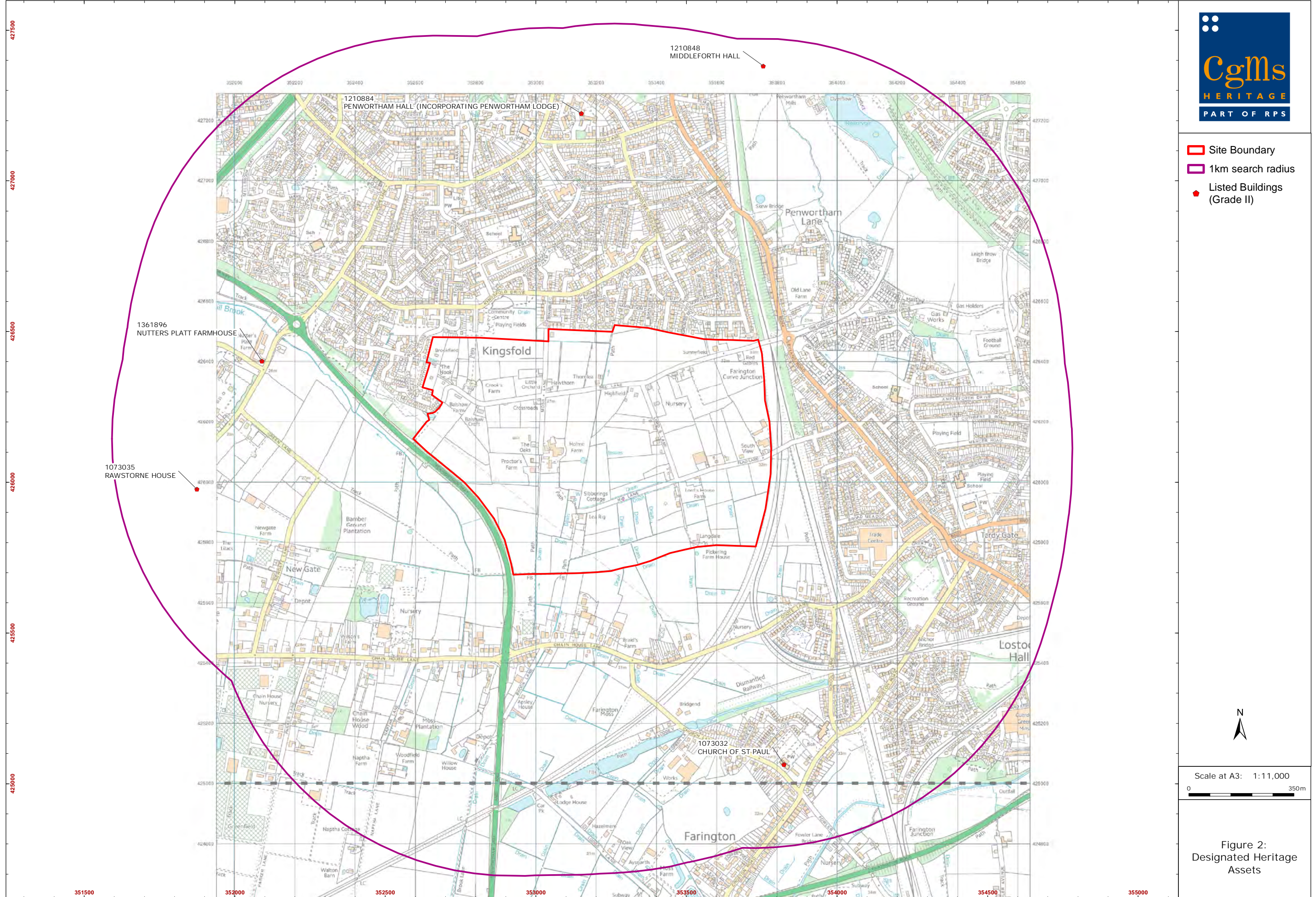
- Site Boundary
- 1km search radius
- ◆ Listed Buildings (Grade II)

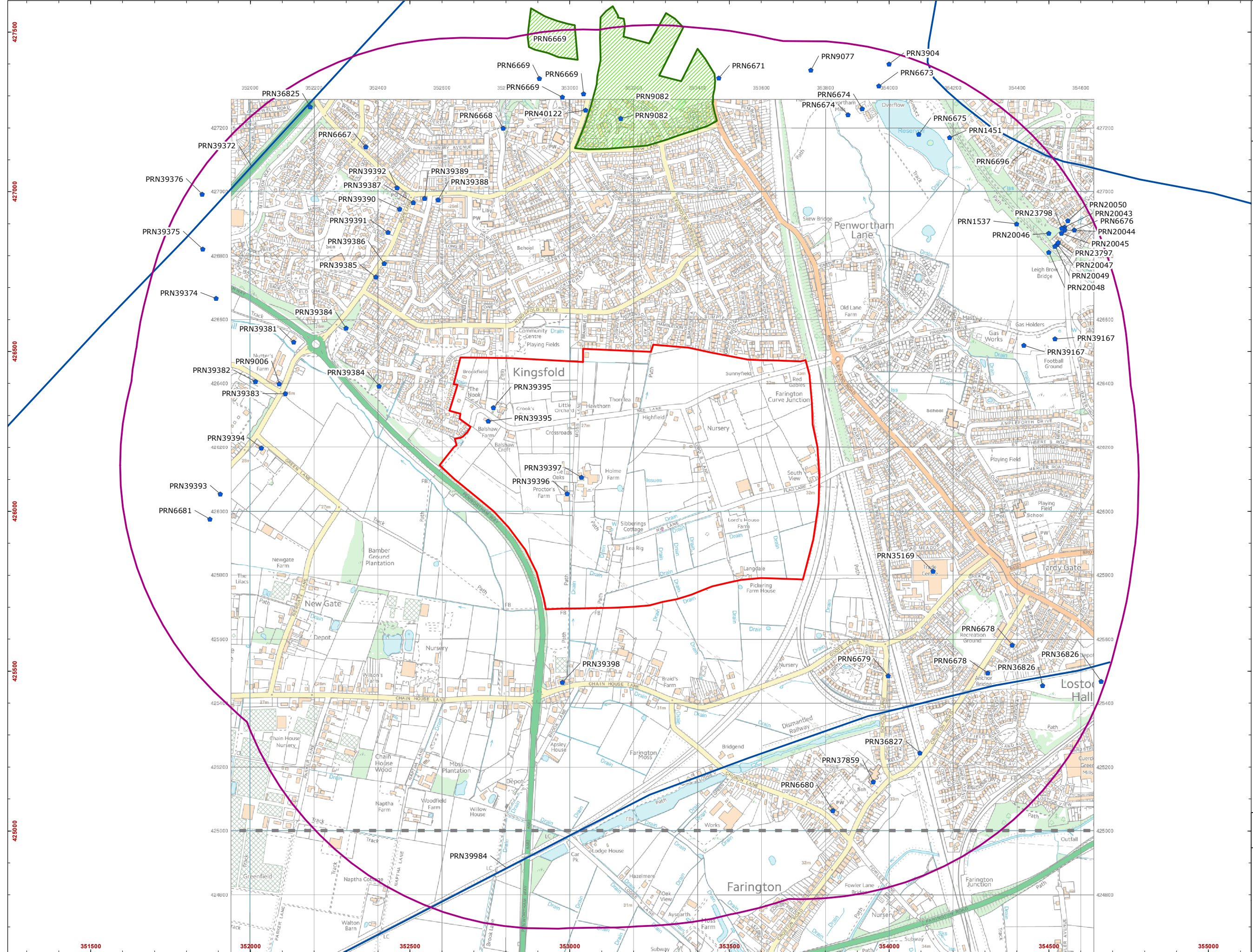


Scale at A3: 1:11,000



Figure 2: Designated Heritage Assets



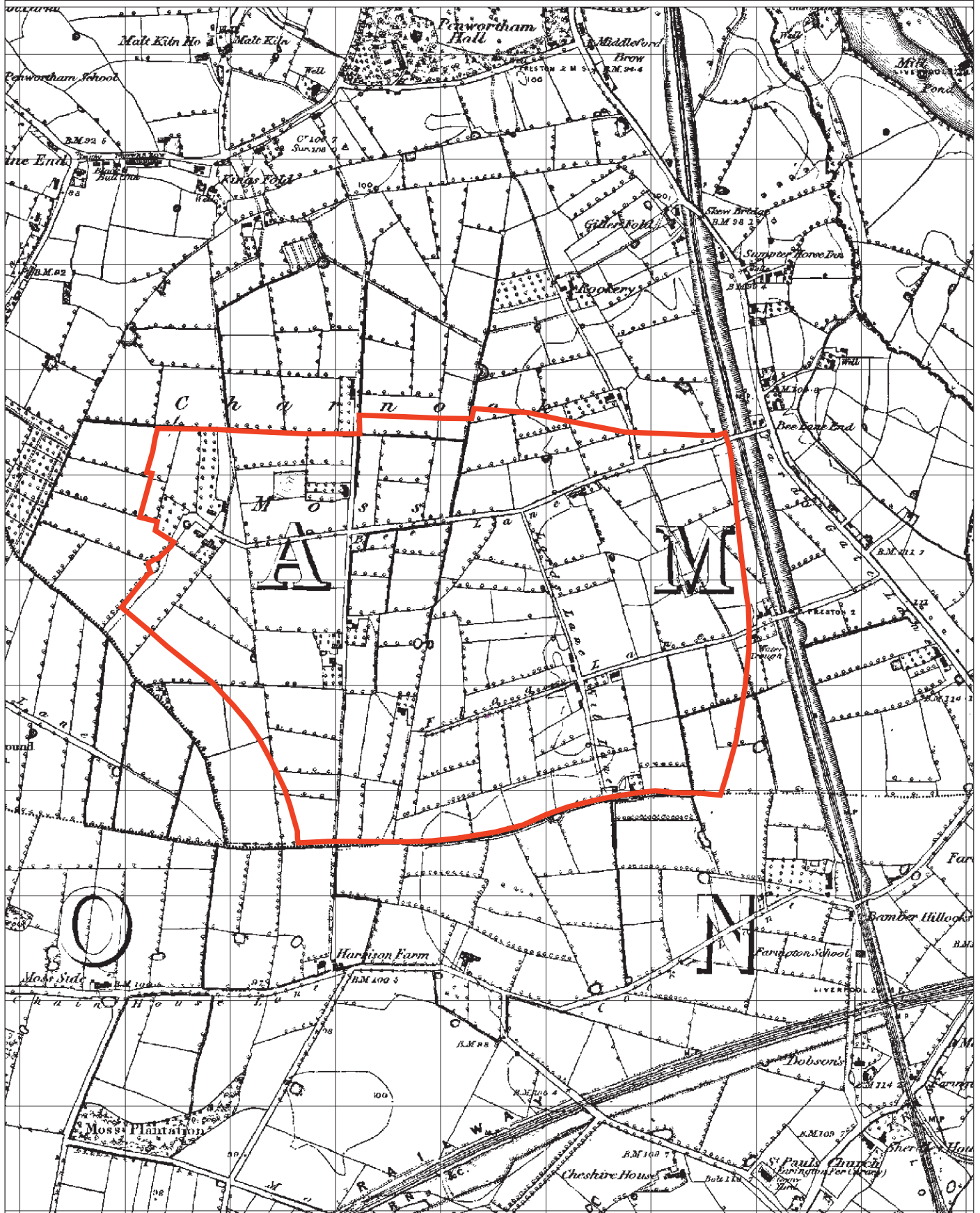


- ▭ Site Boundary
- ▭ 1km search radius
- HER Monument Points
- HER Monument Lines
- ▭ HER Monument Polygons



Scale at A3: 1:11,000
0 350m

Figure 3:
Non-Designated
Heritage Assets



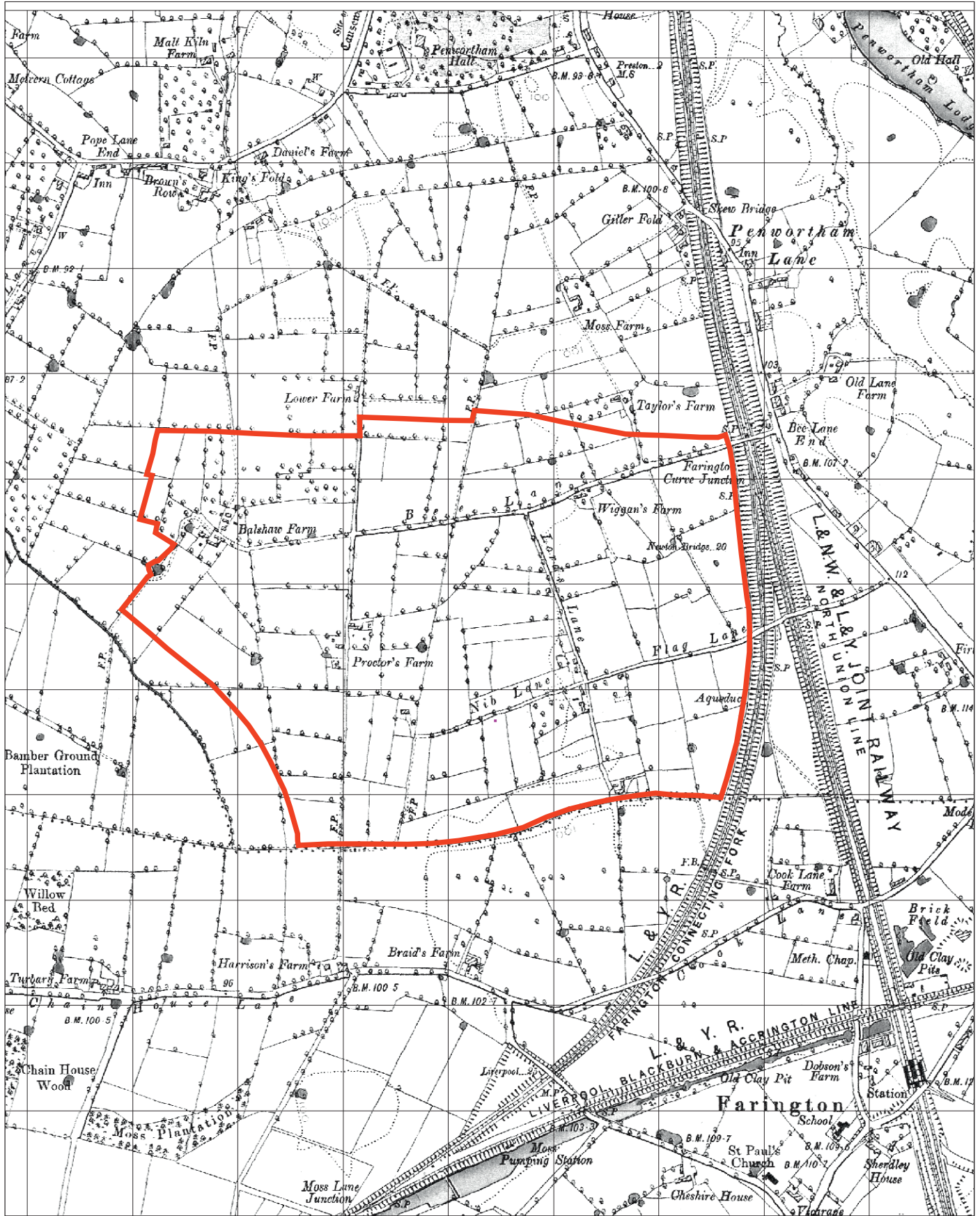
Legend

 Site Boundary



Not to Scale:
Illustrative Only

Figure 4:
1848 Ordnance Survey
Map



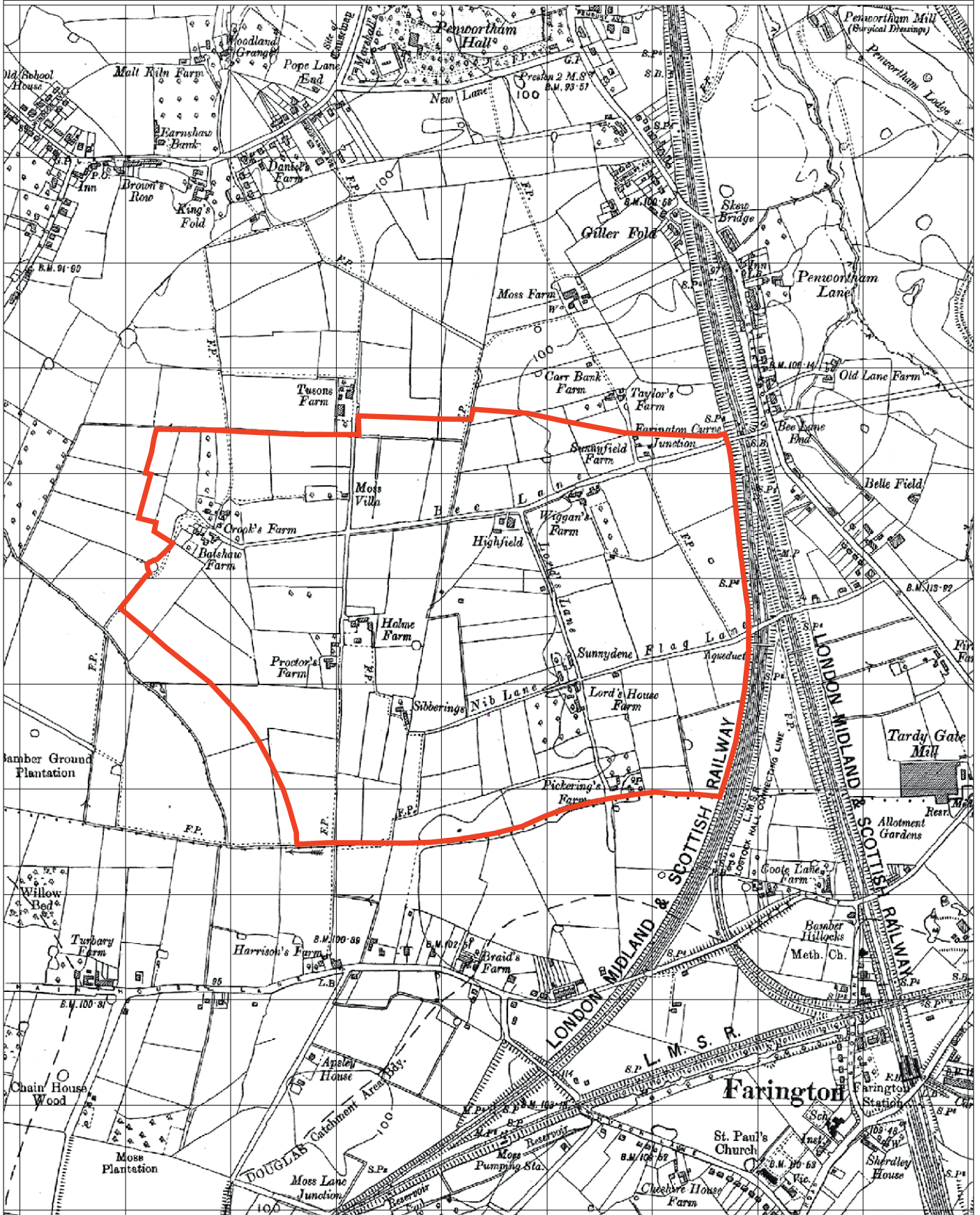
Legend

— Site Boundary



Not to Scale:
Illustrative Only

Figure 5:
1894 Ordnance Survey
Map



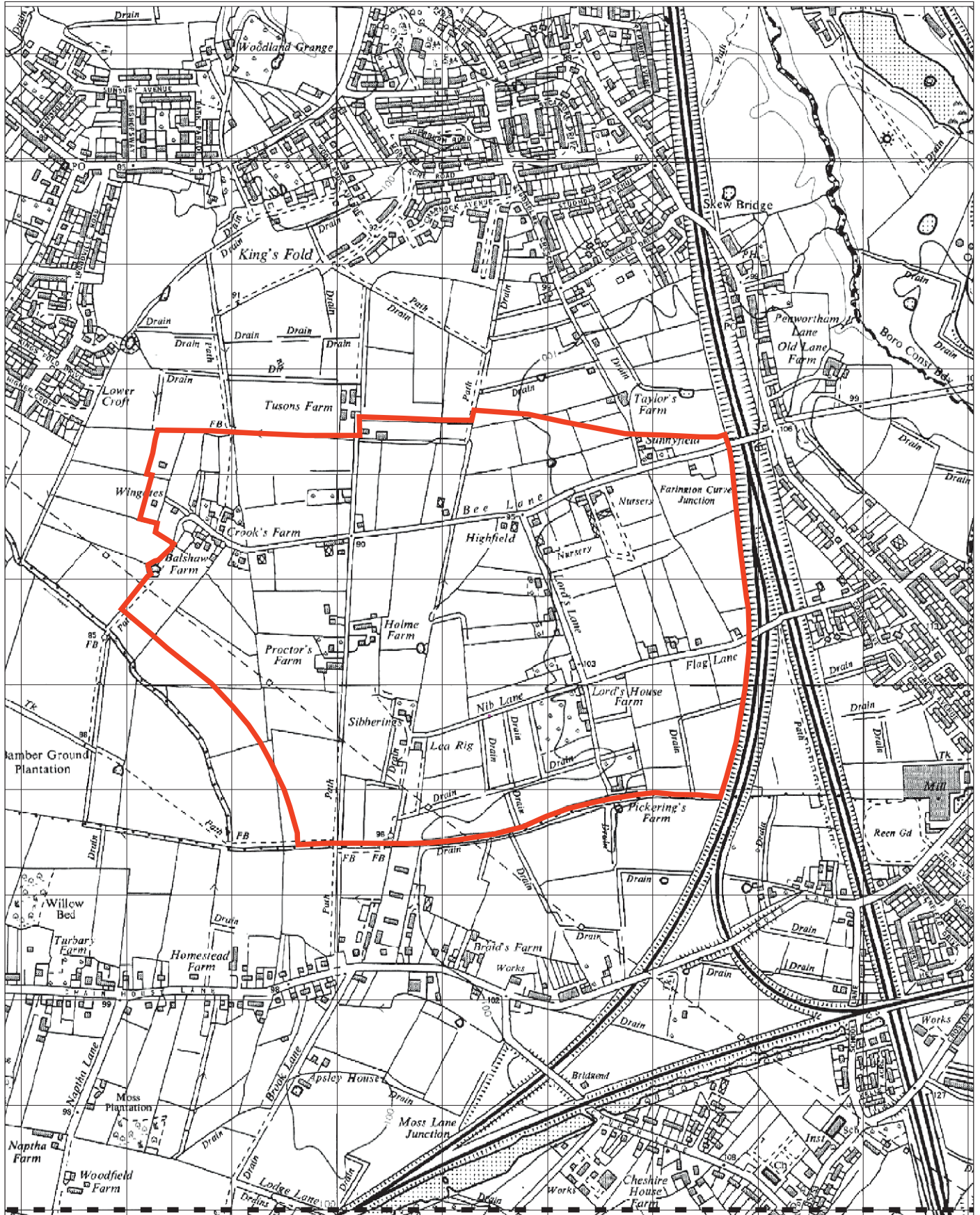
Legend

— Site Boundary



Not to Scale:
Illustrative Only

Figure 6:
1931 Ordnance Survey
Map



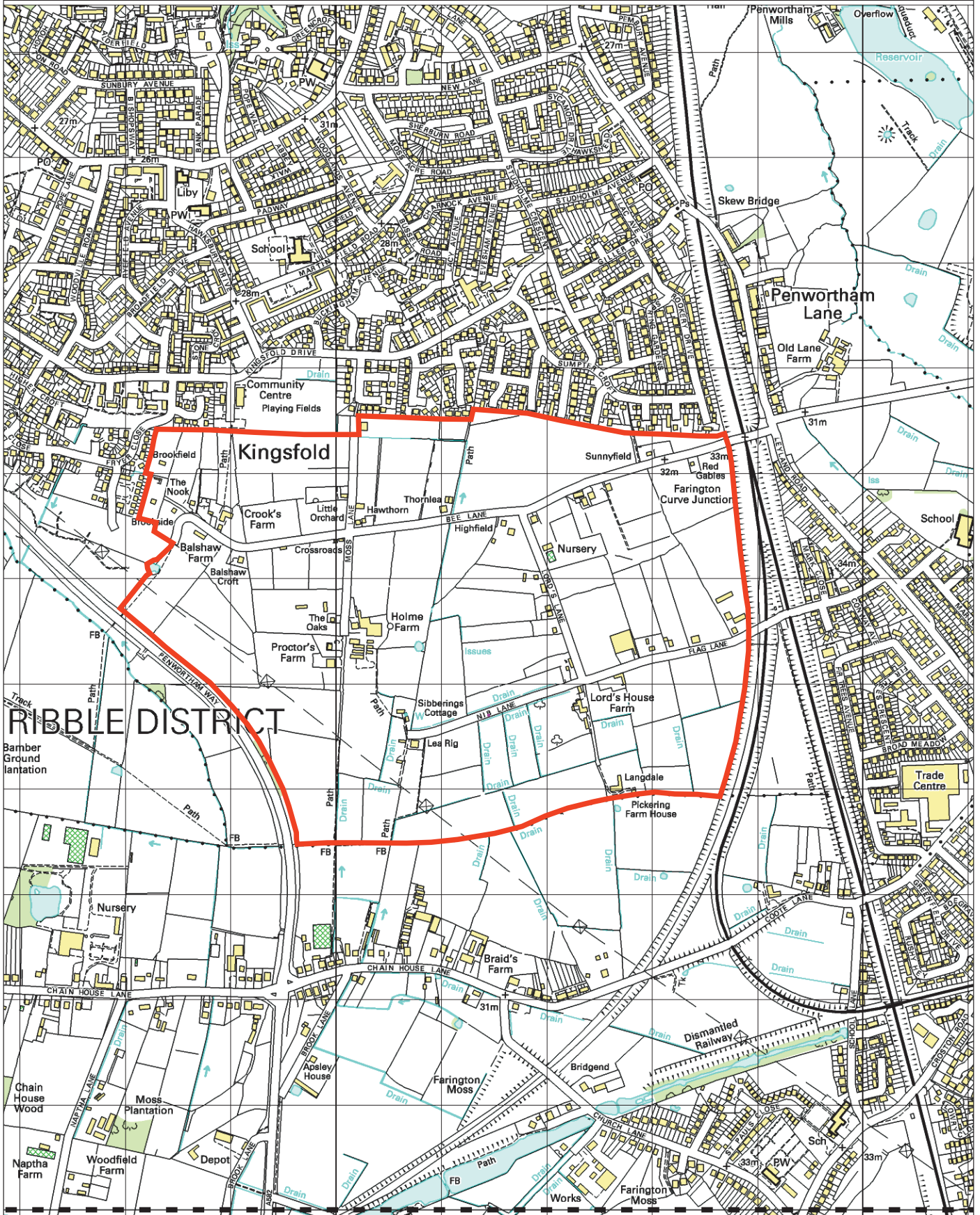
Legend

— Site Boundary



Not to Scale:
Illustrative Only

Figure 7:
1967-1969 Ordnance
Survey Map



Legend

— Site Boundary



Not to Scale:
Illustrative Only

Figure 8:
2001 Ordnance Survey
Map



Site Boundary

LIDAR DATA

Source: Environment Agency

Data Type: DSM

Resolution: 2m

Date Captured: Nov 2004

Processing: simple Local Relief Model overlaid on Multi-direction Hillshade



Scale at A3: 1:5,000
0 120m

Figure 9:
LiDAR Data Plot





Plate 1: North-western corner of the study site, looking south



Plate 2: Western portion of the study site, looking west



Plate 3: Central portion of the study site, looking east



Plate 4: Southern portion of the study site, looking south



Plate 5: South-eastern portion of the study site, looking southwest



Plate 6: Balshaw Farm, looking east from Bee Lane



Plate 7: Crook's Farm, looking northeast from Bee Lane



Plate 8: Holme Farm, looking southeast from Moss Lane



Plate 9: Proctor's Farm, looking northwest from Moss Lane

APPENDIX A: Heritage Asset Gazetteer

ID No.	Name	Summary Description
PRN1451	Riding House, Walton-le-Dale	Site of house, 1662 but possibly C14, now demolished.
PRN1537	Leigh House Farm, Penwortham Lane	Aerial photograph showing earthworks
PRN20043	Leigh Brow Farm, Hennel Lane, Preston	Two small ditches now covered by housing
PRN20044	Leigh Brow Farm, Hennel Lane, Preston	Earthwork, two small ditches
PRN20045	Leigh Brow Farm, Hennel Lane, Preston	Circular cropmark, undated.
PRN20046	Leigh Brow Farm, Hennel Lane, Preston	Ridge and Furrow earthwork
PRN20047	Leigh Brow Farm, Hennel Lane, Preston	Linear Earthwork
PRN20048	Leigh Brow Farm, Hennel Lane, Preston	Disused Railway
PRN20049	Leigh Brow Farm, Hennel Lane, Preston	Circular Cropmark
PRN20050	Leigh Brow Farm, Hennel Lane, Preston	Field named Outlet
PRN35169	Tardy Gate Mill, Lostock Hall	Cotton weaving mill built in 1908, production ceased in the late 1970s; mill still extant.
PRN36825	Penwortham Cop Lane Halt	Railway station, opened in 1911 and closed in 1964; no longer extant.
PRN36826	Lostock Hall Railway Station and Motive Power Depot, Watkin Lane (off), Lostock Hall	Opened in 1846, the depot was one of the last (with Carnforth and Rose Grove) to operate steam locomotives for British Rail. The station has since been moved from the west to the east side of Watkin Lane and the adjacent motive power depot demolished.
PRN36827	Farington Station, Croston Road (off), Lostock Hall	Opened in 1838 and closed in 1960, no longer extant.
PRN37859	St Paul's C of E Primary School, Croston Road, Farington	Original part of the school is shown on OS 1893 1:2,500 mapping.
PRN39167	Lostock Hall Gasholder Station, Bamber Bridge	Two gasholders, dating to 1928 and 1952, were surveyed prior to their demolition.
PRN39374	Bank Top, Broad Oak Lane, Hutton	Cottages and gardens, pre-1839. Appears to have been converted or rebuilt into a single house pre-1893.
PRN39375	Golden Way roundabout, Penwortham	Building, perhaps a house, shown on 1893 mapping, possibly replacing an earlier 'squatter cottage'. Since demolished and site now part of road system.
PRN39376	136 Broad Oak Lane, Penwortham	Building, probably a small farmstead, pre-1840. Since demolished and site redeveloped.
PRN39381	Spring Gardens, Pope Lane, Penwortham	Site of houses, pre-1848. Since demolished and site redeveloped.
PRN39382	Lindle Lane, Hutton	Site of house or small farmstead, pre-1848. Since demolished and site redeveloped.
PRN39383	Opposite Nutters Platt Farm, Pope Lane, Hutton	Building shown on OS 1:10,560 mapping of 1848. Lost after 1931.

PRN39384	Pope Lane, Penwortham	Building shown on OS 1:10,560 mapping of 1848. May be associated with an orchard to the east and south. The building and orchard have since been lost but whilst the orchard has been built over the building site appears to be clear.
PRN39385	133 Pope Lane, Penwortham	Building shown on OS 1:10,560 mapping of 1848. Perhaps a small farmstead. Since converted to three dwellings.
PRN39386	125 Pope Lane, Penwortham	Building shown on OS 1:10,560 mapping of 1848, probably a row of cottages. Since lost and site redeveloped.
PRN39387	Plough Inn, Pope Lane, Penwortham	Building shown on OS 1:10,560 mapping of 1848. Named as the Plough Inn in 1893. Lost after 1948 and a new pub of the same name erected.
PRN39388	Black Bull Inn, Pope Lane, Penwortham	Inn shown on 1848 mapping; still extant.
PRN39389	85-89 Pope Lane, Penwortham	A smithy is named on the 1848 and 1893 OS mapping.
PRN39390	76 Pope Lane, Penwortham	House shown on OS 1848 mapping.
PRN39391	84 Pope Lane, Penwortham	Buildings, perhaps a farmstead, shown on OS 1848 mapping. Site since demolished.
PRN39392	236-238 Cop Lane, Penwortham	Pair of houses shown on OS 1848 and 1893 mapping. Site redeveloped before 1931.
PRN39393	Pope Lane, Hutton	Building, perhaps a farmstead or barn, shown on OS 1848 mapping. Replaced by a row of three houses pre-1893. Site since demolished.
PRN39394	Netherside and The Fields, Green Lane, Hutton	Three houses shown on OS 1848 mapping. Site since redeveloped for two detached houses.
PRN39395	Balshaw Farm and Crook's Farm, Bee Lane, Kingsfold, Penwortham	Farmstead shown on OS 1848 mapping, since altered and divided.
PRN39396	Proctor's Farm, Moss Lane, Kingsfold, Penwortham	Farmstead shown on OS 1848 mapping. Farmhouse since demolished and rebuilt and adjacent barn converted to dwelling.
PRN39397	Holme Farm, Moss Lane, Kingsfold, Penwortham	Farmstead shown on OS 1848 mapping. Much extended.
PRN39398	Harrison's Farm, Chain House Lane, Farington	Farmstead shown on OS 1848 mapping. Since lost and site occupied by houses.
PRN40122	Marshalls Brow, Penwortham	Site of Ancient Causeway noted on OS 1848 and 1893 mapping
PRN3904	Upper Farm, Middleforth Green	Nine enclosures seen on aerial photos.
PRN6667	Penwortham School, Pope Lane End, Kingsfold	School shown on OS first edition map, 1848.
PRN6668	Malt Kiln, near Pope Lane, Penwortham	Shown on OS first edition map, 1848, now part of Woodland Grange Cottage?
PRN6671	Pear Tree Brow, Penwortham	Wesleyan chapel shown on OS first edition 1:10,560 map, 1848. The building is possibly still extant.

PRN6673	Walton Factory (also Penwortham Mill or Penwortham Factory), Factory Lane, Walton-le-Dale	Site of a water-powered cotton spinning mill, built pre-1791; steam power added later, most of the surviving buildings appear to be late C19-C20 in date.
PRN6675	South of Walton Factory, Factory Lane, Walton-le-Dale	A large millpond with an island is shown on the OS first edition 1:10,560 map, 1848. It presumably serviced the adjacent Walton Factory site.
PRN6676	Leigh House and Leigh Brow Farms, Hennel Lane, Walton-le-Dale	Two farmsteads, pre-1786.
PRN6678	Blue Anchor Inn, Croston Road, Farington	Tannery and Inn shown on OS first edition 1:10,560 map, 1848. Only the inn survives as the Anchor Inn.
PRN6679	Ingle Nook and Chapel House (formerly Farington School), School Lane, Farington	The school was built in 1812 and used as such until 1880, it was used as a Methodist chapel from 1884-1905. In 1905 it became a private house and was divided into two in 1970.
PRN6680	Church of St Paul, Church Lane, Farington	Church, 1839, by Edmund Sharpe; chancel 1909. North west tower and nave in simple Romanesque style, C20 gothic chancel.
PRN6681	Rawstorne House, Pope Lane, Hutton	Parish workhouse, built in 1827, now a house. Building has been used as farmhouse, and rear wall altered as barn entrance. Shown as a farm on OS 1893 25 inch map.
PRN9006	Nutters Platt Farmhouse, Lindle Lane, Hutton	Farmhouse, dated 1653. Farmstead extant in 1848 and redeveloped before 1893.
PRN9077	Middleforth Hall, Factory Lane, Penwortham	Early C18 farmhouse.
PRN9082	Penwortham Hall and Lodge, Park Lane	House, 1801, with early C19 addition (known as Penwortham Lodge). Service block and area of parkland shown surrounding on OS 1848 mapping.
PRN6669	Off Marshall's Brow, Middleforth Green	Several buildings, fish pond and parkland shown on OS first edition map, 1848. Since lost.
PRN6674	1-4 Factory Bank, Factory Lane, Walton-le-Dale	A small block of houses and a well are shown on the OS 1:10,560 mapping of 1848.
PRN39372	West Lancashire Railway	Railway, established 1882 but absorbed into the Lancashire and Yorkshire Railway in 1897. Closed in 1964.
PRN39984	Liverpool, Ormskirk and Preston Railway, later part of the Liverpool, Blackburn and Accrington Line of the Lancashire and Yorkshire Railway	Railway, opened 1849.
PRN6696	Lancaster Canal Tramroad	Tram road, completed 1799, was built by John Rennie and William Cartwright to connect the northern and southern sections of the Lancaster Canal. The trains of eight or nine wagons were drawn by horses until operation ceased in 1859.

PRN9082	Penwortham Hall and Lodge, Park Lane	House, 1801, with early C19 addition (known as Penwortham Lodge). Service block and area of parkland shown surrounding on OS 1848 mapping.
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Appendix 9.1

Landscape and Visual Methodology

APPENDIX A: PROPOSED LVIA METHODOLOGY

The methodology for undertaking the Landscape and Visual Assessment will follow the approach set out in GLVIA 3 and other 'best practice' documents as indicated below

Establishing the study area and landscape baseline

The study area should be defined, which should include the site itself and the full extent of the wider landscape which the proposed development may influence in a manner which could be considered important. This is based on a judgement of the extent of Landscape Character Areas (LCAs) likely to be significantly affected and on the extent of the area from which the development is likely to be potentially visible.

The landscape baseline desk study considers:

- Landform
- Land cover, land use and built development
- Designations
- Any identifiable special interests such as nature conservation, historical or cultural heritage associations
- Landscape character assessments (LCA). An assessment will be made as to the suitability (scale, relevance, age etc) of existing LCAs to determine if new LCA is required.
- The landscape baseline study also identifies potential landscape receptors.

Based on the landform, surrounding landscape and visual context we propose a study area of 1km from the site boundary.

The baseline description includes establishing the value of the site and the wider landscape.

"This means the relative value that is attached to different landscapes by society, bearing in mind that a landscape may be valued by different stakeholders for a whole variety of reasons. Considering value at the baseline stage will inform later judgements about the significance of effects..... A review of existing landscape designations is usually the starting point in understanding landscape value, but the value attached to undesignated landscapes also needs to be carefully considered." GLVIA 3

The value of the landscape receptors will to some degree reflect any landscape designations but these should not be used as the sole indicator of value. The range of factors that can help in the identification of value include:

- landscape quality (condition) which is a measure of the physical state of the landscape, including intactness and condition of elements (existing documents and other sources such as LANDMAP in Wales will be referred to when assessing landscape value and sensitivity);
- Scenic quality - how the landscape appeals to the senses;
- Rarity;
- Representativeness;

- Conservation interests the presence of wildlife, cultural or historic features;
- Perceptual aspects such as wildness or tranquility; and
- Associations with writers, artists, historical events etc.

Reporting on the landscape baseline

The landscape baseline should:

- map, describe and illustrate the character of the landscape, covering both the wider study area and the site and its immediate surroundings;
- Identify and describe the individual elements and aesthetic and perceptual aspects of the landscape;
- Indicate the condition of the landscape; and
- Consider what the landscape may be like in the future in the absence of the proposal

Predicting and describing landscape effects

Landscape effects derive from changes in the physical landscape, which may give rise to changes in the landscape resource. Hence appraisal of landscape effect is concerned with:

- Direct effects on specific landscape elements;
- More subtle effects on the overall pattern of elements that give rise to landscape character and local distinctiveness.

It will determine the degree to which the existing landscape will be affected both directly and indirectly by the proposed development in terms of its current value and its sensitivity to change. The capacity of the landscape to accept change of the type and scale proposed is dependent on the form of development, rather than an intrinsic attribute of the landscape.

The value of the landscape receptors is based on an assessment of landscape designations and whether the receptor is valued locally; it is not dependent on the form of the development. This is defined in the baseline.

To determine the overall importance of landscape effects the separate judgements about the sensitivity of the landscape receptors and the magnitude of the landscape effects are combined to allow a final judgement to be made about whether the effect is important.

Sensitivity is determined through judgements about the combination of the susceptibility of the receptor (ability of the receptor to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies) with the value of receptor (as defined in baseline).

Determining susceptibility requires:

- Identifying the key components that are likely to be affected by the scheme; and
- Identifying the various aspects of the proposed development, at all stages, that are likely to have an effect on those key components

The nature of landscape effects are categorised as positive, negative or neutral. Criteria used in reaching this judgment include:

- “The degree to which the proposal fits with the existing character
- The contribution to the landscape that the development may make in its own right, usually by virtue of good design, even if it is in contrast to existing character” (GLVIA 3)

Baseline information is combined with the details of the proposed change or development to identify and describe the landscape effects.

The first step is to identify the components of the landscape that are likely to be affected by the scheme (landscape receptors), such as overall character and key characteristics, individual elements or features, and specific aesthetic or perceptual aspects.

The second step is to identify interactions between the receptors and the development in its different stages (including construction, operation, decommissioning & restoration). Explain the reasons why all stages not considered (e.g short construction period, no additional impacts during construction period etc)

Landscape effects are likely to include:

- Change / loss of elements, features or aesthetic / perceptual aspects that contribute to character and distinctiveness;
- Addition of new elements or features that will influence the character and distinctiveness of the landscape;
- Combination of these changes on overall character

All effects should be described as fully as possible:

- Effects on individual components, such as loss of trees or buildings, or addition of new elements should be mapped
- Changes in landscape character or quality/condition in particular places need to be described as fully as possible and illustrated by maps and images that make clear, as accurately as possible, what is likely to happen.

Good, clear and concise description of the effects that are identified is key to helping a wide range of people understand what may happen if the proposed change or development takes place.

An informed professional judgement should be made about whether landscape effects should be categorized as positive, neutral or negative and the criteria used in reaching the judgement should be clearly stated.

Each identified effect on landscape receptors is assessed in terms of:

Size or scale

- the extent of existing landscape elements that will be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape
- the degree to which aesthetic / perceptual aspects of the landscape are altered (e.g, scale, skylines etc);

Geographical extent of the area influenced

- At the site level, it’s immediate setting, at the scale of the character area or on a larger scale (such as influencing several character areas); and

Duration and reversibility.

- Duration judged as short , medium or long term.
- Reversibility is a judgement about the likelihood and practicality of the effect being reversed (some forms of development can be considered permanent, whilst others are reversible)

This assessment informs judgments regarding the magnitude of change which is described as high, medium, low or negligible.

Judging the overall importance of landscape effects

To assess this, the separate judgements about the sensitivity of the landscape receptors and the magnitude of the landscape effects need to be combined to allow a final judgement to be made about whether each effect is important. The rationale for the overall judgement must be clear.

Importance can only be defined in relation to each development and its specific location. As a guide, major loss or irreversible negative effects over an extensive area, on elements and/or aesthetic or perceptual aspects that are key to the character of nationally valued landscapes are likely to be of the greatest importance, with reversible negative effects of short duration, over a restricted area, on elements and/or aesthetic or perceptual aspects that contribute to but are not key characteristics are likely to be of least importance.

This assessment combines judgements sequentially: susceptibility and value are combined into an assessment of sensitivity for each receptor, and size/scale, geographical extent and duration/reversibility are combined into an assessment of magnitude for each effect. Magnitude and sensitivity are then combined to assess overall importance.

Landscape mitigation proposed as part of the scheme design and the ability of this mitigation to reduce or compensate for identified adverse effects is also considered by assessing residual effects of the scheme at year 15.

The conclusions are then summarized in a table which sets out the overall profile for each receptor.

The Visual Baseline

The visual baseline establishes the area in which the proposed development may be visible, “the different groups of people who may experience views of the development, the places where they will be affected and the nature of views and visual amenity at those points” (GLVIA 3)

The visual baseline provides information on:

- Type and relative numbers of people (visual receptors) likely to be affected;
- Location, nature & characteristics of representative viewpoints;
- Location, nature & characteristics of the existing views; this will include elements such as landform or vegetation which influence the views; and
- The value attached to particular views.

The visual study area represents the area within which the views affected by the proposed development are expected to be of interest or concern.

We propose that the study area for the visual assessment is as for the landscape assessment, that is 1km

Within this study area, the approximate extent of the potential visibility of the proposed development (defined as the Zone of Theoretical Visibility or ZTV) will be identified. The ZTV will be used to identify the groups of people who may experience views of the development, the places where they will be affected, the nature of the views and the visual amenity at those points. Viewpoints will be identified and selected with reference to this ZTV and any comments from Officers at the Scoping stage.

Our initial thoughts on potential visual receptor representative viewpoint selection for officer comment are listed below and shown on the attached plan (NB the ZTV for the development has not yet determined so not all views suggested may be relevant) and accompanying schedule:

Residents within the site

Residents in locations immediately north, south, east and west of the site (grouped)

Users of the network of footpaths and bridleways

Users of the Local Road network

Users of the railway network

Visitors to Kingsfold Community Centre and open space

Heritage Assets including Nutters Platt Farmhouse and Rawstone House on Pope Lane

Visual effects

Visual effects relate to the changes that arise in the composition of available views as a result of changes to the landscape elements of the site. Therefore the appraisal of the visual effect will be concerned with the impact of the development on views of the site, and the sensitivity of viewers who may be affected by these changes.

Visual receptors are people and their sensitivity 'should be assessed in terms of both their susceptibility to change in views and visual amenity and also the value attached to particular views'.

The susceptibility of the visual receptor to the proposed change is a function of:

- 'the occupation or activity of people experiencing the view at particular locations; and
- the extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations' (GLVIA 3)
- Those visual receptors most likely to be more susceptible to change include:
- Residents at home;
- People engaged in outdoor recreation whose interest is likely to be focused on the landscape;
- Visitors to identified viewing places or heritage assets where the surrounding landscape makes an important contribution to the experience; and
- Communities where views contribute to the landscape setting

Travellers on transport routes and people involved with outdoor recreation which does not involve an appreciation of the landscape are considered to have less susceptibility to change.

Value attached to views

Judgements should also be made about the value attached to the views experienced. This should take account of:

- Recognition of the value attached to particular views, for example in relation to heritage assets, or through planning designations;
- Indicators of the value attached to views by visitors (for example through appearances in guidebooks / tourist maps), provision of facilities for their enjoyment and references to them in literature or art' (GLVIA 3)

Magnitude of visual effects

The assessment will determine the magnitude of change in the view based on the following considerations.

Size or scale

- The scale of the change in the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the proposed development;
- The degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line, height colour and/or texture
- The nature of the view of the proposed development, in terms of the relative amount of time over which it will be experienced and whether views will be full, partial or glimpsed, the proportion of the view that would be occupied by the development, whether the development would be the focal point or one element of the view.

Geographical extent

The geographical extent of a view is likely to reflect:

- the angle of view,
- the distance of the viewpoint from the development,
- the extent of the area over which the changes would be visible

Duration and reversibility

Categories should be used (short, medium, long term) with their meaning clearly stated and reversibility is a judgement about the prospects and practicality of effect reversal.

This assessment informs judgments regarding the magnitude of change which is described as high, medium, low or negligible.

For each representative viewpoint a narrative description, which explains the rationale for the conclusions reached regarding the importance of the effects on the visual receptors, is provided.

Judging the overall importance of landscape effects

To draw final conclusions about importance the separate judgements about the sensitivity of the visual receptors and the magnitude of the visual effects need to be combined, to allow a final judgement about

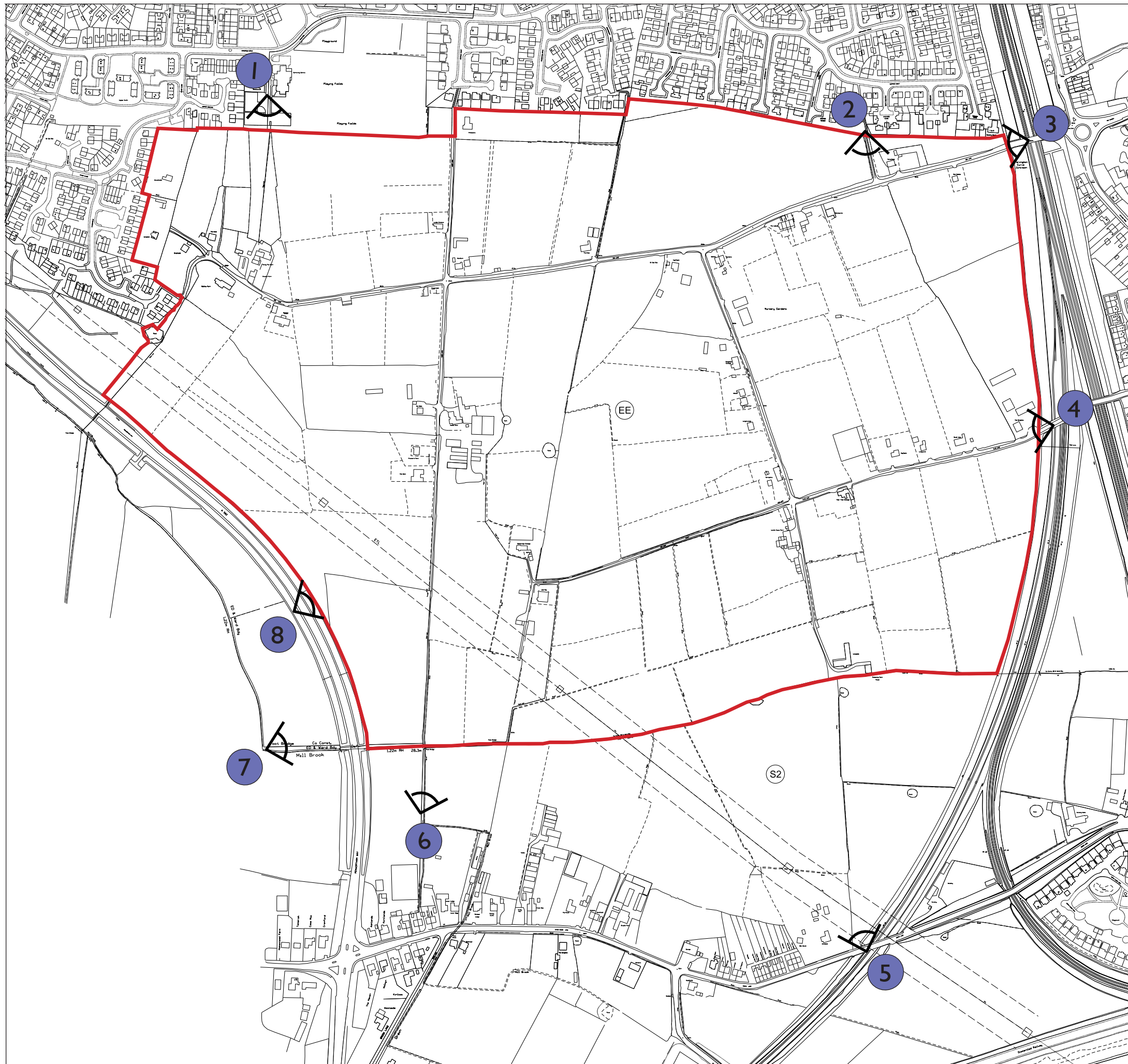
whether each effect is important or not.

Judgements are sequentially combined into assessments of sensitivity for each receptor and magnitude for each effect. Sensitivity and magnitude can then be combined to assess overall importance.

We propose to illustrate the potential visual effects of the development using our standard 'viewpoint assessment' sheets (which give information on the VP location, a written description of the existing view and a written description of predicted changes to the view and an assessment of view value, sensitivity, magnitude of effect and effect significance), an example of which is attached. A proposed Viewpoint Locations plan indicating representative views is also provided.

Appendix 9.2

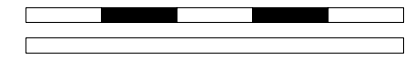
Landscape and Visual Viewpoint Location



KEY:

- Site Boundary
- Proposed Viewpoint & Number

0m 100m 200m 300m 400m 500m



SCALE 1:5,000 @ A3

REV	DATE	DESCRIPTION	DRAWN BY	APPRVD BY
A	181112	Red line amended	DB	XQ
-	181107	First Issue	DB	XQ

DRAFT FOR SCOPING

PROJECT
PICKERINGS FARM, PENWORTHAM
 DRAWING TITLE
LVIA - PROPOSED VIEWPOINTS

CLIENT	DATE	REVISION
TW/HE	Nov 2018	A

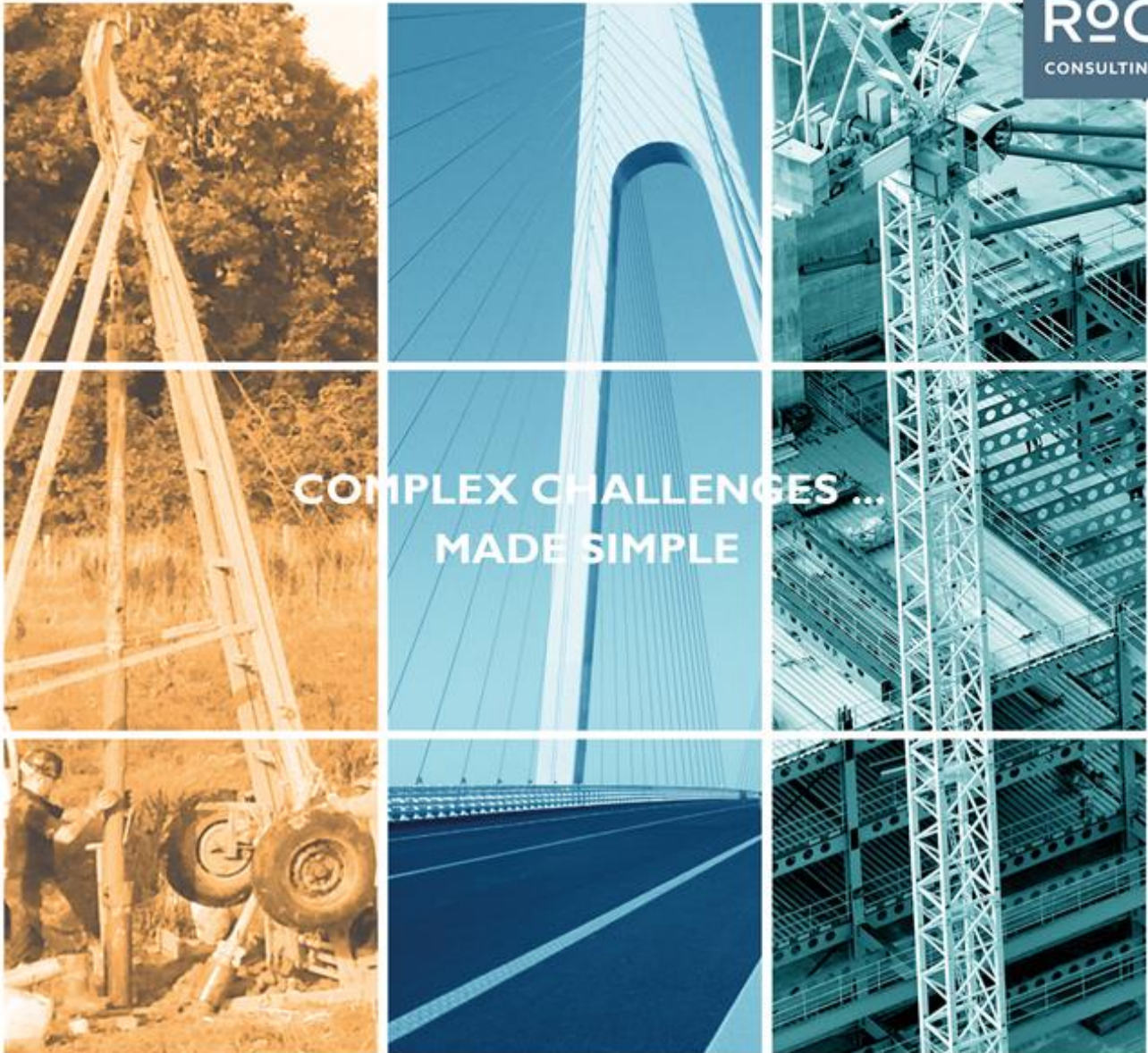
DRAWING NUMBER	DESIGN	CHECKED	APPROVED
755_SK01	DB	XQ	XQ

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Appendix 10.1

Phase 1 Geo-Environmental Report



**COMPLEX CHALLENGES ...
MADE SIMPLE**

Phase I Desktop Study

Pickering's Farm, Penwortham
for



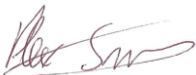
Taylor Wimpey & Homes England

September 2018

Phase I Desktop Study

on

Pickering's Farm, Penwortham

DESCRIPTION		DATE	AUTHOR	REVIEWED BY	APPROVED BY
Phase I Desktop Study Report DRAFT		06/09/18	Mabel Newby 	Liam Daley 	Alex Smiles 
REVISION	DESCRIPTION	DATE	AUTHOR	APPROVED BY	





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1.0 INTRODUCTION

1.1 Background

- 1.1.1 R^oC Consulting have been appointed by Taylor Wimpey & Homes England to conduct a Phase I Desktop Study and site walkover across Pickering's Farm, Penwortham (the site). It is understood that the site is to be redeveloped for mixed uses including low rise residential housing, apartment blocks, educational and health care facilities, recreational areas and retail led end uses with the incorporation of a new link road across the site.
- 1.1.2 The purpose of this desk-based study is to provide a preliminary assessment of the site relating to current and historic operations to establish baseline geo-environmental and geotechnical conditions. This report presents a factual account and highlights the more pertinent points with interpretation relating to potential sources of soil or groundwater contamination that may be present within site soils.
- 1.1.3 The information obtained during this assessment has also been used to collate a Preliminary Conceptual Site model for the proposed development to assist with the estimation of risks arising from contaminated land related concerns. Where required, this model will form the basis for future Phase 2 Intrusive Site Investigation works to further refine (and mitigate against) risks posed to future site users.
- 1.1.4 The scope of the current assessment encompasses the current proposed development site as indicated on the enclosed 5plus architects plan ref: 05745_MP_00_0000 (a copy of which is included within Appendix A). In addition, the scope of the assessment has been extended to include an area of land safeguarded for future residential development to the south (bounding Coote Lane / Chain House Lane). For the purposes of our assessment "the site" comprises both these parcels of land.

1.2 Terms of Reference

- 1.2.1 The desk-based environmental assessment was carried out following receipt of an instruction from Stefan Heaton of Stone Ltd.



1.3 Objectives

1.3.1 The objectives of the desk-based study were:

- To characterise the environmental setting of the site, including the geology, hydrogeology and hydrology of the site and surrounding areas from published data
- To identify (where possible) potential sources of ground, groundwater or surface water contamination and / or soil gas (hazardous materials) arising from past and / or current activities at the site and / or neighbouring properties
- To formulate a Preliminary Conceptual Site model and assess the risks posed to identified receptors soil and / or groundwater contamination or ground gas ingress
- As required, provide an initial indication of any intrusive site investigation works or remedial works required to ensure the sites safe redevelopment
- To undertake a preliminary geotechnical assessment of site conditions to identify potential abnormal items that may arise as a result of the site redevelopment

1.4 Scope of Work

1.4.1 The overall scope of work comprised reference to a Landmark 'Envirocheck' report as well as other published sources, and includes:

- Review of published geological, hydrogeological and hydrological information to establish environmental sensitivities at the site and within the surrounding environment
- Completion of a site walkover survey to establish present day site setting and conditions
- Review of historical map information to identify previous usage of the site and its immediate surroundings and search of a commercial environmental database, to identify potential sources of land contamination and potential environmental impacts
- Preparation of a report, outlining the findings and recommendations, including requirements for any further work considered necessary in order to better quantify any environmental hazards identified, and taking account of the site's current status

I.5 Limitations of Study Assessment

- I.5.1 The comments made in this report are based on the data available at the time of its completion. Any unusual or conflicting evidence discovered during any future site works must be presented to R^oC Consulting as soon as possible so that any implications may be considered.
- I.5.2 Additional information, changes in legislation or revised practices may necessitate re-interpretation of part or all of this report. Additionally, site redevelopment and/or a change in end use will require reinterpretation of the assessment.
- I.5.3 The accuracy of the data supplied by third parties should be considered in the context of any known site conditions for which R^oC Consulting cannot be held liable.
- I.5.4 It should be noted that any subsequent revision of the proposed redevelopment or site boundary away from the above-mentioned drawing may result in the full or partial re-interpretation of this report and assessment.
- I.5.5 The report has been produced by R^oC Consulting for the client solely for the purposes of a review of information for the above-mentioned site. It may not be used by any person for any other purpose other than that specified without the express written permission of R^oC Consulting. Any liability arising out of its use by a third party for purposes not wholly connected with the above shall be the responsibility of that party who shall indemnify R^oC Consulting against all claims, costs, damages and losses arising out of such use.



2.0 DESK TOP REVIEW

2.0.1 The following chapter provides an overview to most salient findings of our desk based geo-environmental assessment. This information has been used to formulate the collation of a Preliminary Conceptual Site Model (as discussed in Section 3.0) to assess the potential impacts and risks associated with geo-environmental and geotechnical concerns across the site. Supporting information and evidence has been provided within enclosed Appendices and it is recommended reference be made to these documents / plans when reviewing this report.

2.1 Sources of Information

- 2.1.1 Background information on the site was acquired from the following sources:
- Envirocheck at the Ordnance Survey
 - British Geological Survey 1" to 1 mile/1:10'000, solid & drift
 - Environment Agency Groundwater Vulnerability Map
 - Radon Atlas of England
 - Observations from site walkover survey completed on the 14th August 2018

2.2 Site Location and Description

- 2.2.1 The site is located approximately 2.6km to the south of Preston city centre and covers a total area circa. 99.7ha. Current land uses comprise predominantly agricultural land with numerous farming operations, stables and associated residential properties. The majority of the sites footprint (circa. 90%) comprises grass fields with hedgerow boundaries and drainage ditches. A number of access roads are noted running across the site, namely Bee Lane, Moss Lane, Flag Lane and Lords Lane.
- 2.2.2 The site is generally bound to the south by Coote Lane / Chain House Lane, to the west by Penwortham Way, to the east by a railway line and to the north and north west by residential housing. Topographically, the site falls from circa 33-34mAOD on the eastern extent to circa 26-27mAOD on the western extent and is relatively flat with occasional areas of undulation. An area of note includes small mound (circa. 1.0m higher than surrounding land) in the field to the rear of Proctor's Farm and The Barn.
- 2.2.3 In addition to the aforementioned drainage ditches, Mill Brook is noted in the south western corner and a number of pond features (including infilled ones) are noted across the site. An area of boggy and saturated ground was noted between fields in the western portion of the site indicative of poorly draining soils.
- 2.2.4 On site agricultural operations include 'Holme Farm Dairies' and 'Claytons Poultry Farm' and the extensive operations were indicated by the vast numbers of livestock on site. In addition, a large number of sheep were also noted across the site.

- 2.2.5 A number of fields on the north eastern and south western corners of Bee Lane and Moss Lane and the south eastern corner of Flag Lane and Lords Lane were noted to have restricted access as they comprised stables with segregated fields containing horses and donkeys. In addition to the livestock and horses, a number of crop fields were noted along Bee Lane.
- 2.2.6 A sizeable overhead power line is noted running across the site from the north western boundary to the south eastern corner with associated pylons noted in a number of fields across the site. In addition, numerous smaller scale overhead power lines and below ground utilities are noted running in areas of access roads.
- 2.2.7 Potentially contaminative activities noted on site include: an auto repair garage to the north of Bee Lane noted as 'Peter Hambilton Motor Engineer', 'Coote Lane Garage' on the sites southern boundary involving vehicles including HGVs and those carrying fuel oils was noted, and the aforementioned agricultural operations.
- 2.2.8 Other features of note on site include two semi-dilapidated buildings / structures on the south western corner of Nib Lane and Lords Lane comprising a barn-like and house-like structure, an infilled pond feature on the sites north western boundary and evidence of infilled ground around access gates to fields.
- 2.2.9 A selection of photographs showing the site at the time of inspection have been provided within Appendix A. In addition, features of note and site constraints are noted on RoC drawing no. CON101 and CON102 provided in Appendix A.



2.3 Site History

2.3.1 The site history has been compiled by reference to historical Ordnance Survey maps obtained from Envirocheck presented in Appendix B.

On site historical land uses

2.3.2 Earliest mapping records (1848) indicate that the site has remained largely undeveloped as fields or farmland with associated farmsteads until the present day.

2.3.3 Mapping records from 1912 indicate a slight increase in the number of farmsteads across the site and the introduction of a drainage channel running across the site from east to west associated with an off-site mill building.

2.3.4 Residential housing development comprising both terraced and detached houses / farmsteads is noted on the southern site boundary from 1931 mapping records.

Adjacent historical land uses

2.3.5 Earliest mapping records (1848) indicate adjacent land use to comprise predominantly fields / farmland with railway lines along the sites north eastern boundary (Lancashire & North West and Lancashire & Yorkshire Joint Railway) and 180m to the south of the site (Lancashire & Yorkshire Railway). Mapping records from 1894 indicate the expansion of the railway line to the north east to comprise an additional trackway bounding the sites eastern border (indicated as Farington Connecting Fork).

2.3.6 Following the construction of the railway line, the town of Farington to the east of the site becomes more industrially focused with a clay pit and brick yard noted circa 280m to the south east (1894), Anchor Rubber Works noted approximately 265m to the east (1912) and Tardy Gate Mill noted circa 400m to the east (1912) with the aforementioned drainage channel crossing the site.

2.3.7 Residential housing begins to appear from 1931 to the north west and south west of the site with the disappearance adjacent of brick yards, clay pits and rubber works. Substantial residential housing is noted by 1975 to the north of the site in the same configuration as present day.

2.3.8 Mapping records from 1931 also indicate the construction of a gas works approximately 930m to the north east of the site with additional gas holders noted from 1955. The gas works remains on historical mapping records until 2004, where it disappears along with Tardy Gate Mill. The construction of Penwortham Way along the sites western boundary is noted from 1990 mapping records.

2.4 Geology

2.4.1 Review of BGS geological map records (Sheet 75) indicate the site is underlain by the following:

Drift Geology: Till, Devensian – Diamicton

Solid Geology: Singleton Mudstone Member – Mudstone

2.4.2 The Envirocheck report (Appendix C) indicates that the site is not located in an area which may be affected by historic Coal Mining or Brine extraction and a Coal Authority report is not required.

2.4.3 A search has also been completed using the BGS Borehole Scans facility to establish what (if any) historic site investigation or borehole data may be available for the development. There are 39 historic boreholes noted on site which were completed for Central Lancashire Development Corporation in June 1981.

2.4.4 Ground conditions encountered comprised generally topsoil ranging to depths between 0.3m and 0.6mbgl overlying glacial clay deposits extending beyond the termination depth of boreholes (6.0 – 6.6mbgl). An overview to borehole information and their approximate locations are indicated on RoC drawing no. CON101 and CON102.

2.4.5 There are no geological faults or features indicated within 500m of the site.

2.4.6 According to the environmental database search, the site is in an area where radon protection measures are not necessary in the construction of new dwelling or extensions.

2.5 Agency and Hydrological

- 2.5.1 The Envirocheck Groundwater Vulnerability Map indicates the drift geology is classified a Secondary Undifferentiated aquifer with the underlying mudstone bedrock classed as a Secondary A Aquifer.
- 2.5.2 The site is not located within an Environment Agency Source Protection Zone. The site is not located within 250m of any sensitive water abstraction points (e.g. potable water supply well).
- 2.5.3 Numerous surface water features are noted on site in the form of drainage channels, tertiary rivers and ponds. A brook is noted crossing the site from east to west which is believed to be a tributary of 'Mill Brook'.
- 2.5.4 There are two discharge consents on site associated with the discharge of sewage (final / treated) from residential properties into the tributary of Mill Brook and the River Ribble. The status for both is 'New Consent' suggesting that both are still active.
- 2.5.5 A number of historic pollution incidents have been noted in close proximity to the site. The closest incident occurred 14m to the north east of the site and comprised spillage of oils – diesel (including agricultural) into the Lune catchment in 1995. The incident was recorded as a Category 3 – Minor Incident. Three Category 2 – Significant Incidents have been recorded within 250m of the site comprising the discharge of farm drainage (animal waste) into Tributary of Mill Brook (1992), the discharge of slurry into a brook to the rear of Chain House Lane (1999) and the discharge of an unknown pollutant into the Lostock catchment (1992). The incidents occurred 56m, 58m and 197m to the south of the site respectively.

2.6 Hazardous Substances

- 2.6.1 There are no active Control of Major Accident Hazards Sites (COMAH), Explosive Sites, Notification of Installations Handling Hazardous Substances (NIHHS), Planning Hazardous Substance Consents, Radioactive Substance or Planning Hazardous Substance Enforcements within 250m of site.

2.7 Landfill Sites and Other Waste Disposal Facilities

- 2.7.1 There are no registered or historic landfill sites and waste transfer or treatment stations within a 250m radius of the site.

2.8 Industrial Land Use

- 2.8.1 Contemporary trade directory entries indicate there are potentially contaminative activities on site. Active entries for the site include Firework Stockists, Caravans – Servicing & Repairs, Commercial Vehicle Servicing, Repairs, Parts & Accessories, Dairies and Road Haulage Services.
- 2.8.2 The nearest fuel station entry is indicated 174m to the east comprising the Penwortham Service Station on Leyland Road, the status of which is obsolete.



2.9 Ecological Setting & Invasive Plant Species

- 2.9.1 The site is not said to be located on or adjacent to an area of Greenbelt or within an area of special scientific / biological interest.
- 2.9.2 No evidence of invasive plant species was noted during the course of the site walkover survey, although, it should be noted the inspection did not comprise a detailed ecological assessment.

2.10 Former Site Investigation Information

- 2.10.1 At the time of writing no historic site investigation information was available for the site; reference has been made to geological map records and / or historical borehole information (as discussed in Section 2.4) when collating the Preliminary Conceptual Site Model.

2.11 Geotechnical Considerations

- 2.11.1 As previously noted, a number of exploratory boreholes were completed on site in June 1981. Borehole placement covers roughly 50% of the site with exploratory holes located predominantly on the sites western and southern extents with few boreholes in the central and eastern portions and no boreholes in the northern portion.
- 2.11.2 Ground conditions were found to generally comprise topsoil to depths ranging between 0.3 and 0.6mbgl overlying firm to stiff clay with localised soft areas associated with silt banding to depths in excess of 6.6mbgl. Rare horizons of fill, silt and sand were also noted. Topographically, the site is relatively flat and it is unlikely that bulk earthworks will be required for the creation of development platforms.
- 2.11.3 It is considered (based on limited historic site investigation information available for the site) the adoption of conventional foundations may be possible for a significant portion of the development, although detailed plot specific ground investigation works will be required in order to confirm this assumption. This initial opinion is based on the fact boreholes completed to date indication reasonably competent firm to stiff clays underlying topsoil material that are assumed to be the suitable founding strata; any deviation from this assumed ground model may require an alternative foundation solution
- 2.11.4 An intermediate pressure gas main is noted running across the fields to the north of Bee Lane and a culvert is noted in the same area, a development easement is likely to be required for both of these features.



2.12 Redevelopment Proposals

- 2.12.1 It is understood that the site is to be redeveloped for mixed use including low rise residential type housing, apartment blocks, educational and health care facilities, recreational areas and retail led uses with the incorporation of a new link road across the site and numerous secondary and tertiary access roads.
- 2.12.2 At the time of writing precise details of the proposed layout are yet to be confirmed.

COMPLEX CHALLENGES ... MADE SIMPLE



3.0 PRELIMINARY CONCEPTUAL SITE MODEL

3.0.1 The information obtained during the desk-based study has been reviewed to establish the Preliminary Conceptual Model for the site. This model is based around the Source / Pathway / Receptor methodology as outlined in Figure 3.0.

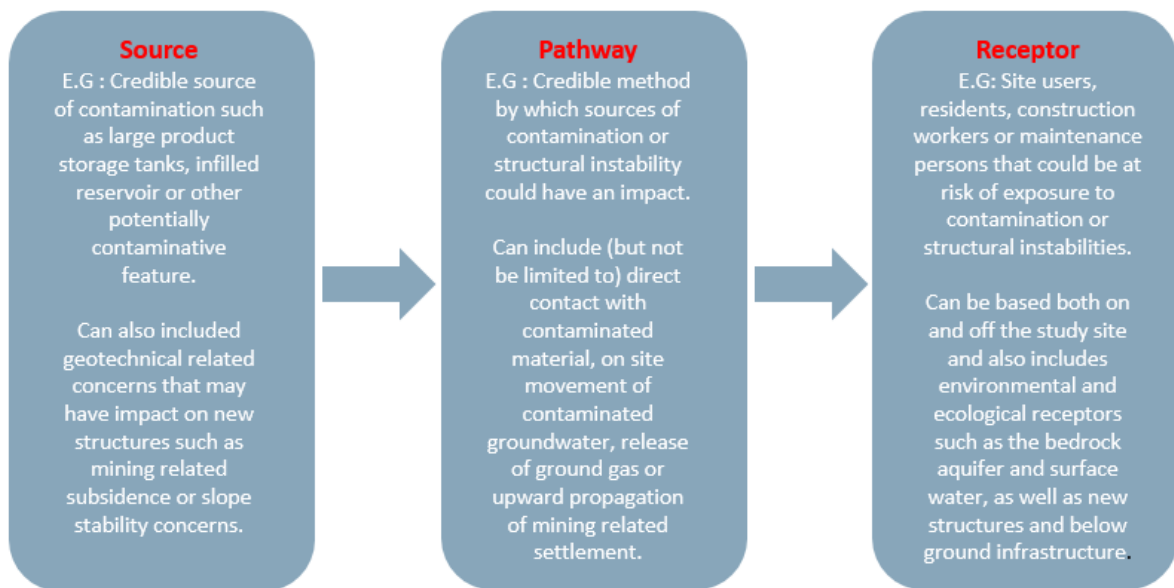


Figure 3.0 Source Pathway Receptor Diagram

- 3.0.2 Risk assessment is the process of collating known information on a hazard or set hazards in order to establish actual or potential risks to receptors. The receptor may be human health, controlled waters, a sensitive local ecosystem or even construction materials. Receptors can be connected with the hazard under consideration via one or several exposure pathways (e.g. the pathway of direct skin contact and oral exposure).
- 3.0.3 Risks are generally managed by isolating or removing the hazard, isolating the receptor, or by intercepting the exposure pathway. Without the three essential components of a source (hazard), pathway and receptor, there is deemed to be no risk. In other words, the mere presence of a hazard at a site does not mean that there will necessarily be risks.
- 3.0.4 CLEA CLR 8 provides a selection of contaminants that may be relevant for the assessment of contaminated land, based on site usage, because they are likely to be found on a large number of industrial sites in the UK and have the potential to affect human health and the environment. The CLEA CLR 8 documentation, along with other relevant guidance, forms the basis against which the site has been assessed.



Potential Sources

3.0.5 Based on the current / historical uses of the site, and the surrounding area, the following potential sources of contamination / abnormal items have been identified:

- On site hydrocarbons and PAHs associated with vehicle repair works.
- On site organic contaminants (e.g. phosphates), heavy metals and pathogens associated with dairy and poultry farms.
- On site pesticides and herbicides associated with agricultural activities and crop yielding.
- Localised On site ground gas generation associated with infilled pond and areas of infilled ground.

Potential Pathways and Receptors

3.0.6 The following potential pathways and receptors have been identified for the above potential sources of contamination:

- End users of the site (future site users) could be at risk of exposure to contaminated soils / materials at the site via ingestion, direct contact and inhalation of contaminated dust / vapours / hazardous gas.
- Construction persons could also be at risk of exposure to contaminated soils via ingestion, direct contact and inhalation of contaminated dust / vapours / hazardous gas.
- Leaching of potential contaminants into the bedrock aquifer beneath the site, on site drainage channels, culverted water courses and tertiary rivers.
- Below ground structures such as concrete foundations or water supply pipe work could be at risk of chemical attack and damage as a result of aggressive ground conditions.

Assessment of Risk –Linkages

3.0.7 Risk is normally defined by the consequences of the risk (i.e. severity) and the probability of the risk occurring. For each pollutant linkage, both the probability and severity is assessed to determine whether there may be an unacceptable risk. Risk is classified as follows:

- Low - no action required
- Medium - some mitigation measures may be required
- High - mitigation measures definitely required

3.0.8 Table 3.1 (provided overleaf) assesses and summarises the pollutant linkages that may exist at the site; the assessment has assumed that the site is to be redeveloped for mixed end uses including residential housing, educational and health care facilities and recreational and retail led end uses. The site includes both the current proposed development site and the additional land safeguarded for future development to the south.

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TABLE 3.1: PRELIMINARY CONCEPTUAL SITE MODEL		
Potential Sources		
Contamination Source	Risks Posed	Comment
Current land use	Low	<p>Agricultural land (covering a large portion of the site footprint) poses an (albeit limited) source of contamination through the use of herbicides and pesticides.</p> <p>Other potential hot spots of contamination noted are associated with site activities including dairy farming, poultry farming and vehicle repairs.</p>
Historical land use	Low	<p>On Site</p> <p>The site has remained largely undeveloped as fields or farmland until the present day. It is unlikely that historic operations on site will have had a significant impact on soil quality, though a risk remains from the use of herbicides and pesticides.</p>
	Low	<p>Off Site</p> <p>The site has been predominantly surrounded by residential dwellings and farmsteads which are not considered to have introduced a source of contamination.</p> <p>Historic industrial activity noted within 500m of the site includes clay pit, brick yard, rubber works and mill, however, given the distance from site they are considered negligible risk.</p>
Proposed land use	Low	The site is to be developed as predominantly low-rise residential dwellings and is not envisaged to impact site soils in its completed configuration.
Ground Gas	Low	Infilled pond features have the potential to generate ground gas and could pose a localised risk to future site users, however, given the size of ponds on site it is considered negligible risk.
Off-site Sources	Low	The site is predominantly surrounded by residential housing and open fields, which are unlikely to introduce any contaminant sources on site.
Potential Receptors		
Human Health – Construction Personnel		<p>Construction persons are considered to be at the greatest risk of exposure to contaminants during the sites redevelopment. A better understanding of site conditions and specifically the quality of underlying soils will be required to assist with the identification of any contamination hot spots and associated mitigation measures.</p> <p>The use of full PPE and welfare facilities will be essential during the redevelopment process.</p>



Human Health – Site Users	Future site users are considered at risk of exposure to soil and groundwater contamination (whilst using garden and landscaped areas).
Off-site properties – Adjacent Residential Housing	Considered at risk of exposure to windblown contaminants during the sites development process but unlikely to be at risk of exposure to contaminants post completion of construction works.
Controlled waters - Surface waters	A number of minor water courses and drainage ditches have been noted across the site and are potential receptors for contaminants. Mill Brook is a potential receptor as a tributary of this water course is noted on site.
Controlled waters – Bedrock Aquifer	The bedrock is classified as a Secondary Aquifer and is therefore considered relatively low risk. In addition, the site is not located within a Source Protection Zone or in close proximity to any sensitive water abstraction points.
Ecological Receptors	The site is not located in close proximity to an SSSI or area of greenbelt and ecological receptors are not considered at risk.
Below Ground Infrastructure	Below ground water supply pipe work and concrete structures are considered at risk of damage or could have their integrity compromised by aggressive chemical conditions.



TABLE 3.1: PRELIMINARY CONCEPTUAL SITE MODEL (Cont'd)

Potential Pathways		
Pathway route	Likelihood of linkage	Reason
Direct dermal contact, ingestion and inhalation of contaminated soil / dust	Low	<p>Construction Workers:</p> <p>The presence of as yet, unreported sources of contamination cannot be precluded. It is considered the risks posed to construction personnel, by sources of contamination, can be adequately mitigated against via the use of full PPE and the adoption of good hygiene and site practises.</p> <p>As required, any suspected sources of contamination discovered during the sites development should be brought to the immediate attention of RoC Consulting to enable the implications to be established and appropriate remedial recommendations made. In the event of such a discovery, the scope and findings of the current assessment will require re-assessment and revision.</p>
	Low	<p>Future site users:</p> <p>The site is predominantly undeveloped fields or farmland and is unlikely to present a risk to future site residents.</p>
Off-site receptors	Low	There is the potential for generation of dust during the construction works, it is recommended dust generation be kept to a minimum in accordance with general best practice.
Leaching of contaminated soil and impact to Aquifer beneath site	Low	There is a relatively low probability of wide spread grossly contaminated soils on site. Furthermore, impermeable clay deposits are likely to be present beneath the site overlying the bedrock aquifer which reduces the risk of contaminant migration.
Migration of contaminated groundwater into surface water features	Low	It is recommended that all construction contractors take suitable precautions during the redevelopment process to ensure the ongoing protection of surface soils / water features as the drainage channels and tertiary rivers running across the site could be in hydraulic connectivity to a primary river (e.g. River Ribble).
Below ground structures and pipe works	Low	The desk-based assessment has identified the site has a low contaminative potential and the need for protective water supply pipe work is considered unlikely. However, naturally occurring elevations of sulphate concentrations may be present and all below ground concrete structures should be designed with reference to site specific soil chemical testing information.
Ground Gas	Low	Infilled pond features have the potential to generate ground gas, though the size of these are not considered substantial and the ground conditions are likely to comprise impermeable deposits to depth reducing ground gas flow. However, the ground gas regime should be characterised.

COMPLEX CHALLENGES ... MADE SIMPLE



4.0 CONCLUSIONS & RECOMMENDATIONS

4.0.1 The desk-based assessment has identified the following:

- The site has remained largely undeveloped fields and agricultural land until the present day with the exception of a few residential properties and light industrial activities (e.g. dairy farm). Numerous drainage ditches, tertiary water courses and ponds are noted across the site. A sizeable overhead power line is noted running across the site from the north western boundary to the south eastern corner with a number of pylons noted within fields on site.
- The site is bound to the north and north west by low-rise residential housing, to the south by Coote Lane / Chain House Lane, to the west by Penwortham Way and to the east by a railway line.
- BGS borehole records indicate that the site is underlain by topsoil to depths ranging between 0.3m and 0.6mbgl overlying glacial clay deposits in excess of 6.6mbgl with occasional Made Ground, silt and sand noted.
- The site is to be redeveloped as a mixed end uses development including low rise residential housing, apartment blocks, educational / health care facilities, recreational and retail end uses with an associated link road.
- Potential sources of contamination on site are generally limited to the current light industrial processes including dairy farm, poultry farm, small garages and other agricultural activity.

4.0.2 With reference to the above it is noted that, although risk is low, the site has the potential to impact on identified receptors, both during the construction process and as part of its subsequent operation as a mixed low rise residential led development.

4.0.3 As such it is recommended that a programme of site investigation works be completed to further investigate the quality and composition of site soils with respect to risks posed by sources of contamination and ground gas ingress. Consideration should also be given to establishing the foundation design parameters and sufficient geotechnical information to support new building design.



APPENDIX A - SITE PHOTOS AND DRAWINGS

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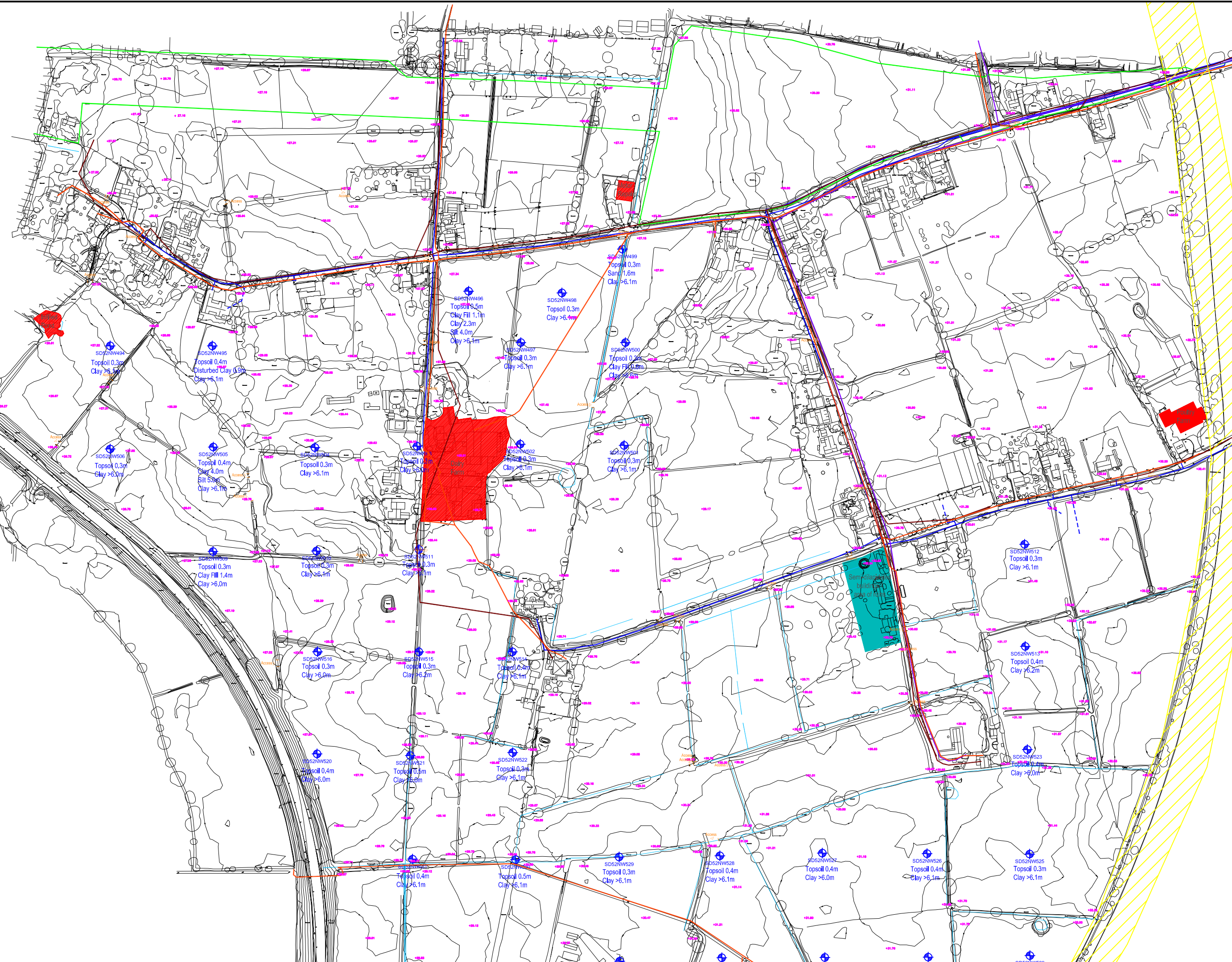
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NOTES

- OVERHEAD POWER LINE
- UTILITY - WATER
- UTILITY - ELECTRICITY
- UTILITY - GAS IP
- UTILITY - GAS LP
- UTILITY - BT
- EXISTING WATERCOURSE
- RAILWAY LINE
- AREAS OF POTENTIAL CONTAMINATION
- AREAS OF GEOTECHNICAL CONSIDERATION
- + BGS HISTORIC BOREHOLE

DRAWING NOTES

- 1) THIS DRAWING HAS BEEN COLLATED TO PROVIDE AN OVERVIEW AS TO SITE CONDITIONS, CONSTRAINTS AND CONSIDERATIONS FROM A TECHNICAL ENGINEERING PERSPECTIVE.
- 2) THE DRAWING HAS BEEN COLLATED WITH REFERENCE TO EXISTING SURVEY INFORMATION (DATED AUGUST 2018), BELOW GROUND STATUTORY UTILITY PLANS, HISTORIC SITE INVESTIGATION INFORMATION (VIA BGS ONLINE RECORD LIBRARY) AND OBSERVATIONS MADE FROM A SITE WALKOVER SURVEY COMPLETED BY ENGINEERS FROM ROC CONSULTING IN AUGUST 2018.
- 3) THE DRAWING HAS BEEN PRODUCED TO SUPPORT FUTURE DESIGN AND MASTERPLANNING REQUIREMENTS AND ALL INFORMATION CONTAINED THEREIN SHOULD BE CONSIDERED AS INDICATING AND APPROXIMATE, PARTICULARLY WITH REGARDS TO THE ALIGNMENT OF BELOW GROUND INFRASTRUCTURE AND ASSETS.
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REV.	DATE	DETAILS	DRN.	CHK.

DRAWING STATUS INFORMATION

ROC CONSULTING	Commercial Wharf 6 Commercial Street Manchester M15 4PZ T 0161 214 5390 W roconsulting.com

DRAWN	DATE	SCALES
MN	AUG 18	NTS
CHECKED	DATE	THE ABOVE SCALES APPLY WHEN PLOTTED AT A1 SIZE
AS	AUG 18	—DO NOT SCALE—
APPRVD.	DATE	EMAIL FOR DRAWINGS
AS	AUG 18	info@roconsulting.com

CLIENT
TAYLOR WIMPEY & HOMES ENGLAND

PROJECT TITLE
PICKERING'S FARM

DRAWING TITLE
SITE CONSTRAINTS PLAN 1

PROJECT No.	DRAWING No.	REV.
3861	CON101S1	1
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NOTES

- OVERHEAD POWER LINE
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- 2) THE DRAWING HAS BEEN COLLATED WITH REFERENCE TO EXISTING SURVEY INFORMATION (DATED AUGUST 2018), BELOW GROUND STATUTORY UTILITY PLANS, HISTORIC SITE INVESTIGATION INFORMATION (VIA BGS ONLINE RECORD LIBRARY) AND OBSERVATIONS MADE FROM A SITE WALKOVER SURVEY COMPLETED BY ENGINEERS FROM ROC CONSULTING IN AUGUST 2018.
- 3) THE DRAWING HAS BEEN PRODUCED TO SUPPORT FUTURE DESIGN AND MASTERPLANNING REQUIREMENTS AND ALL INFORMATION CONTAINED THEREIN SHOULD BE CONSIDERED AS INDICATING AND APPROPRIATE, PARTICULARLY WITH REGARD TO THE ALIGNMENT OF BELOW GROUND INFRASTRUCTURE AND ASSETS.
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REV.	DATE	DETAILS	DRN. / CHK.
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DRAWING STATUS INFORMATION

	Commercial Wharf 6 Commercial Street Manchester M15 4PZ T 0161 214 5390 W roconsulting.com
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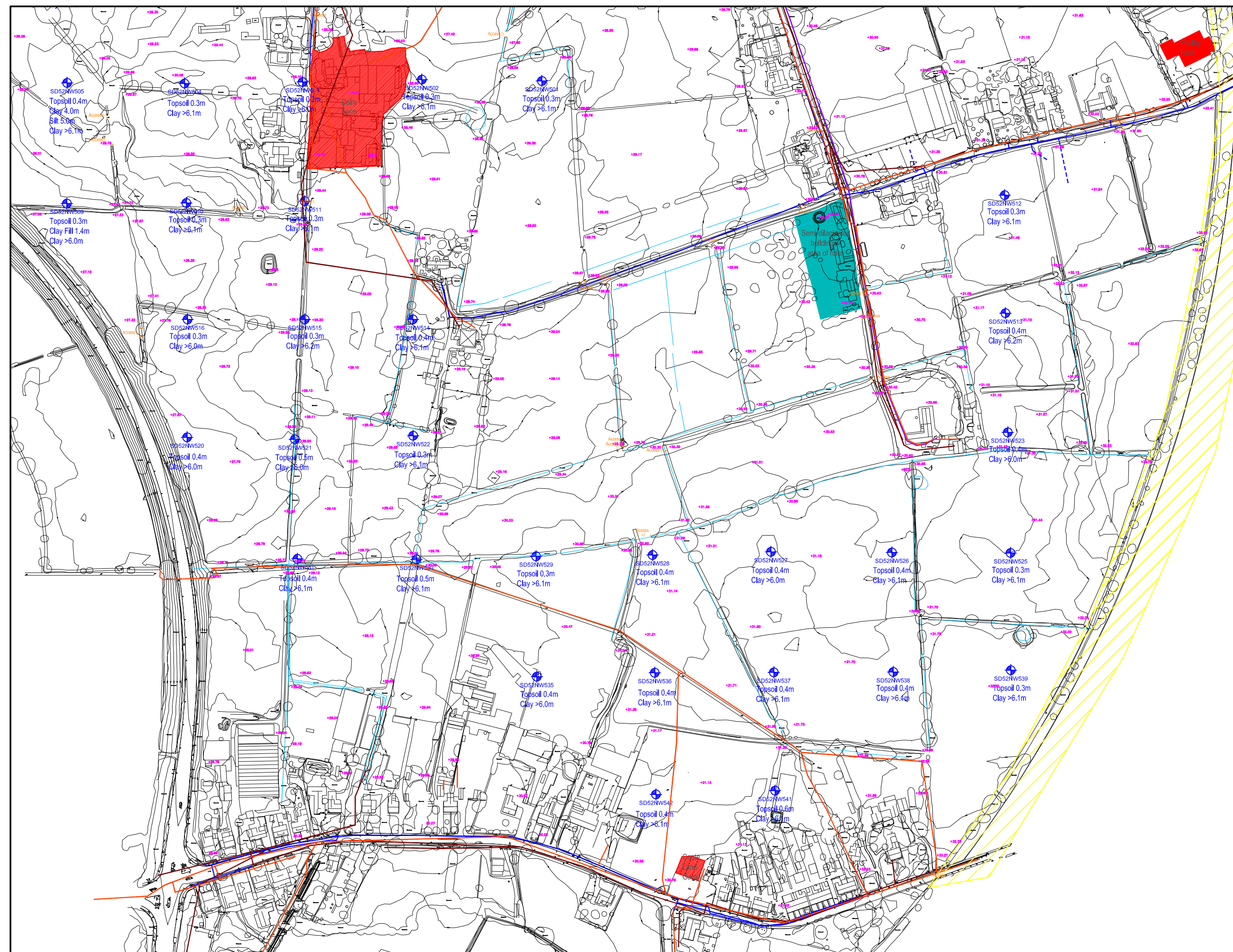
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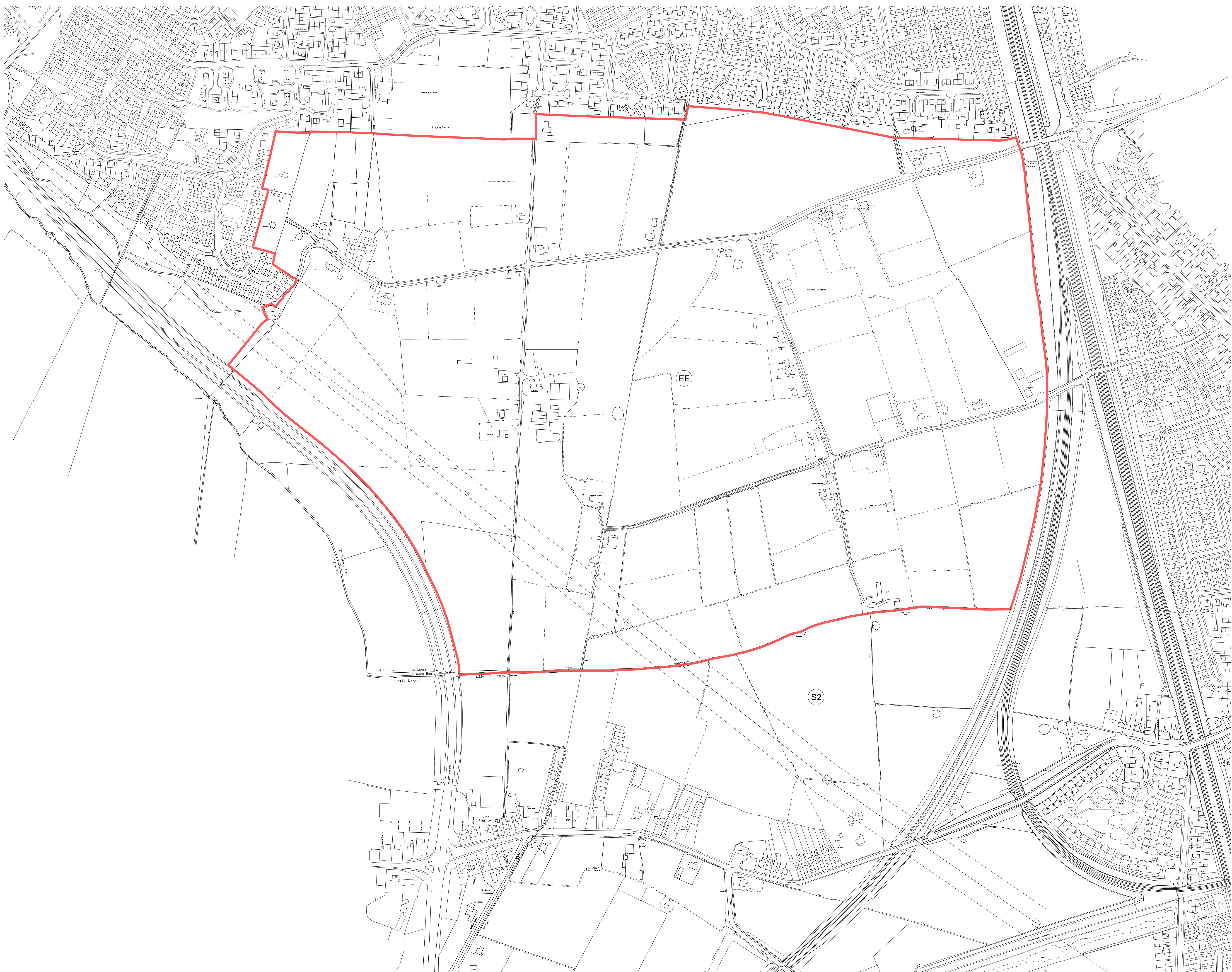
CLIENT
TAYLOR WIMPEY & HOMES ENGLAND

PROJECT TITLE
PICKERING'S FARM

DRAWING TITLE
SITE CONSTRAINTS PLAN 1

PROJECT No. 3861	DRAWING No. CON102S1	REV.
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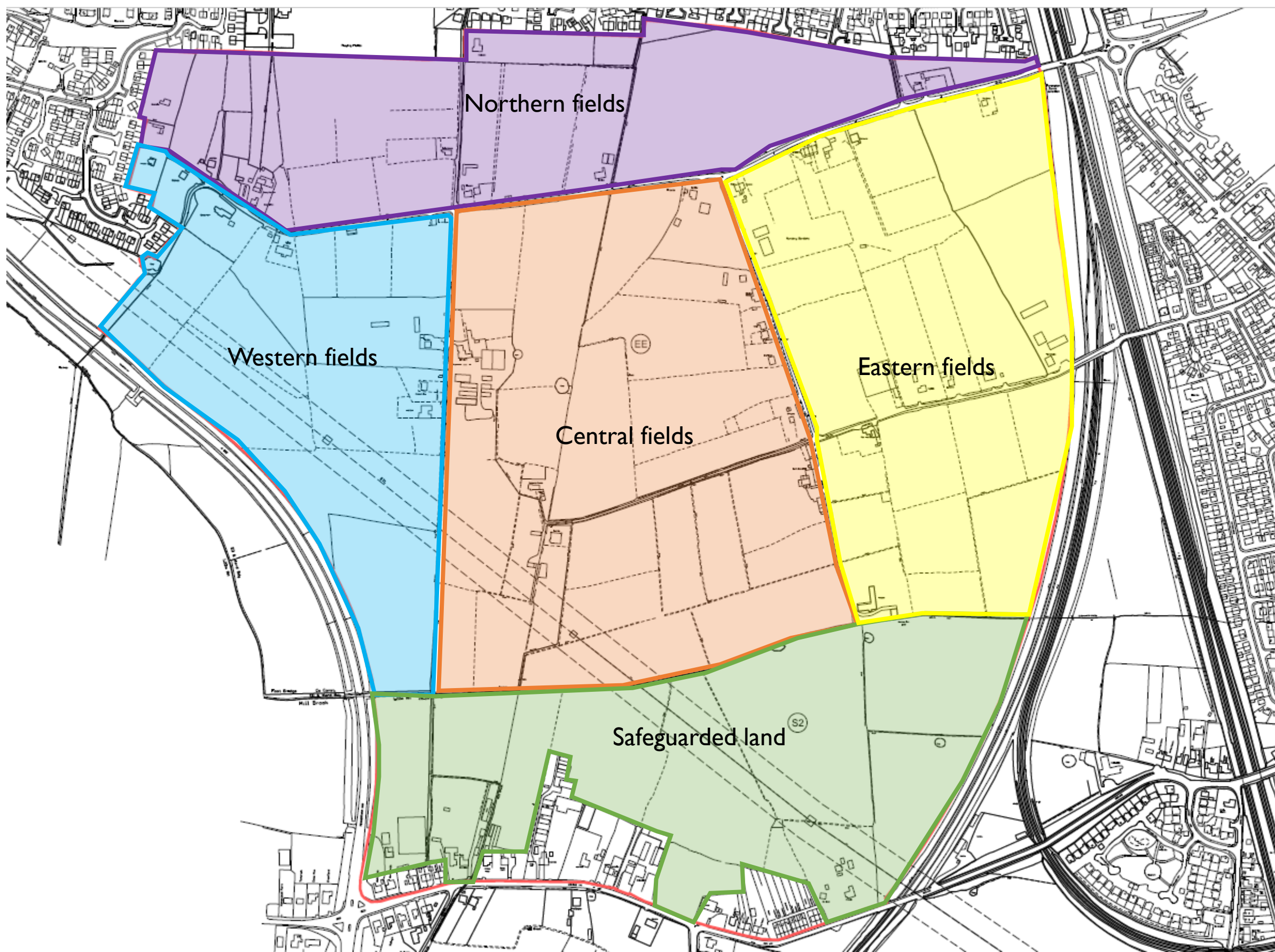
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 CONSTRUCTION - It is considered that the proposed works are within the scope of a competent Contractor and no such or unusual hazards have been identified, other to relevant Risk Evaluation/Design/Plan Assessment.

KEY PLAN:
 Application Boundary Line

REV.	DATE	DETAILS
-	21/05/18	FOR INFORMATION
A	23/05/18	FOR INFORMATION
B	10/10/18	SAFEGUARDED LAND REMOVED FROM APPLICATION BOUNDARY

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PROJECT:
Pickerings Farm
Penwortham
 TITLE:
Masterplan Red Line
 SCALE: 1:2500@A1 ORIGIN DATE: 10/10/18 DRAWN: JP CHECKED: AT
 STATUS:
For Information
 PROJECT: 05745 DRAWING NO: MP_00_0000 REV: B
 Architecture | Masterplanning | Interiors | Graphics | Branding




	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY	
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Field Subdivision		MN – 15/08/18



COMPLEX CHALLENGES ... MADE SIMPLE



	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY	
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs		MN – 15/08/18



COMPLEX CHALLENGES ... MADE SIMPLE



Photo 1: Looking south east along Bee Lane from the north west of the site



Photo 2: Looking north west into northern field on western side of Bee Lane



Photo 3: Looking north west along access road from Bee Lane to sites north western boundary



Photo 4: Looking north west towards sites north western boundary



Photo 5: Looking south from northern field on western side of Bee Lane towards 'The Nook' residential property



Photo 6: Looking south along access road from Bee Lane to western fields

	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 1 – 6	MN – 15/08/18





Photo 7: Evidence of fill material around access point to western fields



Photo 8: Looking south west towards western site boundary (Penwortham Way)



Photo 9: Evidence of infilled pond feature within western field



Photo 10: Looking south east from the western site boundary



Photo 11: Looking south east from western site boundary



Photo 12: Looking east across western fields


	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 7 – 12	MN – 15/08/18





Photo 13: Looking north west from a western field towards north western boundary



Photo 14: Saturated and boggy ground noted in a western field



Photo 15: Saturated and boggy ground noted in a western field



Photo 16: Looking towards pylon in a western field



Photo 17: Looking north from a western field towards 'Balshaw Farm' and 'Balshaw Croft' residential properties



Photo 18: Looking east from a western field towards 'Proctor's Farm' residential property


	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 13 – 18	MN – 15/08/18





Photo 19: Looking south east from western field towards central fields



Photo 20: Looking south west from western field towards sites western boundary



Photo 21: Saturated and boggy ground between two western fields



Photo 22: Looking south east along western site boundary towards most southerly western field



Photo 23: Looking south east across most southerly western field



Photo 24: Looking south east at undulating ground in a western field towards 'Proctor's Farm' residential property


	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 19 – 24	MN – 15/08/18





Photo 25: Evidence of saturated and boggy ground in a western field



Photo 26: Saturated and boggy ground in a western field



Photo 27: Looking north west across western fields towards north western site boundary



Photo 28: Looking north west across western field towards north western site boundary



Photo 29: Looking north east towards 'Balshaw Croft' residential property from western field



Photo 30: Looking north west towards access to most westerly field


	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 25 – 30	MN – 15/08/18





Photo 31: Looking north east into northern field from Bee Lane



Photo 32: Looking north in northern field towards northern site boundary



Photo 33: Looking east across northern fields




Photo 34: Looking south from northern site boundary across northern field



Photo 35: Looking north across northern field towards sites northern boundary



Photo 36: Looking east across northern fields towards Moss Lane

	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 31 – 36	MN – 15/08/18



COMPLEX CHALLENGES ... MADE SIMPLE



Photo 37: Looking west across northern fields from adjacent Moss Lane



Photo 38: Looking west across northern field towards Moss Lane & the north west of 'Little Orchard' residential property



Photo 39: Looking south east across northern fields



Photo 40: Looking south east in northern field towards intersection of Moss Lane and Bee Lane



Photo 41: Looking south from Bee Lane towards stables



Photo 42: Looking south east from Moss Lane towards central fields


	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 37 – 42	MN – 15/08/18





Photo 43: Looking south along Moss Lane



Photo 44: Looking east from Moss Lane towards 'Holme Farm Dairies'



Photo 45: Looking west into western field adjacent to the rear of 'The Oaks' residential property from Moss Lane



Photo 46: Looking north east across most north western field of the central fields from Moss Lane



Photo 47: Looking west into western field adjacent stables from Moss Lane



Photo 48: Looking east from Moss Lane across most north western field of the central fields


	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 43 – 48	MN – 15/08/18





Photo 49: Looking south east across most north western field of the central fields from intersection of Moss Lane & Bee Lane



Photo 50: Looking north from Bee Lane towards northern fields containing stables and horses



Photo 51: Looking north west from Bee Lane across northern fields containing stables and horses



Photo 52: Looking north east from Bee Lane across northern field adjacent 'Thornlea' residential property



Photo 53: Looking north from Bee Lane towards Peter Hambilton motor engineering



Photo 54: Looking south from Bee Lane across central field

	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 49 – 54	MN – 15/08/18





Photo 55: Looking south west across central field off Bee Lane



Photo 56: Looking south west across central field off Bee Lane towards 'Holme Farm Dairies'



Photo 57: Looking east across central field to the west of Lords Lane



Photo 58: Looking south east across central field to the north of Nib Lane



Photo 59: Looking east across central field to the west of Lords Lane



Photo 60: Looking west across central fields towards 'Holme Farm Dairies'


	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY	
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 55 – 60		MN – 15/08/18





Photo 61: Looking south west from Bee Lane at access point to central field



Photo 62: Looking north east across northern field off Bee Lane



Photo 63: Looking north east across most north westerly eastern field from Lords Lane



Photo 64: Looking east from Lords Lane across eastern field adjacent stables



Photo 65: Looking east from Lords Lane across eastern field



Photo 66: Looking north east from Lords Lane across eastern field


	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 61 – 66	MN – 15/08/18



Photo 67: Looking west from Lords Lane at dilapidated building



Photo 68: Looking west from Lords Lane at dilapidated building



Photo 69: Looking west from Lords Lane across central field



Photo 70: Looking west from Lords Lane at dilapidated building



Photo 71: Looking north west from Nib Lane across central field towards 'Sibberings Cottage' residential property



Photo 72: Looking south west from Lords Lane across central field adjacent 'Sunnydene' residential property


	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 67 – 72	MN – 15/08/18





Photo 73: Looking west across central field on northern intersection of Nib Lane and Lords Lane



Photo 74: Looking south west along Nib Lane



Photo 75: Looking south west across central field to the south of Nib Lane towards pylon



Photo 76: Looking south east towards field boundary in central field to the south of Nib Lane



Photo 77: Looking north east across central field to the south of Nib Lane



Photo 78: Looking south east across central field bounding the safeguarded land


	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 73 – 78	MN – 15/08/18



Photo 79: Looking west across central field bounding safeguarded land



Photo 80: Looking south from central fields boundary across safeguarded land



Photo 81: Looking south west from central fields boundary across safeguarded land



Photo 82: Looking north west across central fields towards field to the south of 'Lords House Farm' residential property



Photo 83: Looking south from Flag Lane across eastern field



Photo 84: Looking south from Flag Lane across eastern field



JOB NO

3861

PROJECT TITLE

Pickering's Farm

SKETCH NO

ESK01

SKETCH TITLE

Site Walkover Photographs 79 – 84

DRAWN BY

MN – 15/08/18



COMPLEX CHALLENGES ... MADE SIMPLE



Photo 85: Looking south east from Flag Lane towards most north easterly eastern field



Photo 86: Looking north west from Flag Lane across eastern field adjacent 'South View' residential property



Photo 87: Looking north west from Flag Lane at 'Claytons Poultry Farm'



Photo 88: Looking south along railway line on the sites eastern boundary



Photo 89: Looking north along railway line on the sites eastern boundary



Photo 90: Looking north west from Bee Lane across northern field


	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 85 – 90	MN – 15/08/18



Photo 91: Looking south from Bee Lane across eastern field



Photo 92: Looking north east from eastern field behind 'Red Gables' residential property to the sites eastern boundary



Photo 93: Looking south east across eastern field to the north of 'Claytons Poultry Farm'



Photo 94: Looking east in eastern field towards sites eastern boundary



Photo 95: Looking south west from Bilsborough Hey on northern site boundary across northern field



Photo 96: Looking east along Bee Lane from the north eastern corner of the site


	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 91 – 96	MN – 15/08/18






Photo 97: Looking north east from Coote Lane across safeguarded land



Photo 98: Looking north east from Coote Lane at 'Coote Lane Garage'



Photo 99: Looking north east from Chain House Lane across safeguarded land

	JOB NO	3861	SKETCH NO	ESK01	DRAWN BY
	PROJECT TITLE	Pickering's Farm	SKETCH TITLE	Site Walkover Photographs 97 – 99	MN – 15/08/18



COMPLEX CHALLENGES ... MADE SIMPLE



APPENDIX B - HISTORICAL MAPS

COMPLEX CHALLENGES ... MADE SIMPLE



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
- Coppice
- Bracken
- Heath
- Rough Grassland
- Marsh
- Reeds
- Saltings
- Building
- Glasshouse
- Sloping Masonry
- Pylon
- Electricity Transmission Line
- Pole
- Cutting
- Embankment
- 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
Shown only when not coincident with other boundaries
- Civil Parish
Shown alternately when coincidence of boundaries occurs
- BP, BS Boundary Post or Stone
- Ch Church
- CH Club House
- F E Sta Fire Engine Station
- FB Foot Bridge
- Fn Fountain
- GP Guide Post
- MP Mile Post
- MS Mile Stone
- Pol Sta Police Station
- PO Post Office
- PC Public Convenience
- PH Public House
- SB Signal Box
- Spr Spring
- TCB Telephone Call Box
- TCP Telephone Call Post
- W Well

1:10,000 Raster Mapping

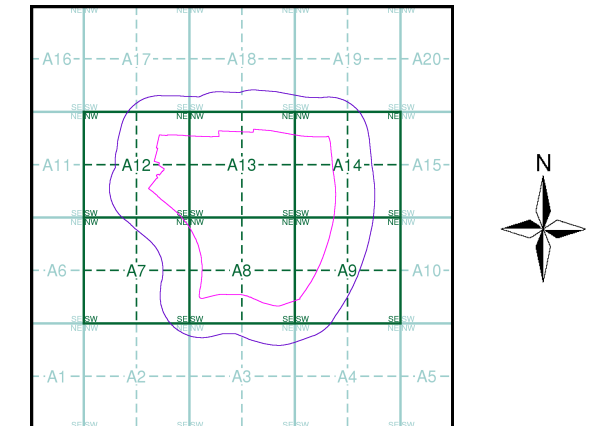
- Gravel Pit
- Rock
- Boulders
- Shingle
- Sand
- Slopes
- General detail
- Overhead detail
- Multi-track railway
- County boundary (England only)
- District, Unitary, Metropolitan, London Borough boundary
- Area of wooded vegetation
- Non-coniferous trees (scattered)
- Coniferous trees (scattered)
-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



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1848	2
Lancashire And Furness	1:10,560	1894	3
Lancashire And Furness	1:10,560	1912	4
Lancashire And Furness	1:10,560	1931	5
Lancashire And Furness	1:10,560	1938	6
Ordnance Survey Plan	1:10,000	1955	7
Ordnance Survey Plan	1:10,000	1958	8
Ordnance Survey Plan	1:10,000	1967 - 1968	9
Ordnance Survey Plan	1:10,000	1974	10
Ordnance Survey Plan	1:10,000	1983 - 1984	11
Ordnance Survey Plan	1:10,000	1990 - 1991	12
10K Raster Mapping	1:10,000	2001	13
Street View	Variable		14

Historical Map - Slice A



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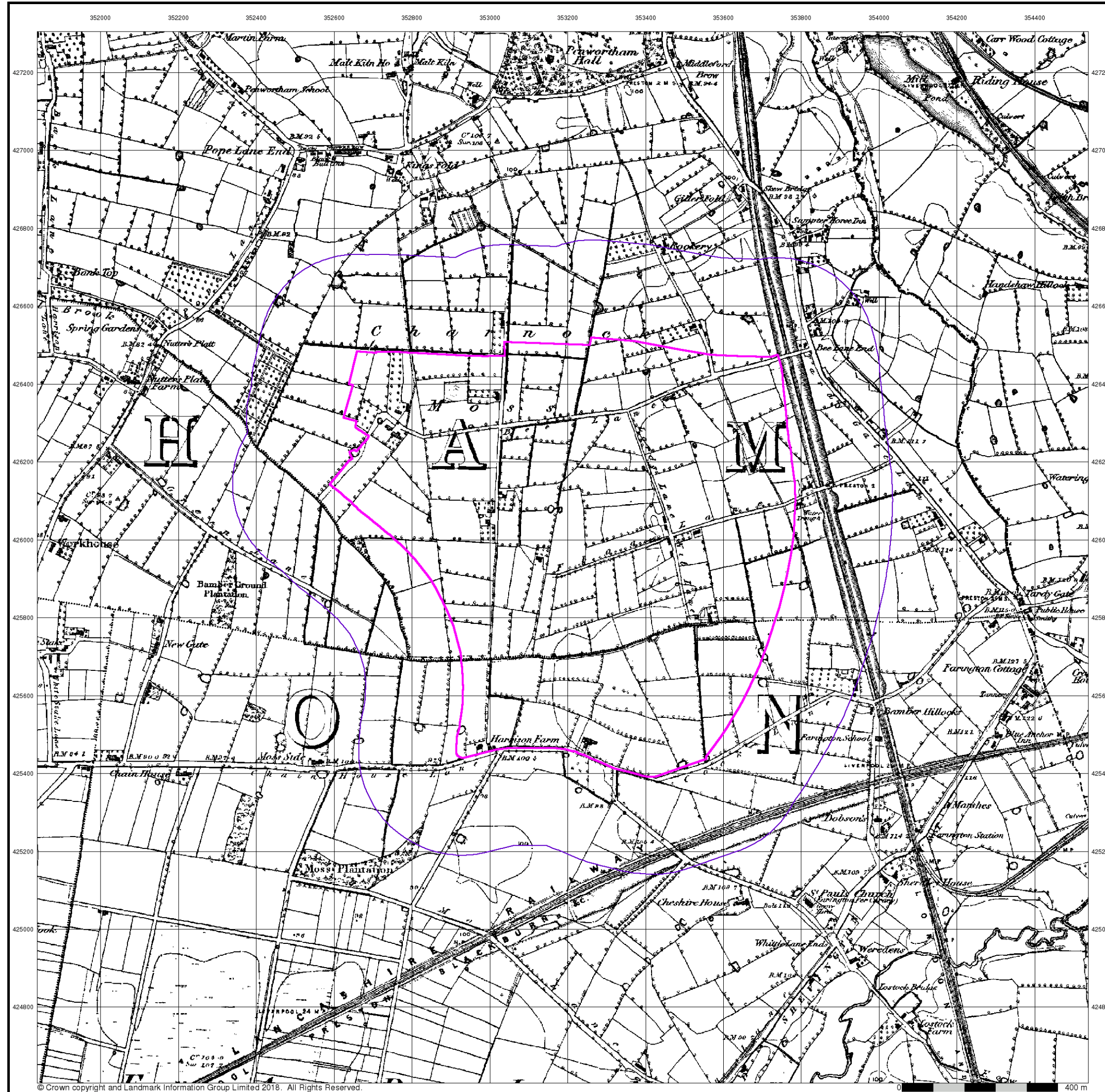
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 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 250

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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



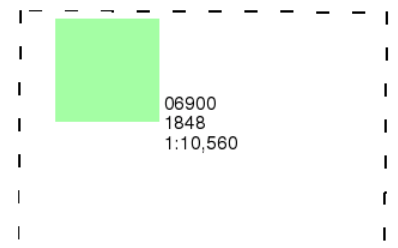
Lancashire And Furness

Published 1848

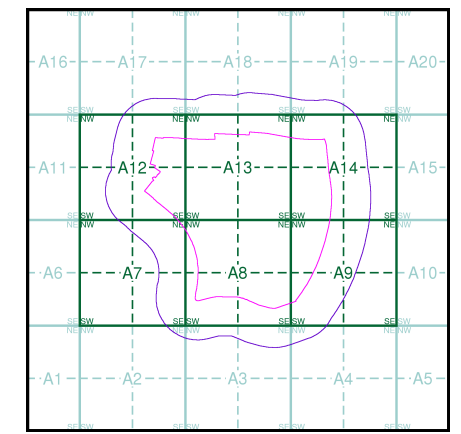
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. 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: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
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Site Details

Pickering's Farm, Penwortham, PR1 9TQ



Tel: 0844 844 9952
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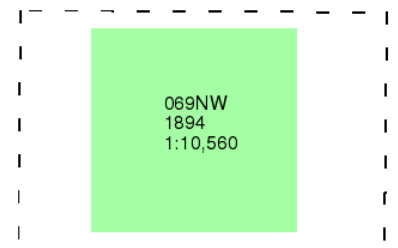
Lancashire And Furness

Published 1894

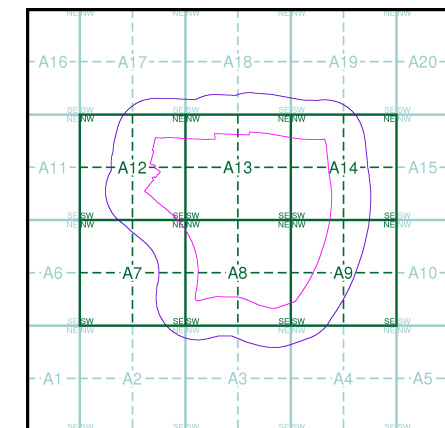
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Map Name(s) and Date(s)



Historical Map - Slice A



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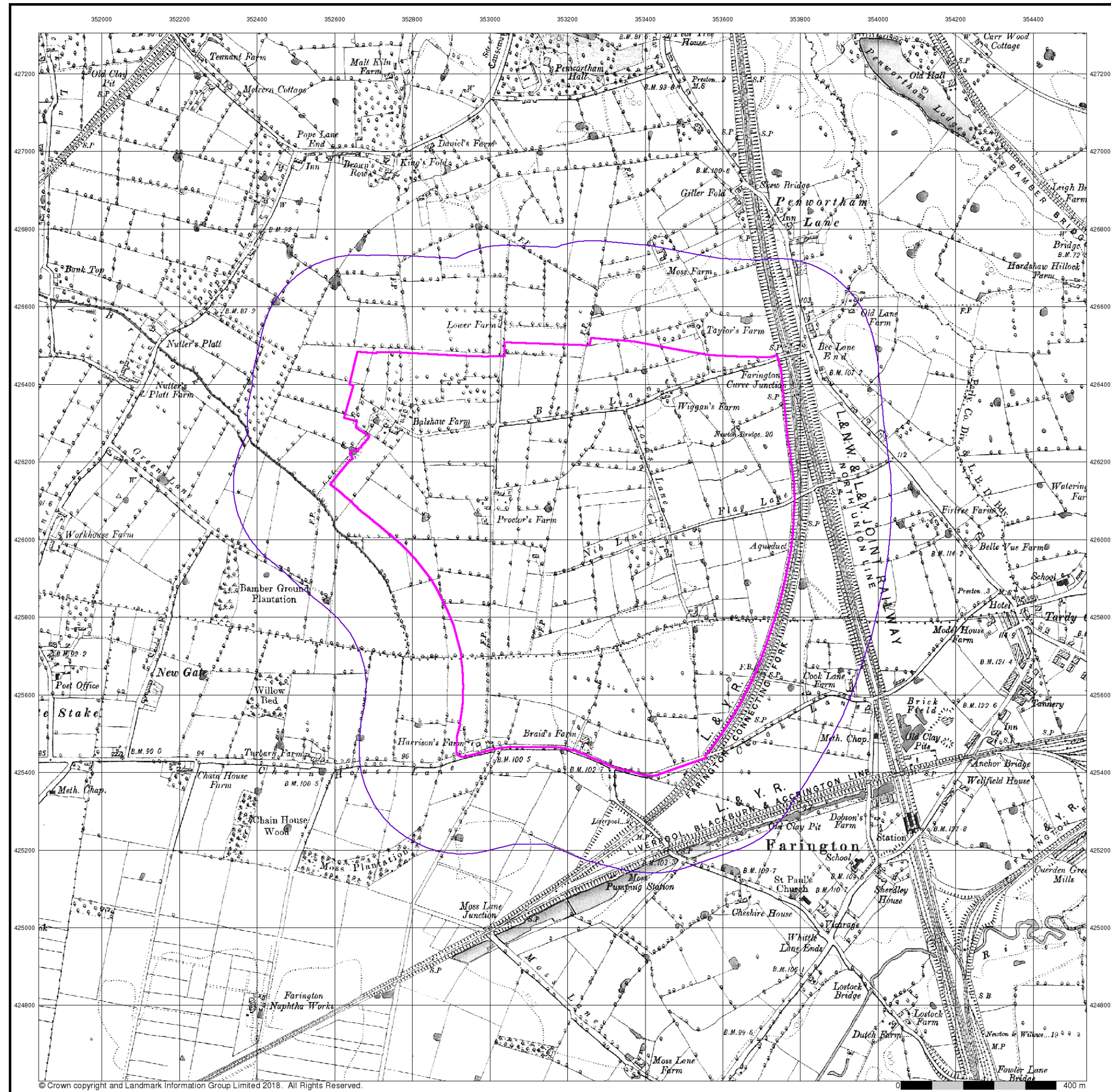
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Pickering's Farm, Penwortham, PR1 9TQ



Tel: 0844 844 9952
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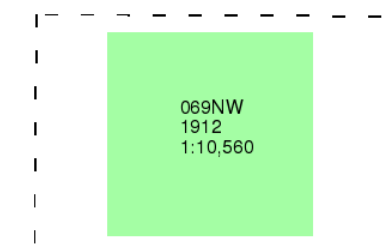
Lancashire And Furness

Published 1912

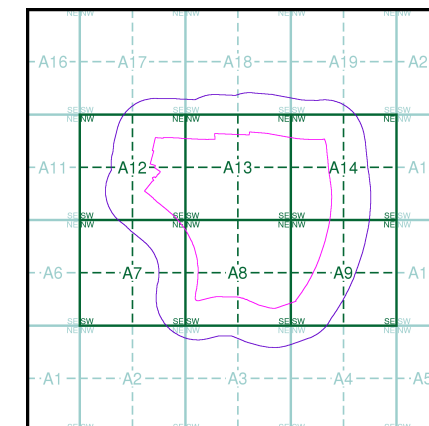
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Map Name(s) and Date(s)



Historical Map - Slice A



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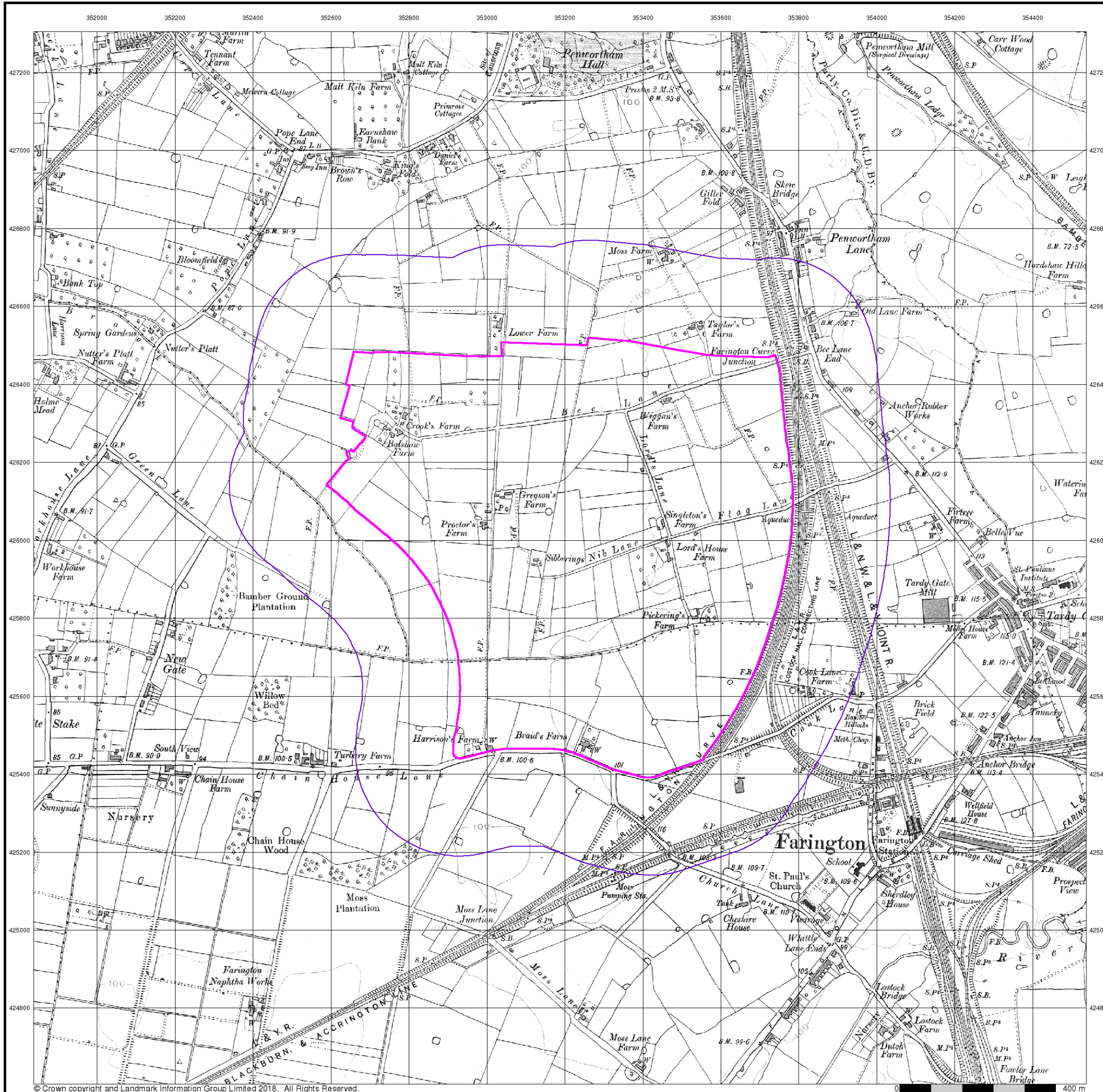
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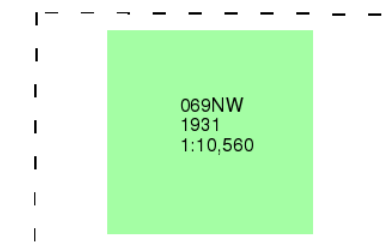
Lancashire And Furness

Published 1931

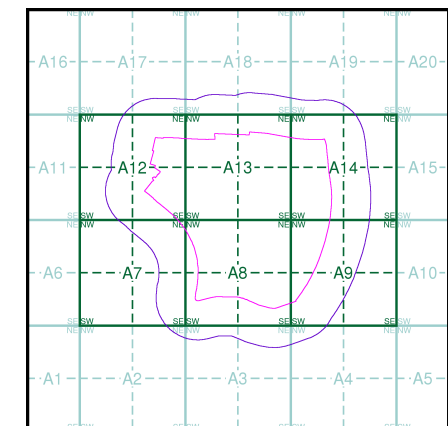
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Map Name(s) and Date(s)



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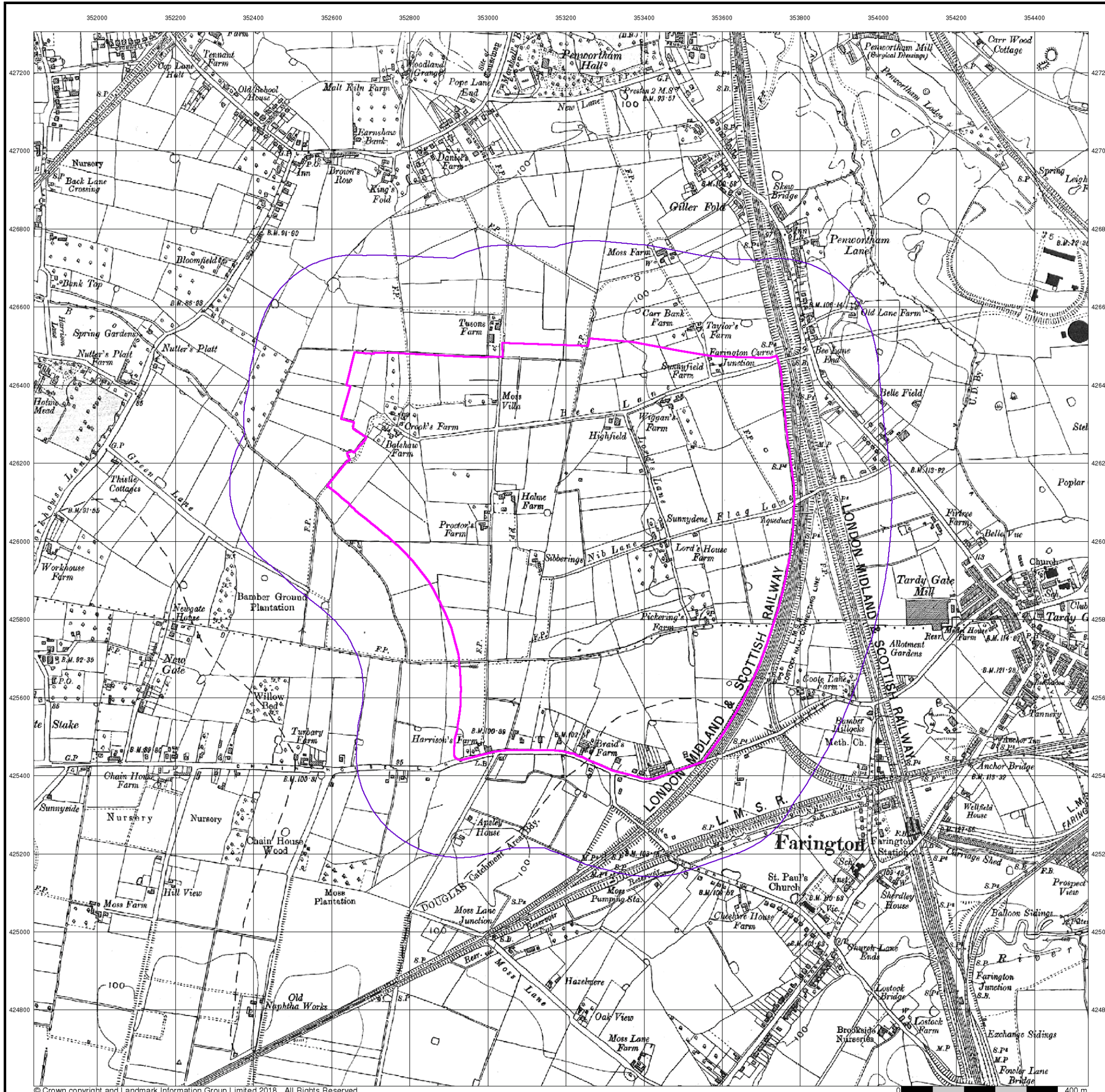
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Web:	www.envirocheck.co.uk





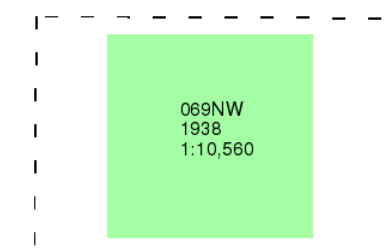
Lancashire And Furness

Published 1938

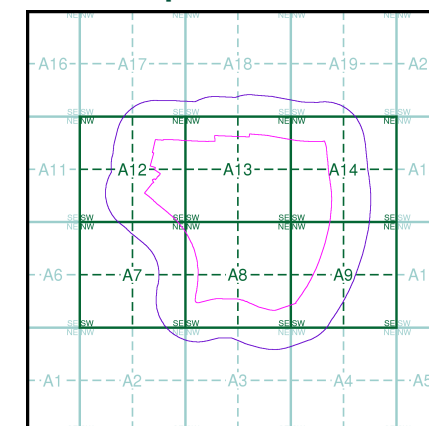
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

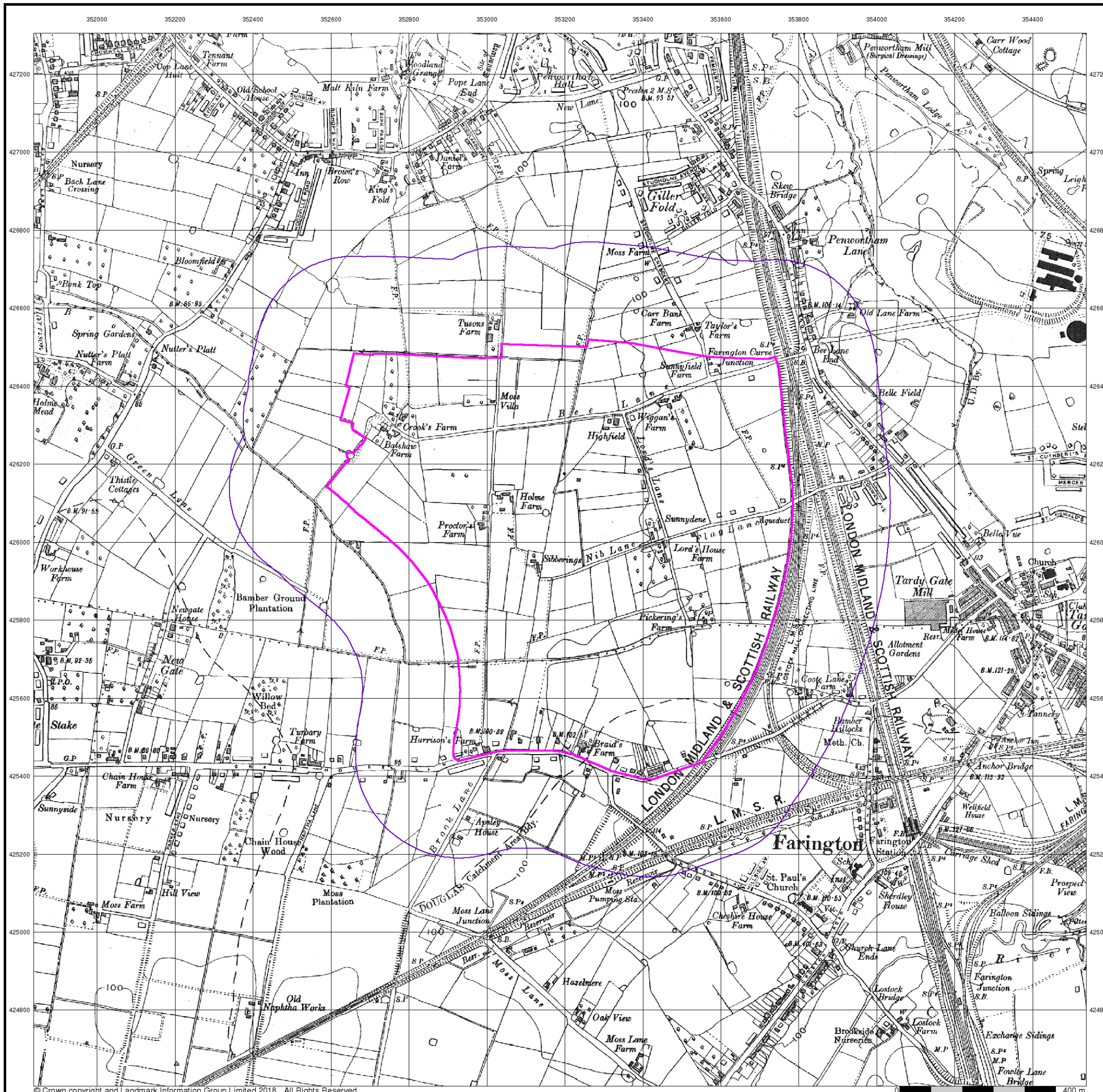
Order Number:	176066506_1_1
Customer Ref:	3861
National Grid Reference:	353230, 426020
Slice:	A
Site Area (Ha):	99.74
Search Buffer (m):	250

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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





Ordnance Survey Plan

Published 1955

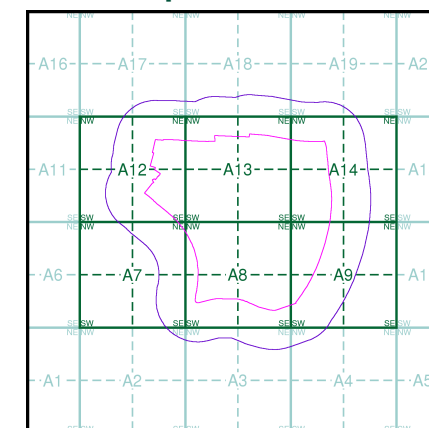
Source map scale - 1:10,000

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)

SD52NW	1955
1:10,560	
SD52SW	1955
1:10,560	

Historical Map - Slice A



Order Details

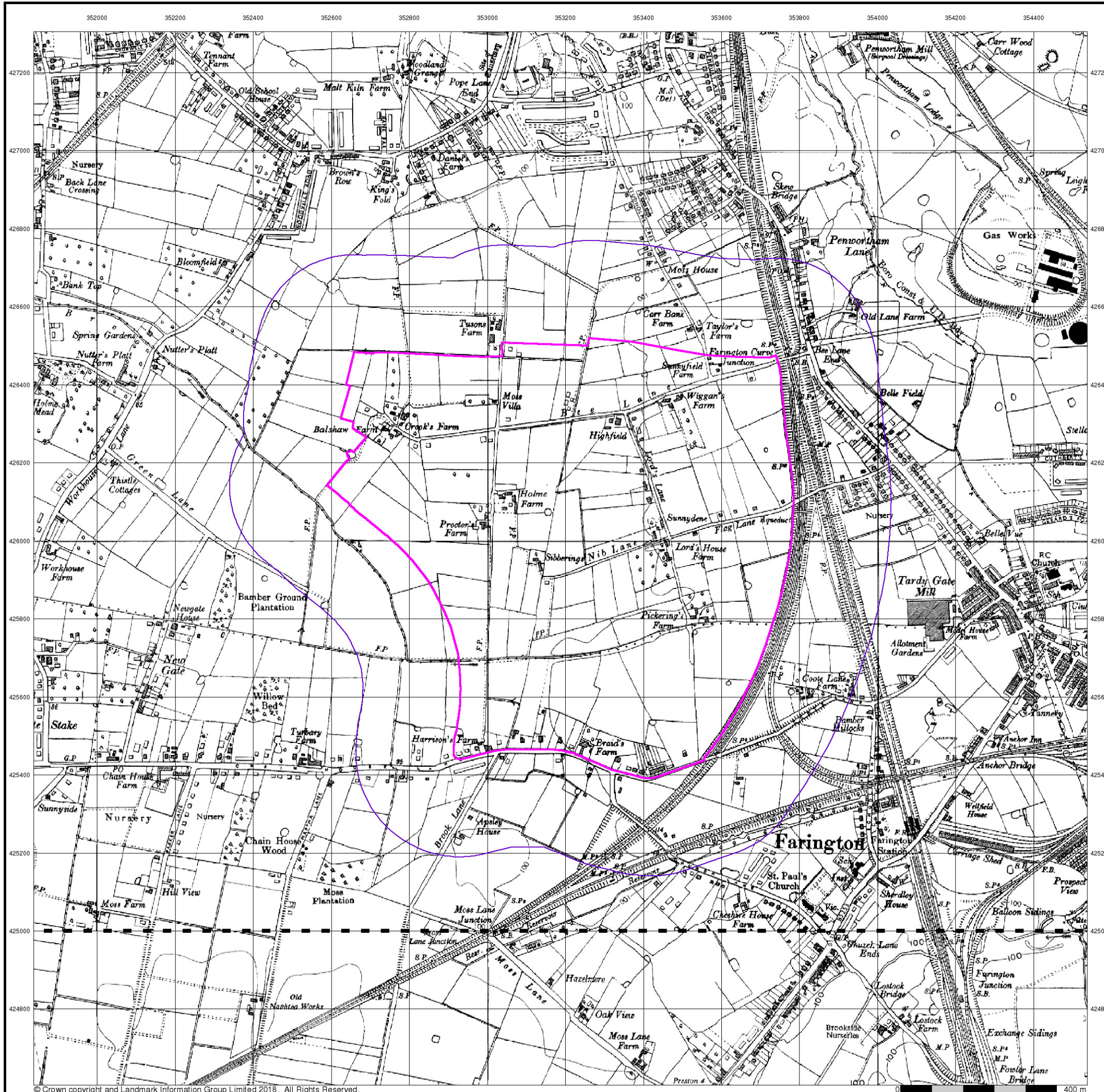
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 250

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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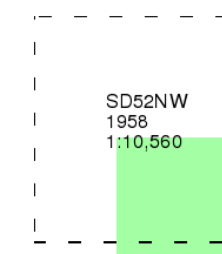
Ordnance Survey Plan

Published 1958

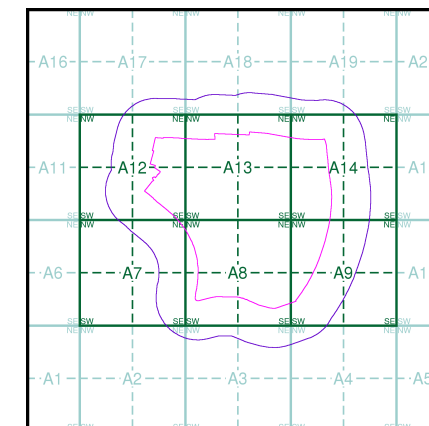
Source map scale - 1:10,000

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

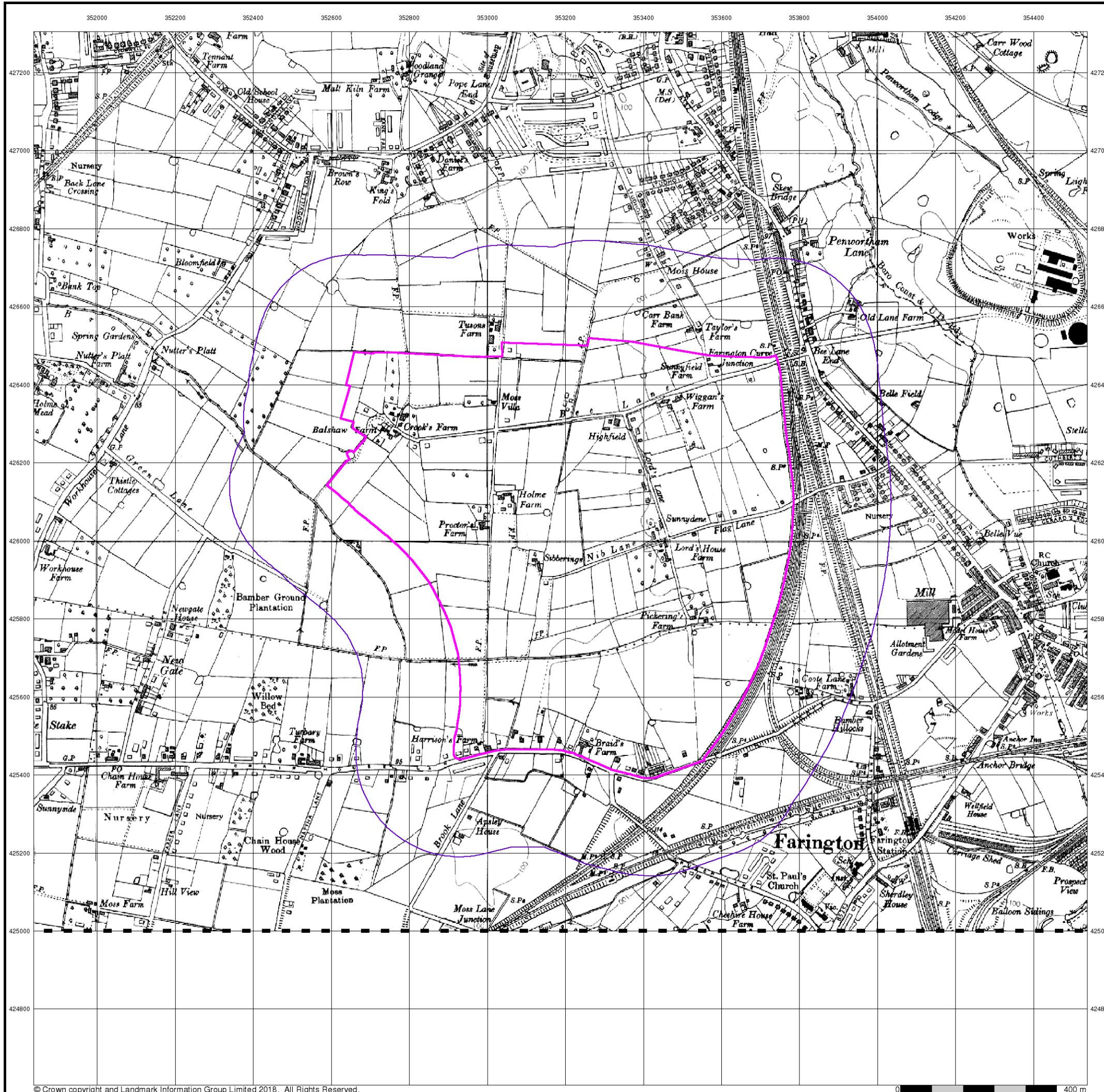
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 250

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Fax: 0844 844 9951
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Ordnance Survey Plan

Published 1967 - 1968

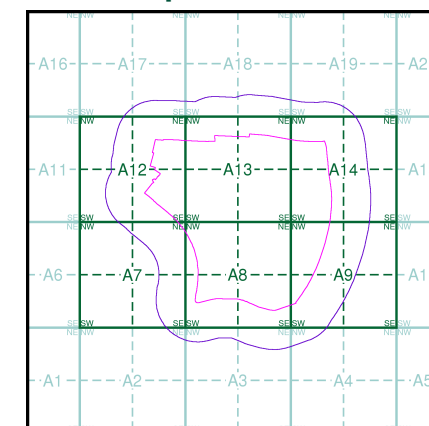
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SD52NW	1968
1:10,560	
SD52SW	1967
1:10,560	

Historical Map - Slice A



Order Details

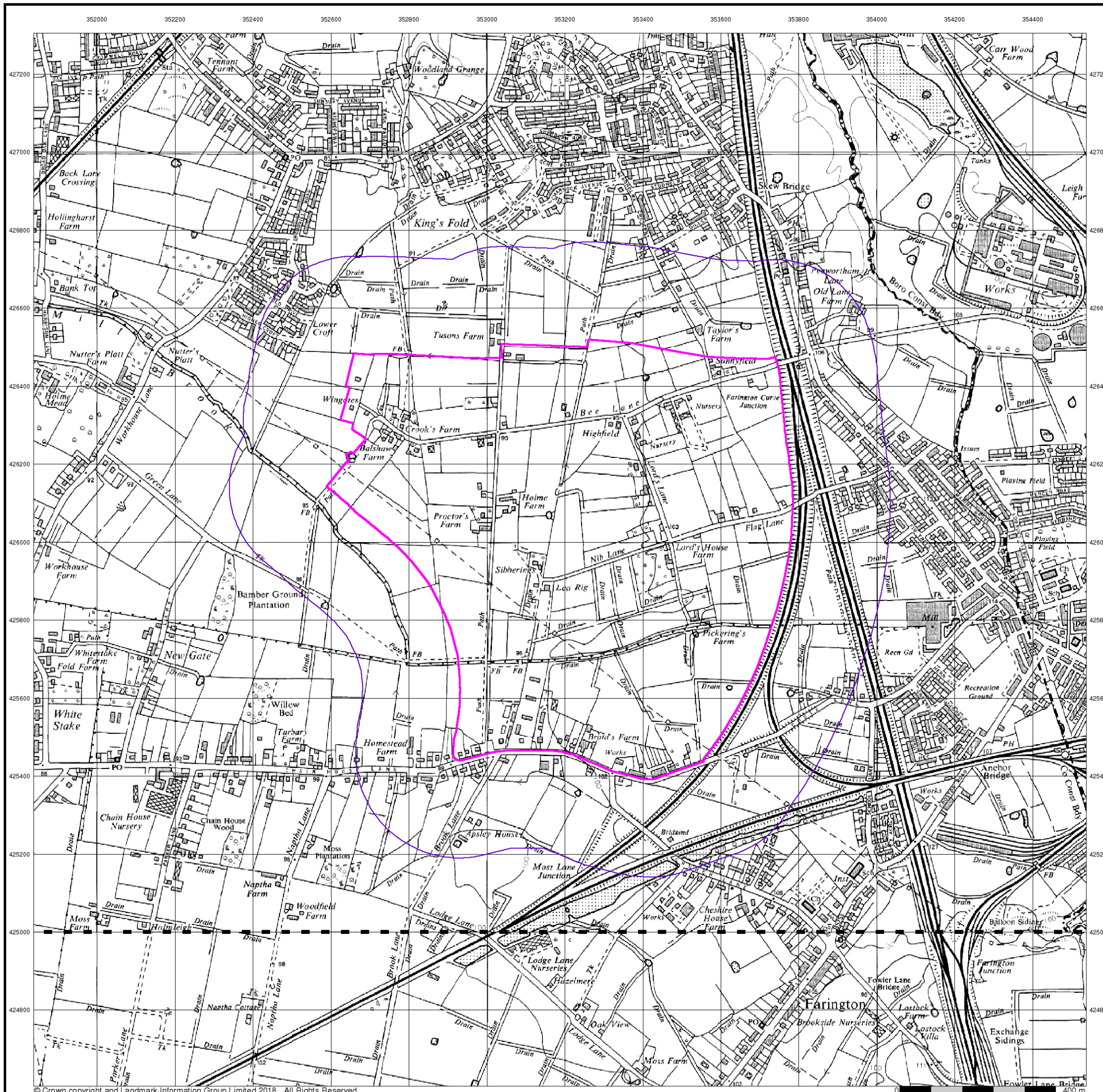
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
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Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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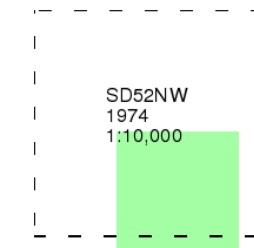
Ordnance Survey Plan

Published 1974

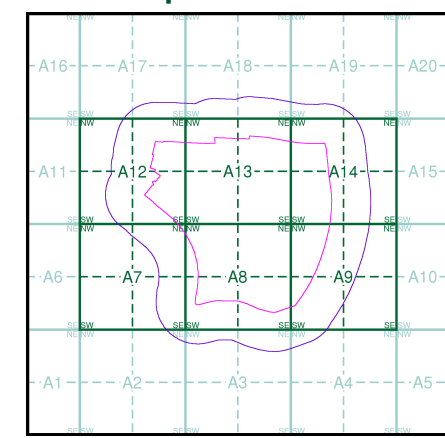
Source map scale - 1:10,000

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

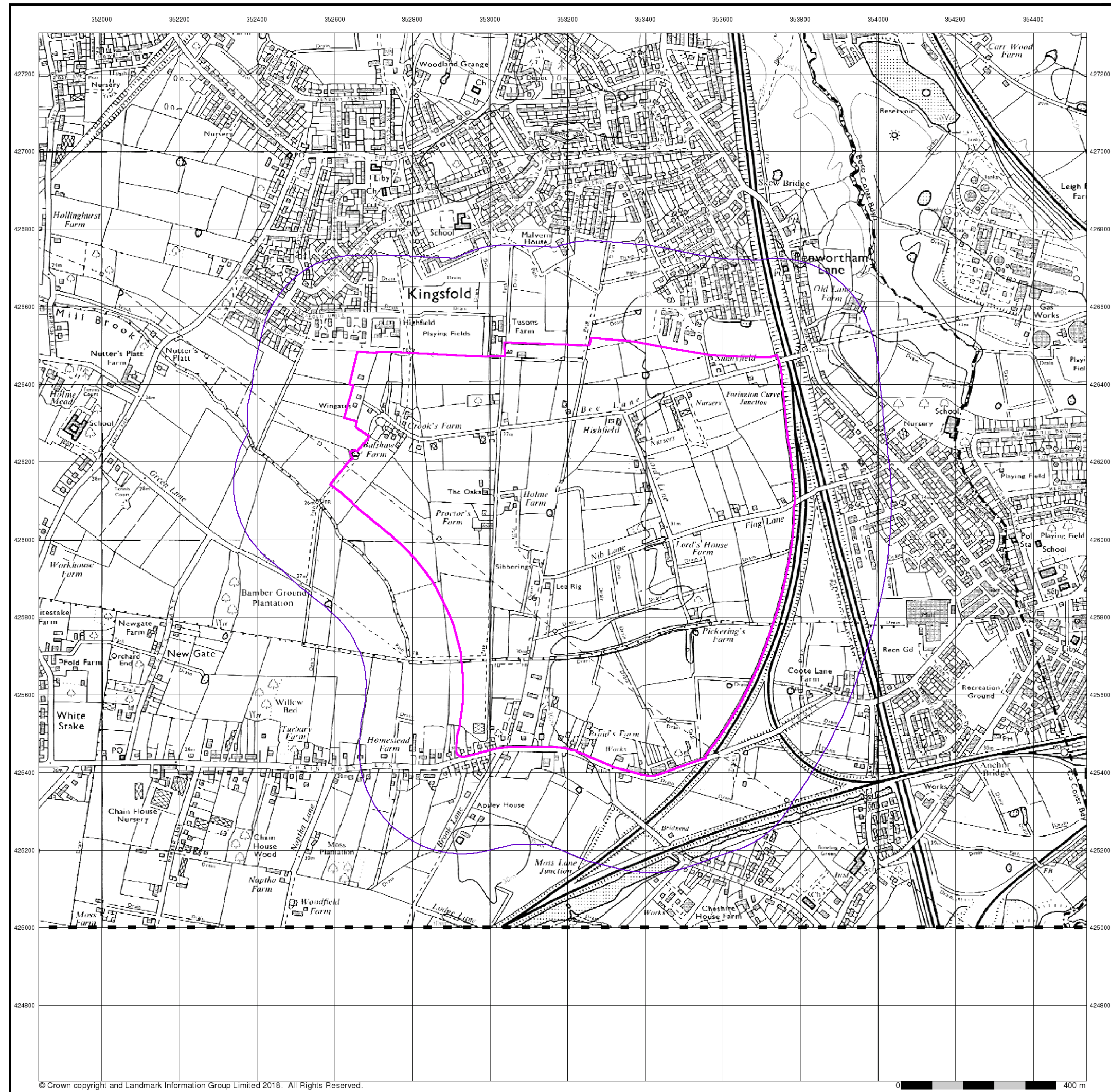
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 250

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Ordnance Survey Plan

Published 1983 - 1984

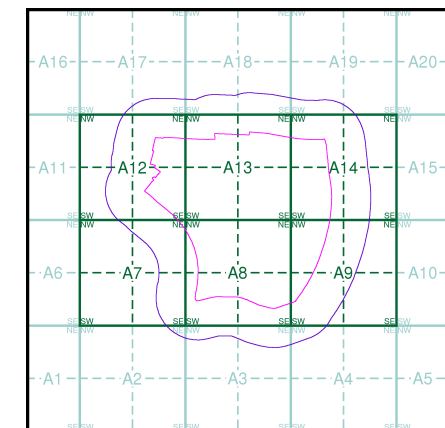
Source map scale - 1:10,000

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)

SD52NW	1984
1:10,000	
SD52SW	1983
1:10,000	

Historical Map - Slice A



Order Details

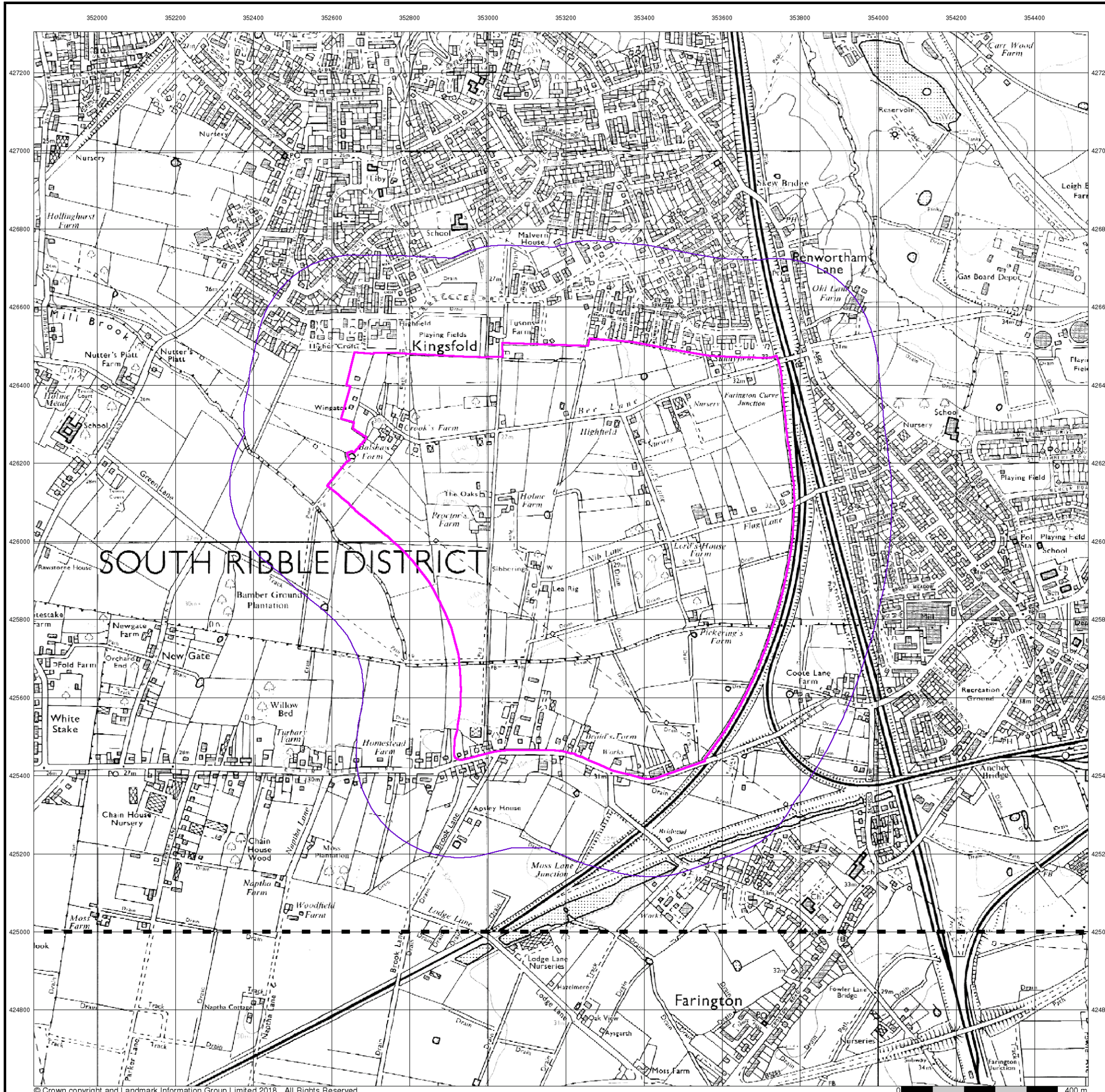
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 250

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Ordnance Survey Plan

Published 1990 - 1991

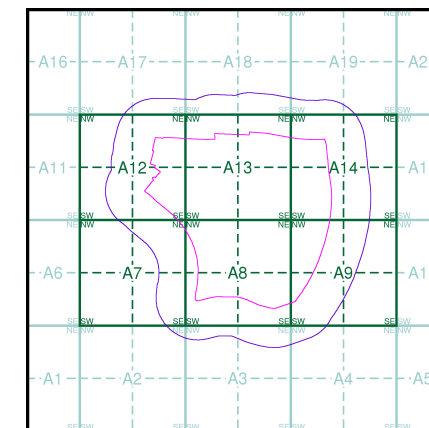
Source map scale - 1:10,000

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)

SD52NW	1991
1:10,000	
SD52SW	1990
1:10,000	

Historical Map - Slice A



Order Details

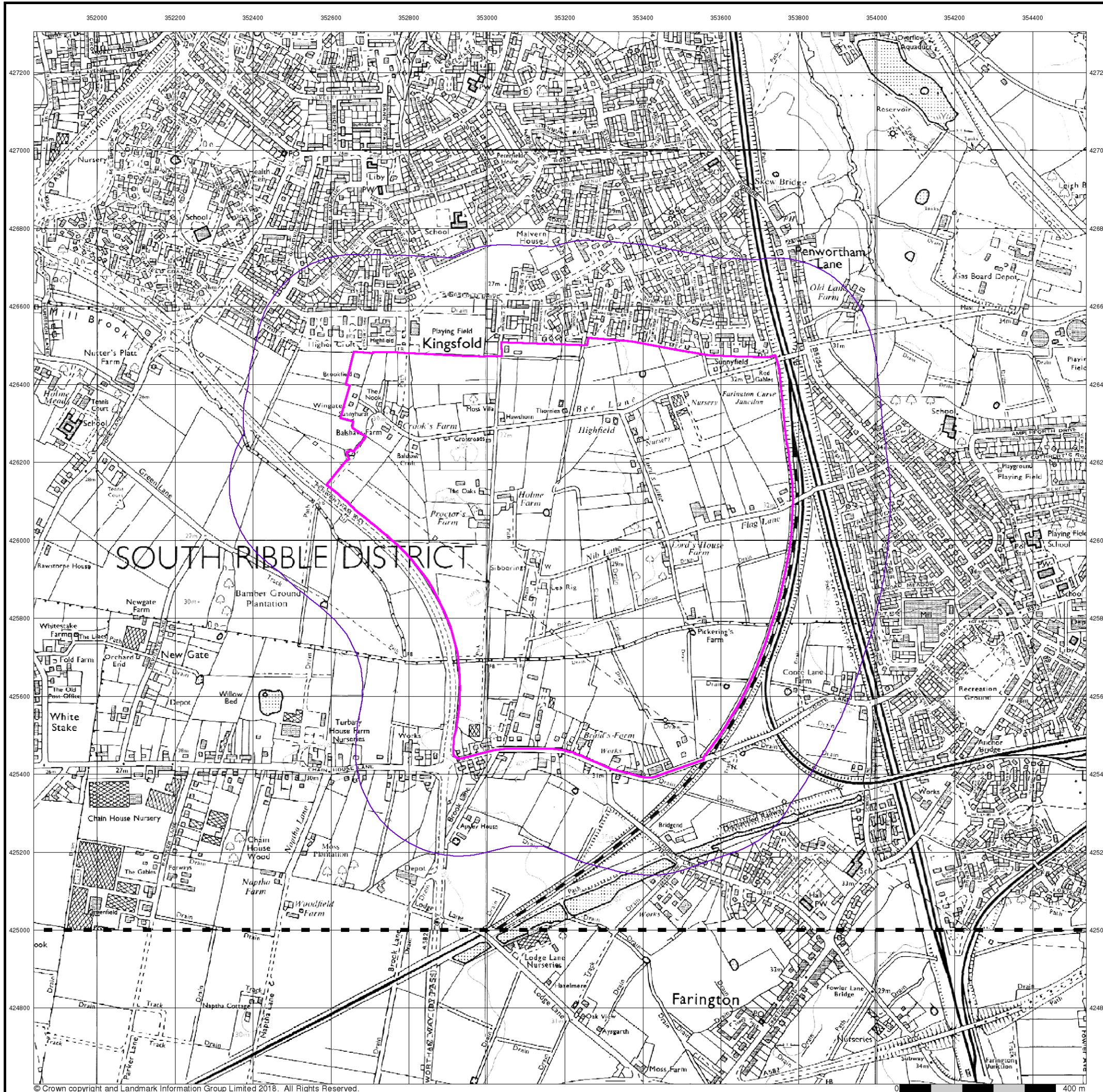
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 250

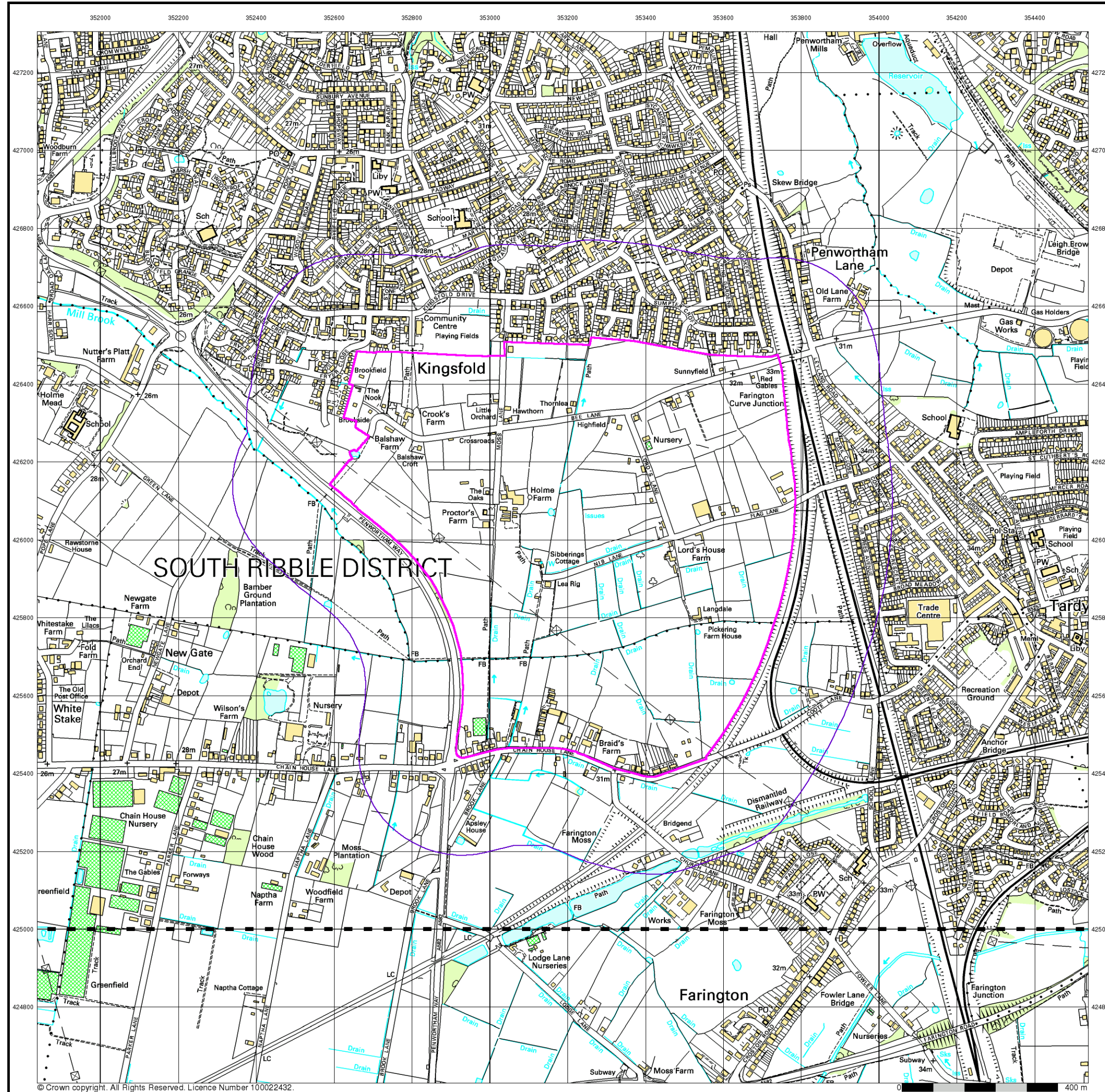
Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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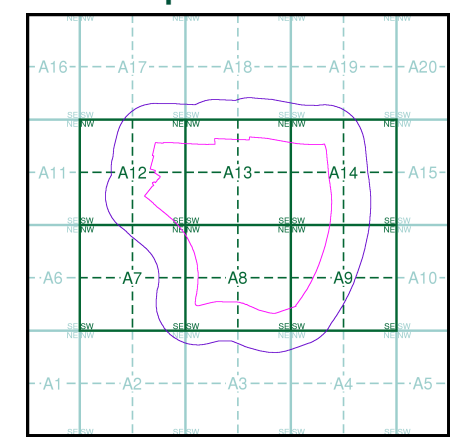
10k Raster Mapping
Published 2001
Source map scale - 1:10,000

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)

SD52NW	2001	1:10,000
SD52SW	2001	1:10,000

Historical Map - Slice A



Order Details

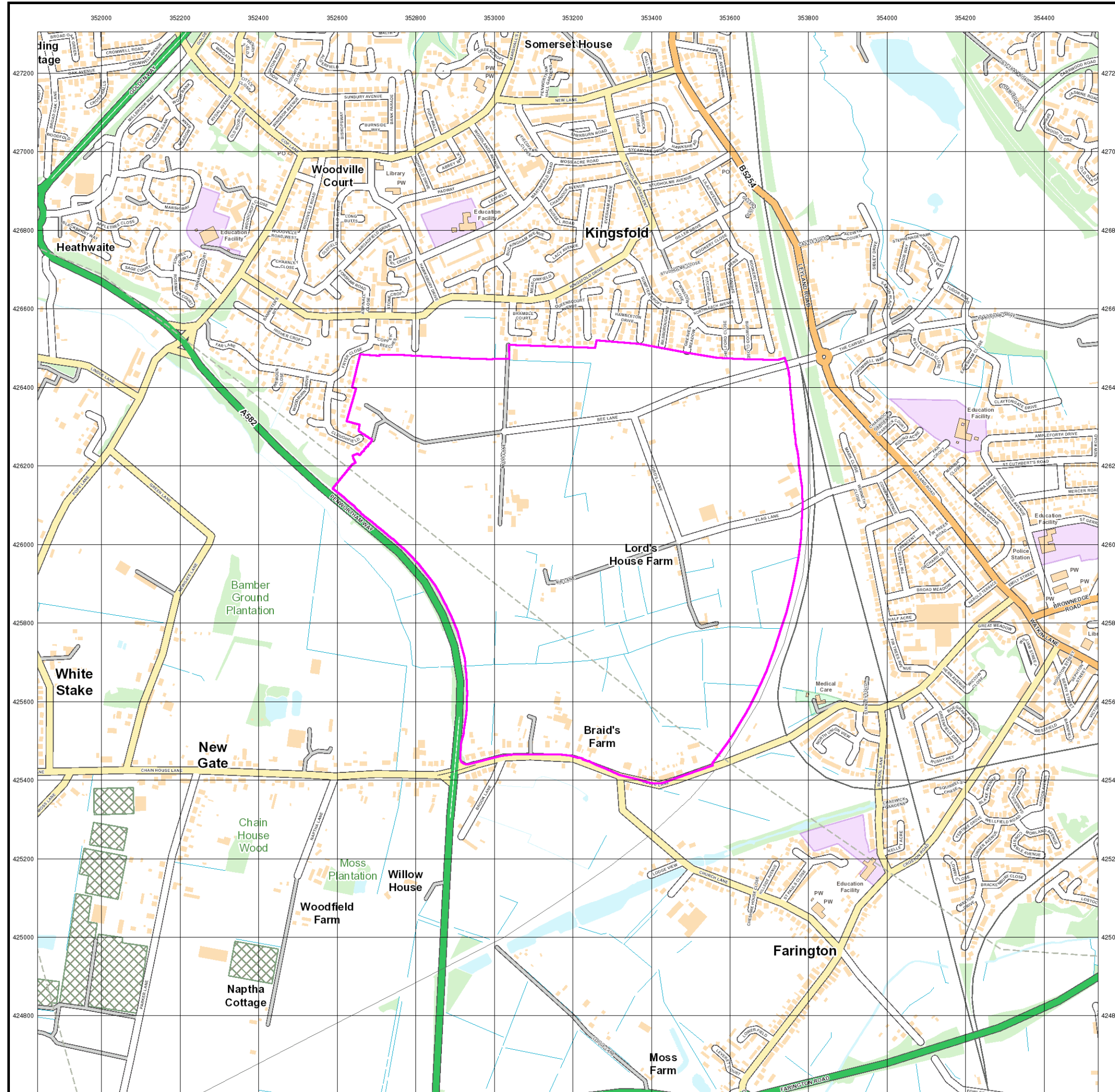
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 250

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



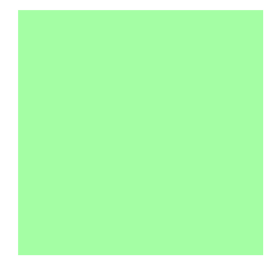
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



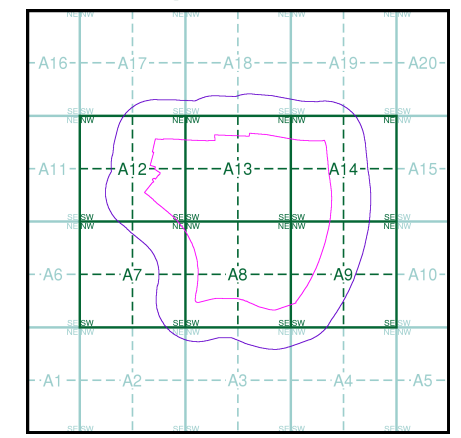
Street View
Published 2018
Source map scale - 1:10,000

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: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 250

Site Details
 Pickering's Farm, Penwortham, PR1 9TQ

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

Historical Mapping Legends

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

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
County Burgh Boundary (Scotland)
Co. Boro. Bdy.
Co. Burgh Bdy.
BP BS Boundary Post or Stone **P.C.B** Police Call Box
B.R. Bridle Road **P** Pump
E.P Electricity Pylon **S.P** Signal Post
F.B. Foot Bridge **SL** Sluice
F.P. Foot Path **Sp.** Spring
G.P Guide Post or Board **T.C.B** Telephone Call Box
M.S Mile Stone **Tr.** Trough
M.P M.R Mooring Post or Ring **W** Well

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

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
BH Beer House **P** Pillar, Pole or Post
BP, BS Boundary Post or Stone **PO** Post Office
Cn, C Capstan, Crane **PC** Public Convenience
Chy Chimney **PH** Public House
D Fn Drinking Fountain **Pp** Pump
EI P Electricity Pillar or Post **SB, S Br** Signal Box or Bridge
FAP Fire Alarm Pillar **SP, SL** Signal Post or Light
FB Foot Bridge **Spr** Spring
GP Guide Post **Tk** Tank or Track
H Hydrant or Hydraulic **TCB** Telephone Call Box
LC Level Crossing **TCP** Telephone Call Post
MH Manhole **Tr** Trough
MP Mile Post or Mooring Post **Wr Pt, Wr T** Water Point, Water Tap
MS Mile Stone **W** Well
NTL Normal Tidal Limit **Wd Pp** Wind Pump

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

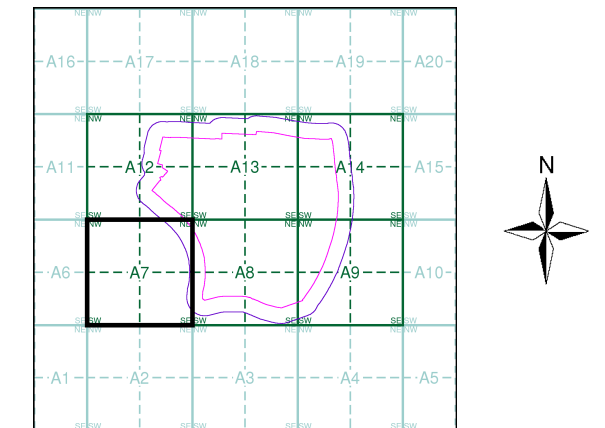
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 231.60m Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Bks Barracks **P** Pillar, Pole or Post
Bty Battery **PO** Post Office
Cemy Cemetery **PC** Public Convenience
Chy Chimney **Pp** Pump
Cis Cistern **Ppg Sta** Pumping Station
Dismtd Rly Dismantled Railway **PW** Place of Worship
EI Gen Sta Electricity Generating Station **Sewage Ppg Sta** Sewage Pumping Station
EI P Electricity Pole, Pillar **SB, S Br** Signal Box or Bridge
EI Sub Sta Electricity Sub Station **SP, SL** Signal Post or Light
FB Filter Bed **Spr** Spring
Fn / D Fn Fountain / Drinking Ftn. **Tk** Tank or Track
Gas Gov Gas Valve Compound **Tr** Trough
GVC Gas Governor **Wd Pp** Wind Pump
GP Guide Post **Wr Pt, Wr T** Water Point, Water Tap
MH Manhole **Wks** Works (building or area)
MP, MS Mile Post or Mile Stone **W** Well



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1911	3
Lancashire And Furness	1:2,500	1931	4
Ordnance Survey Plan	1:2,500	1963	5
Large-Scale National Grid Data	1:2,500	1993	6

Historical Map - Segment A7



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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



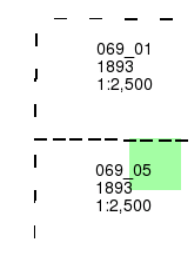
Lancashire And Furness

Published 1893

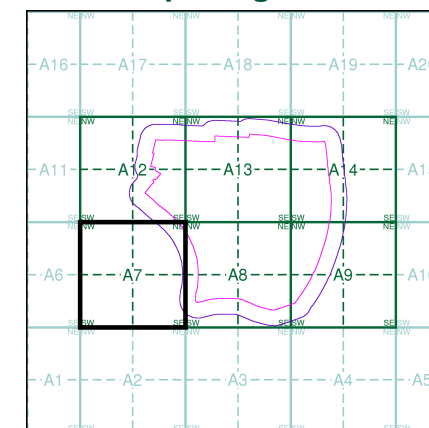
Source map scale - 1:2,500

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 A7



Order Details

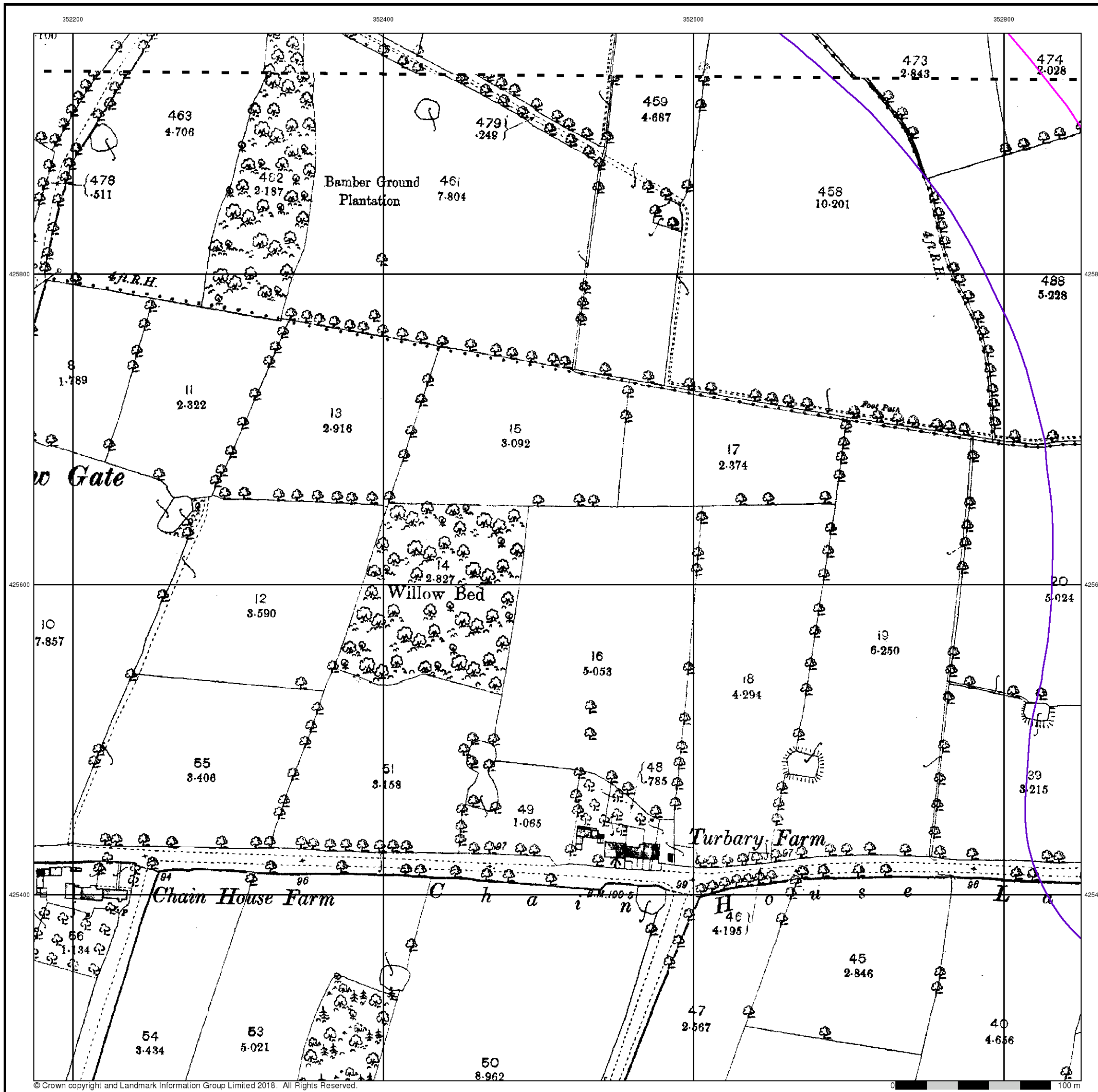
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

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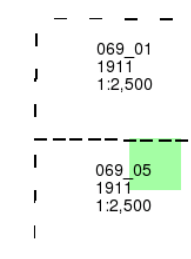
Lancashire And Furness

Published 1911

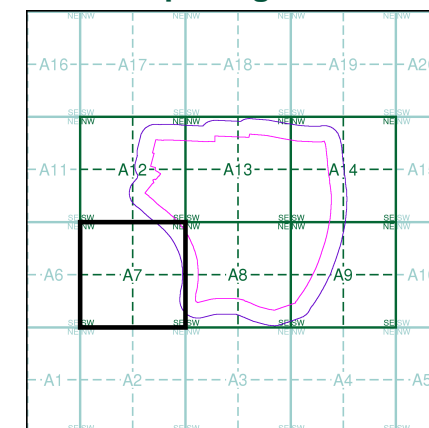
Source map scale - 1:2,500

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 A7



Order Details

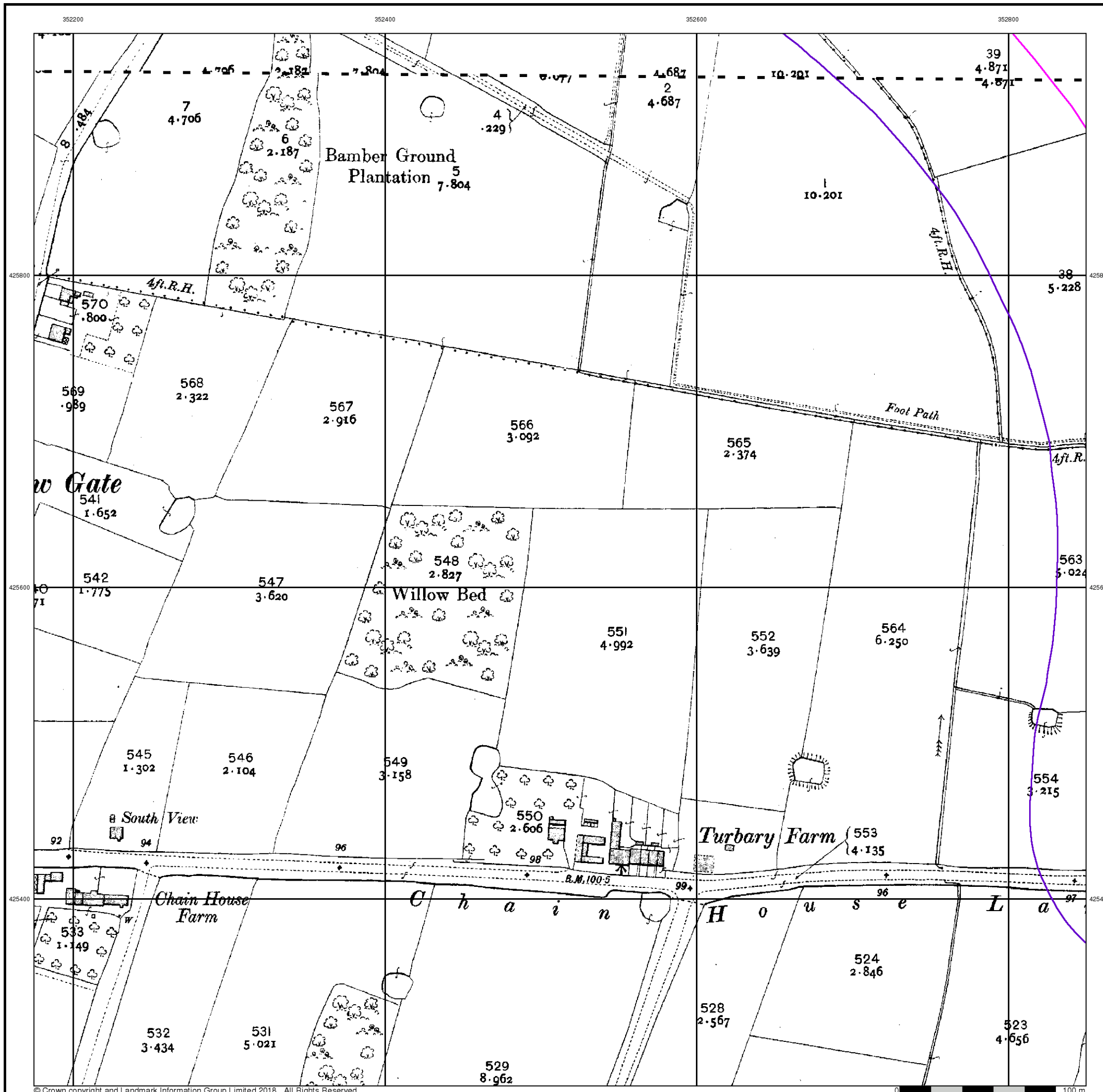
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



Tel: 0844 844 9952
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Lancashire And Furness

Published 1931

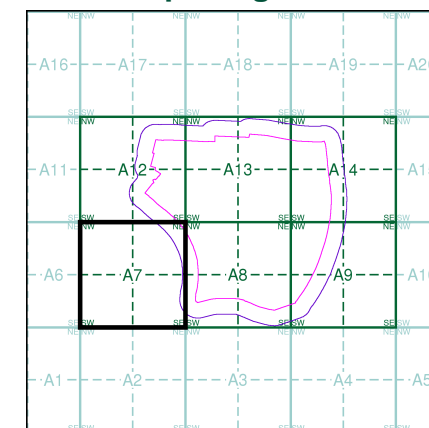
Source map scale - 1:2,500

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)

069_01	1931	1:2,500
069_05	1931	1:2,500

Historical Map - Segment A7



Order Details

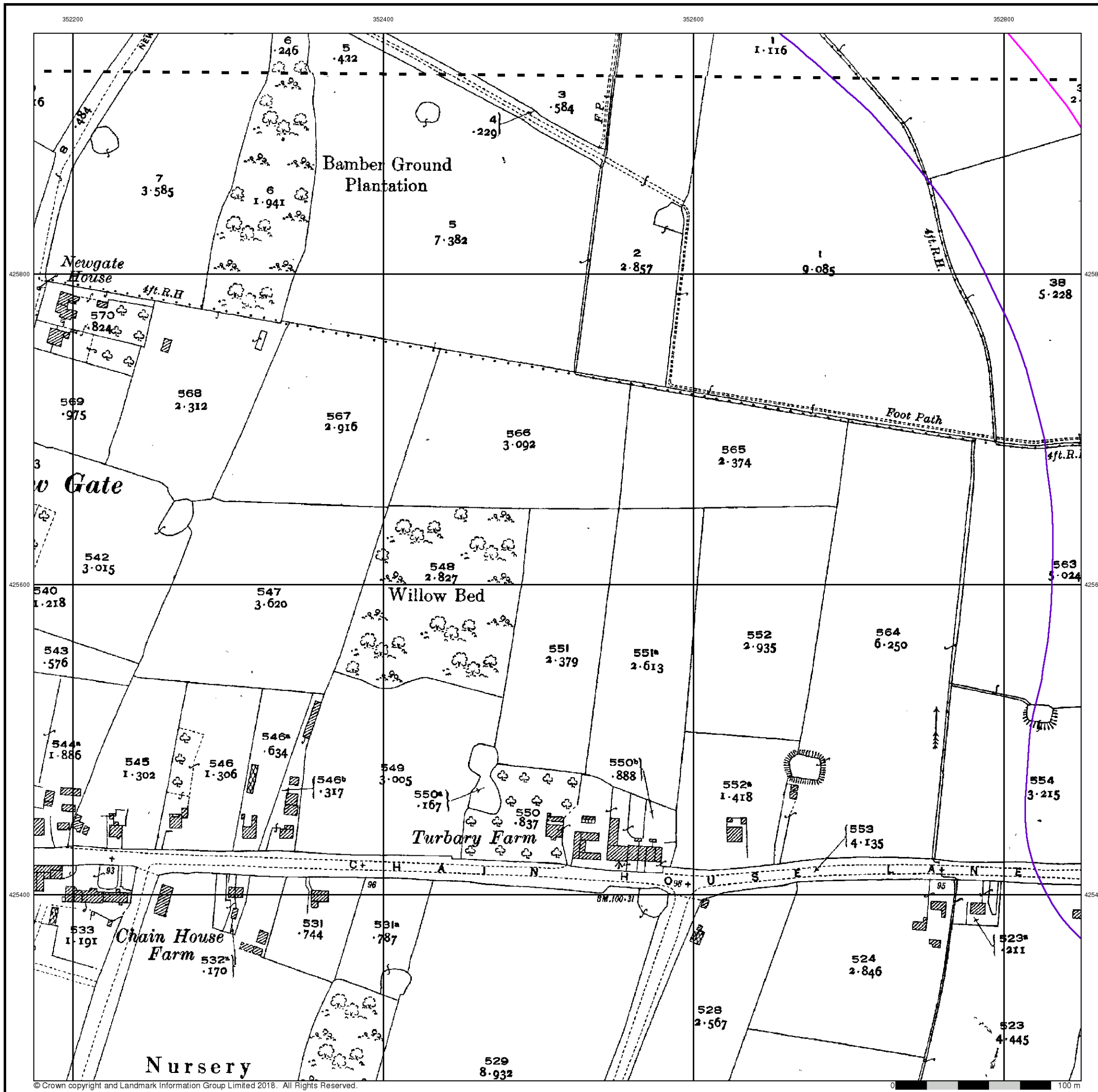
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

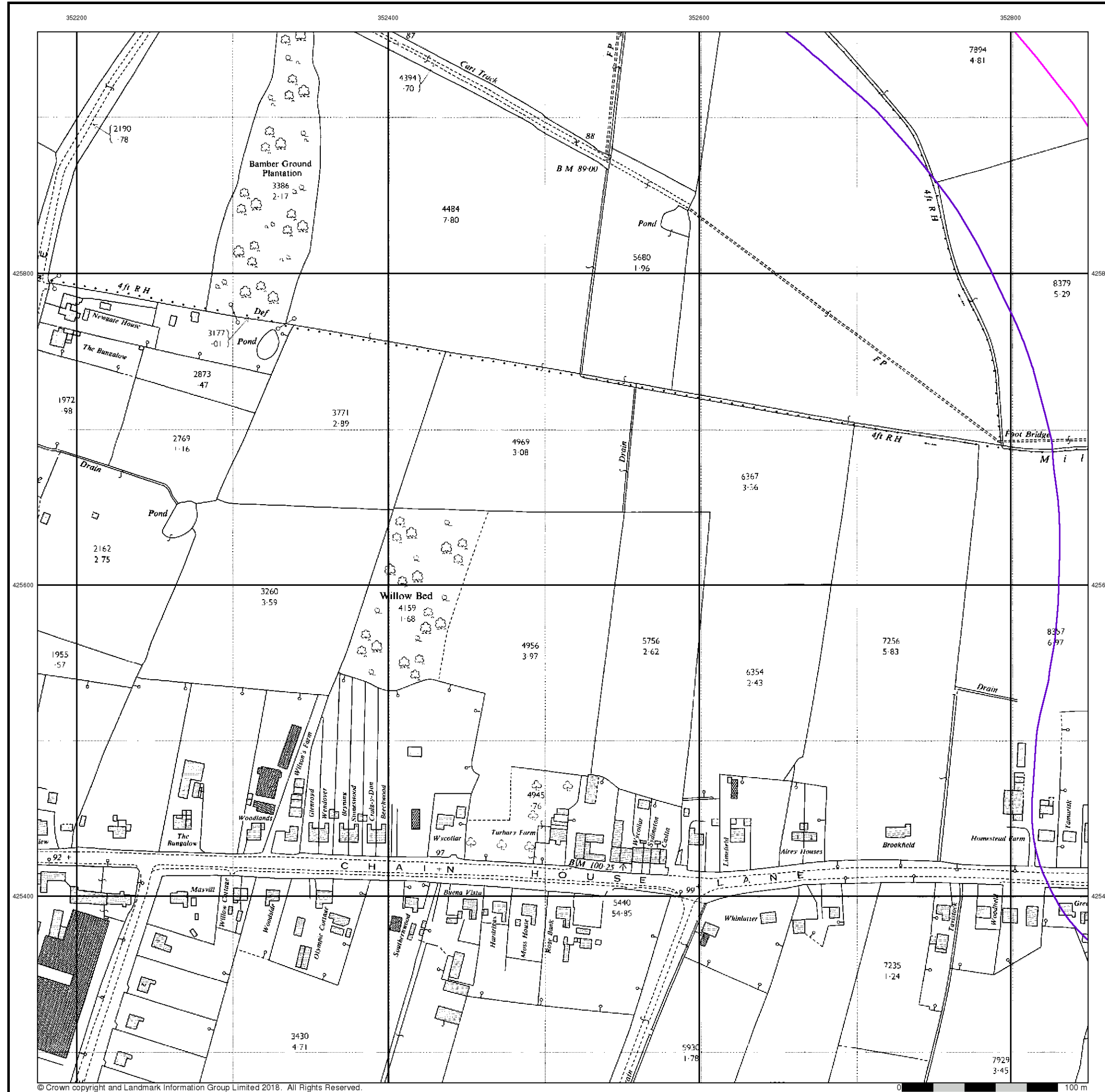
Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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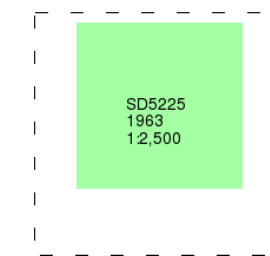
Ordnance Survey Plan

Published 1963

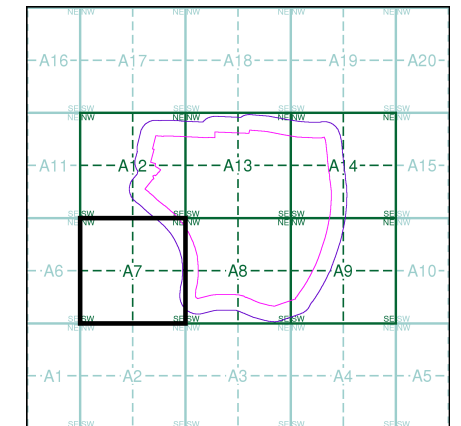
Source map scale - 1:2,500

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 A7



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



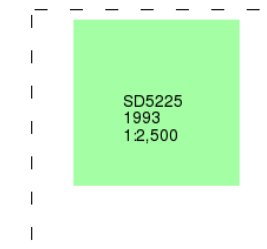
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



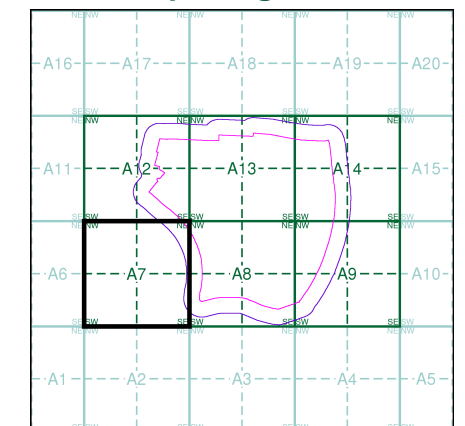
Large-Scale National Grid Data
Published 1993
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A7



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

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Historical Mapping Legends

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

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
County Burgh Boundary (Scotland)
Co. Boro. Bdy.
Co. Burgh Bdy.
BP BS Boundary Post or Stone **P.C.B** Police Call Box
B.R. Bridle Road **P** Pump
E.P Electricity Pylon **S.P** Signal Post
F.B. Foot Bridge **Sl** Sluice
F.P. Foot Path **Sp.** Spring
G.P Guide Post or Board **T.C.B** Telephone Call Box
M.S Mile Stone **Tr.** Trough
M.P M.R Mooring Post or Ring **W** Well

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

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
BH Beer House **P** Pillar, Pole or Post
BP, BS Boundary Post or Stone **PO** Post Office
Cn, C Capstan, Crane **PC** Public Convenience
Chy Chimney **PH** Public House
D Fn Drinking Fountain **Pp** Pump
EI P Electricity Pillar or Post **SB, S Br** Signal Box or Bridge
FAP Fire Alarm Pillar **SP, SL** Signal Post or Light
FB Foot Bridge **Spr** Spring
GP Guide Post **Tk** Tank or Track
H Hydrant or Hydraulic **TCB** Telephone Call Box
LC Level Crossing **TCP** Telephone Call Post
MH Manhole **Tr** Trough
MP Mile Post or Mooring Post **Wr Pt, Wr T** Water Point, Water Tap
MS Mile Stone **W** Well
NTL Normal Tidal Limit **Wd Pp** Wind Pump

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

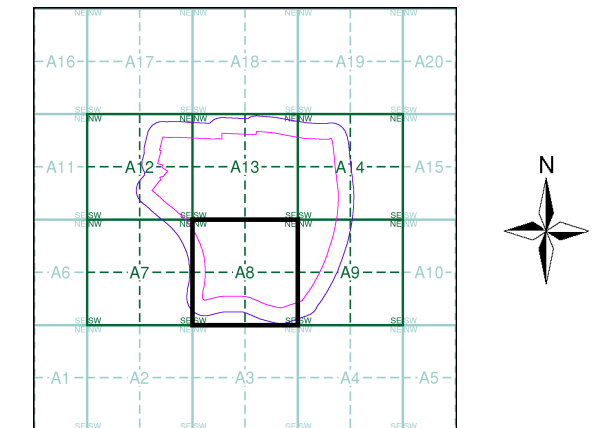
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 231.60m Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Bks Barracks **P** Pillar, Pole or Post
Bty Battery **PO** Post Office
Cemy Cemetery **PC** Public Convenience
Chy Chimney **Pp** Pump
Cis Cistern **Ppg Sta** Pumping Station
Dismtd Rly Dismantled Railway **PW** Place of Worship
EI Gen Sta Electricity Generating Station **Sewage Ppg Sta** Sewage Pumping Station
EI P Electricity Pole, Pillar **SB, S Br** Signal Box or Bridge
EI Sub Sta Electricity Sub Station **SP, SL** Signal Post or Light
FB Filter Bed **Spr** Spring
Fn / D Fn Fountain / Drinking Ftn. **Tk** Tank or Track
Gas Gov Gas Valve Compound **Tr** Trough
GVC Gas Governor **Wd Pp** Wind Pump
GP Guide Post **Wr Pt, Wr T** Water Point, Water Tap
MH Manhole **Wks** Works (building or area)
MP, MS Mile Post or Mile Stone **W** Well



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1911	3
Lancashire And Furness	1:2,500	1931	4
Lancashire And Furness	1:2,500	1938	5
Ordnance Survey Plan	1:2,500	1963	6
Ordnance Survey Plan	1:1,250	1963	7
Additional SIMs	1:1,250	1963 - 1979	8
Additional SIMs	1:1,250	1977 - 1985	9
Additional SIMs	1:1,250	1987 - 1990	10
Ordnance Survey Plan	1:1,250	1990	11
Large-Scale National Grid Data	1:1,250	1993	12
Large-Scale National Grid Data	1:2,500	1993	13

Historical Map - Segment A8



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

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Lancashire And Furness

Published 1893

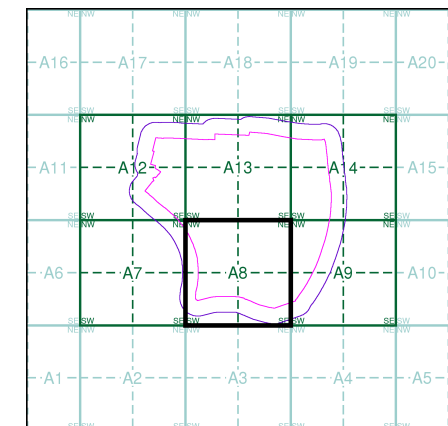
Source map scale - 1:2,500

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)

069_01 1893 1:2,500	069_02 1893 1:2,500
069_05 1893 1:2,500	069_06 1893 1:2,500

Historical Map - Segment A8



Order Details

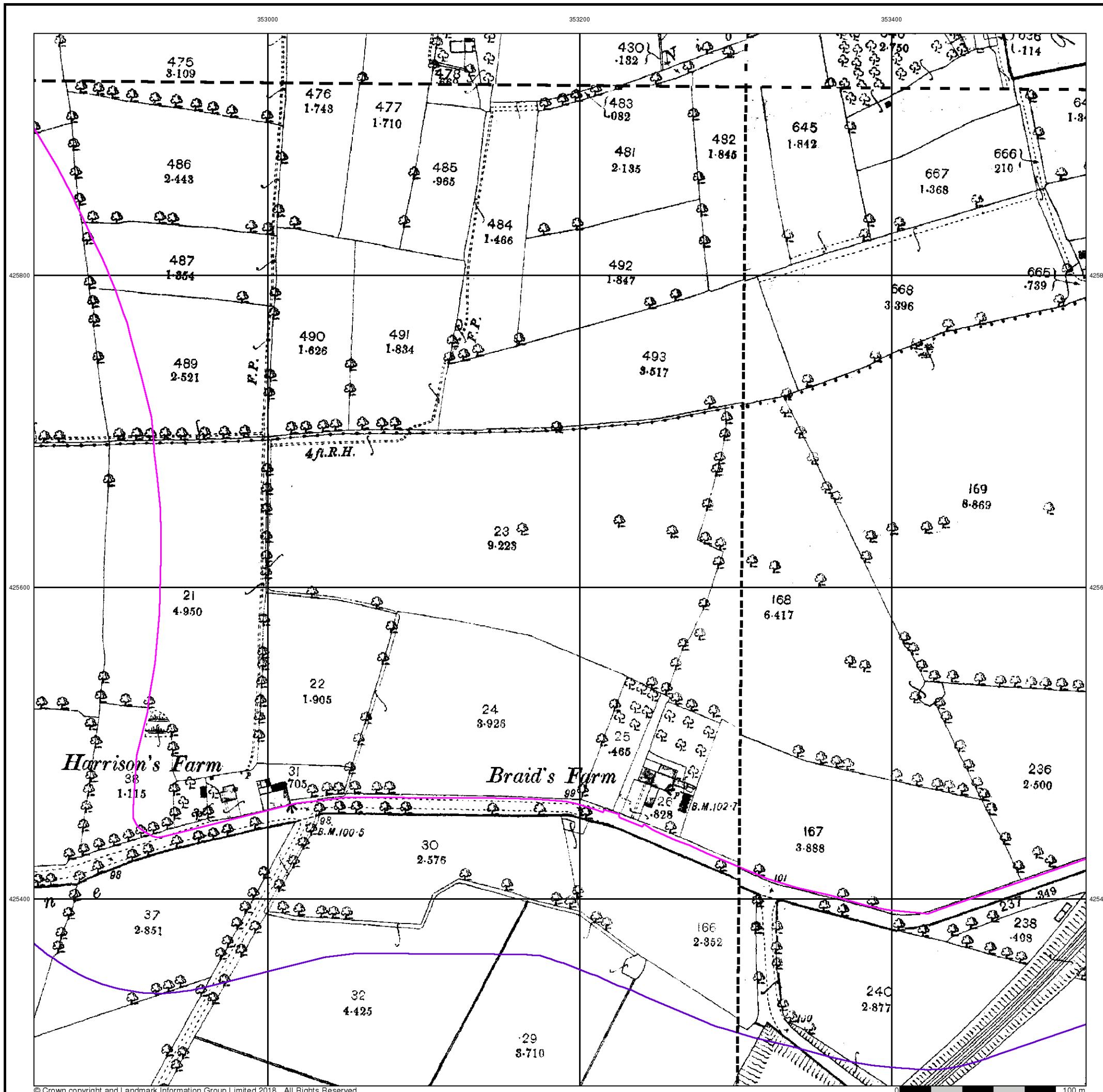
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

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Lancashire And Furness

Published 1911

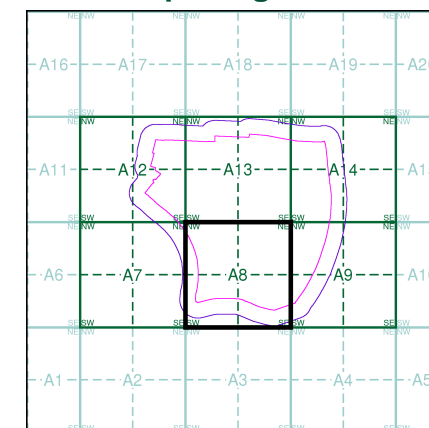
Source map scale - 1:2,500

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)

069_01 1911 1:2,500	069_02 1911 1:2,500
069_05 1911 1:2,500	069_06 1911 1:2,500

Historical Map - Segment A8



Order Details

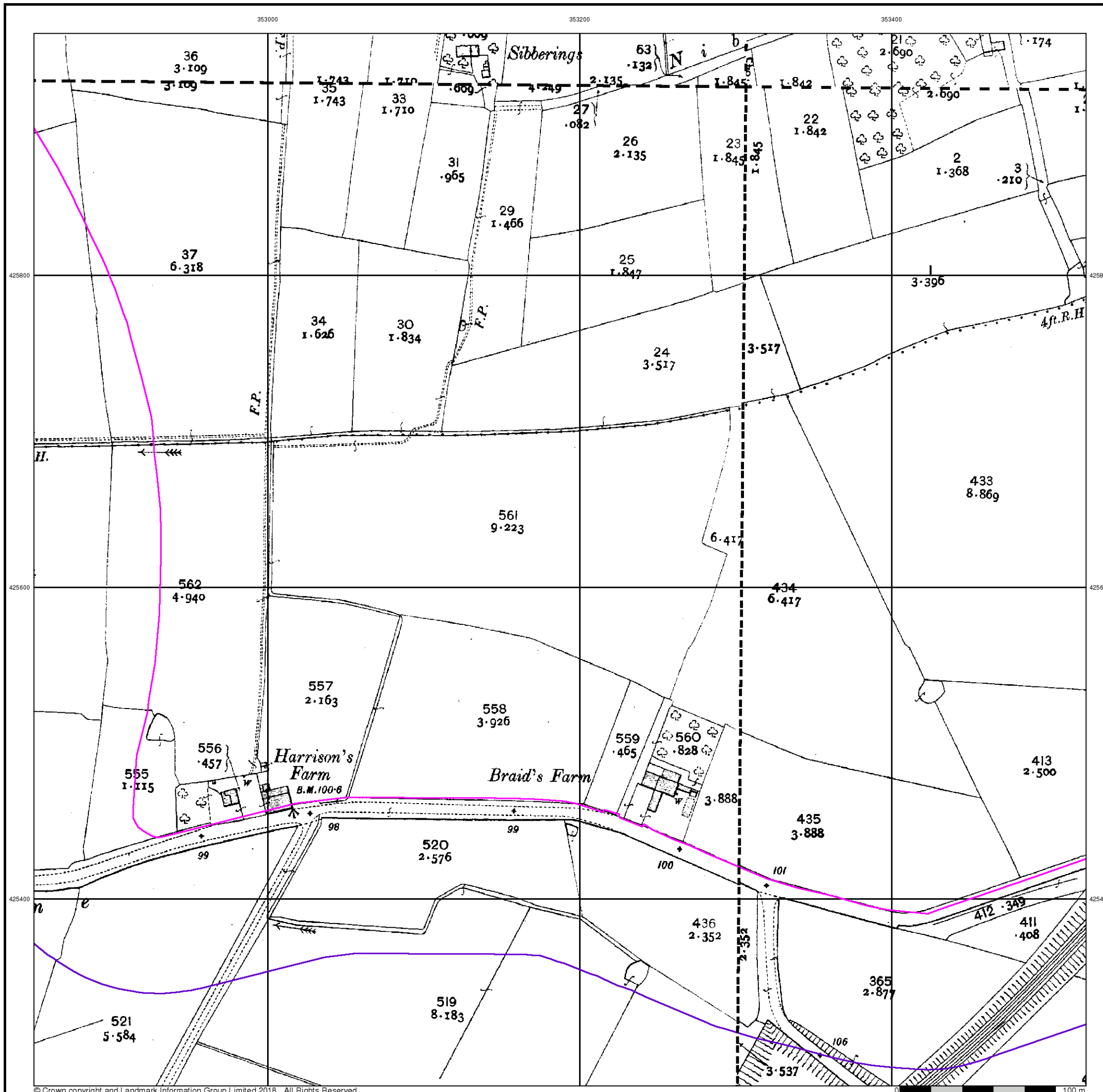
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

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Lancashire And Furness

Published 1931

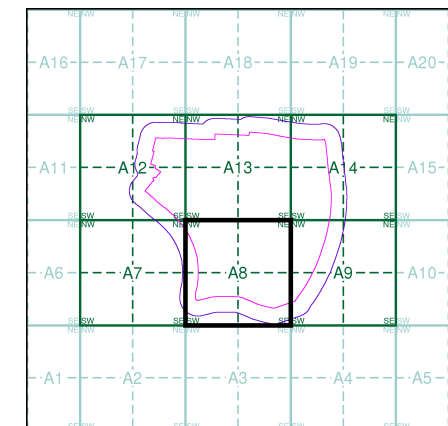
Source map scale - 1:2,500

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)

069_01 1931 1:2,500	069_02 1931 1:2,500
069_05 1931 1:2,500	069_06 1931 1:2,500

Historical Map - Segment A8



Order Details

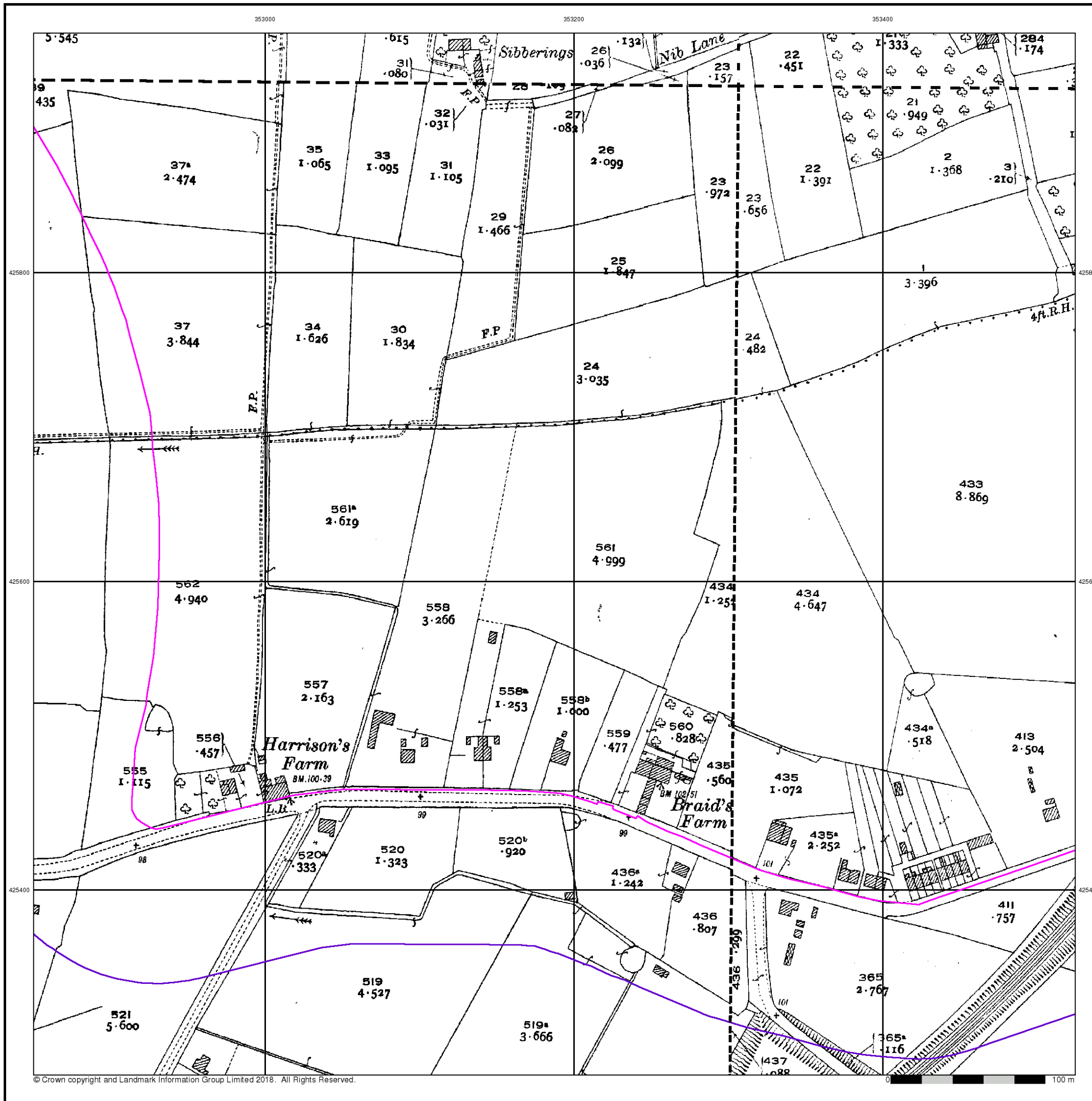
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



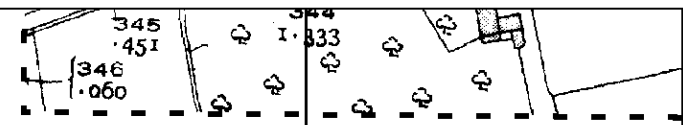
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



353000

353200

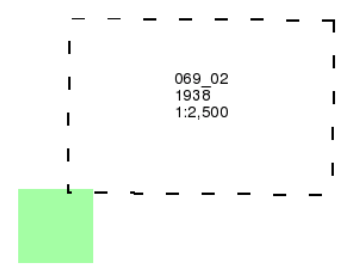
353400



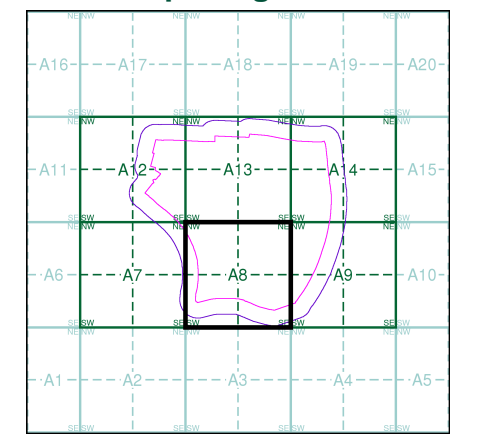
Lancashire And Furness Published 1938 Source map scale - 1:2,500

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 A8



Order Details

Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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425800

425800

425600

425600

425400

425400





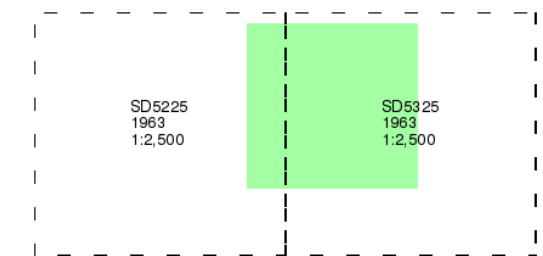
Ordnance Survey Plan

Published 1963

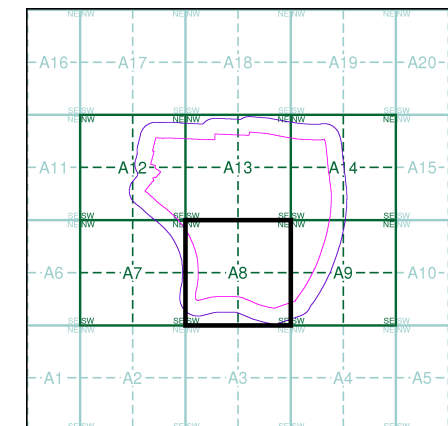
Source map scale - 1:2,500

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 A8



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1963

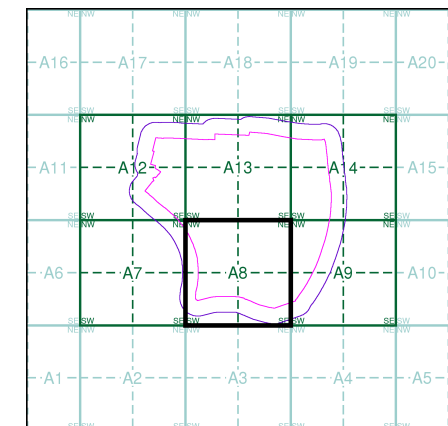
Source map scale - 1:1,250

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)

SD5325NW 1963 1:1,250	SD5325NE 1963 1:1,250
SD5325SW 1963 1:1,250	SD5325SE 1963 1:1,250

Historical Map - Segment A8



Order Details

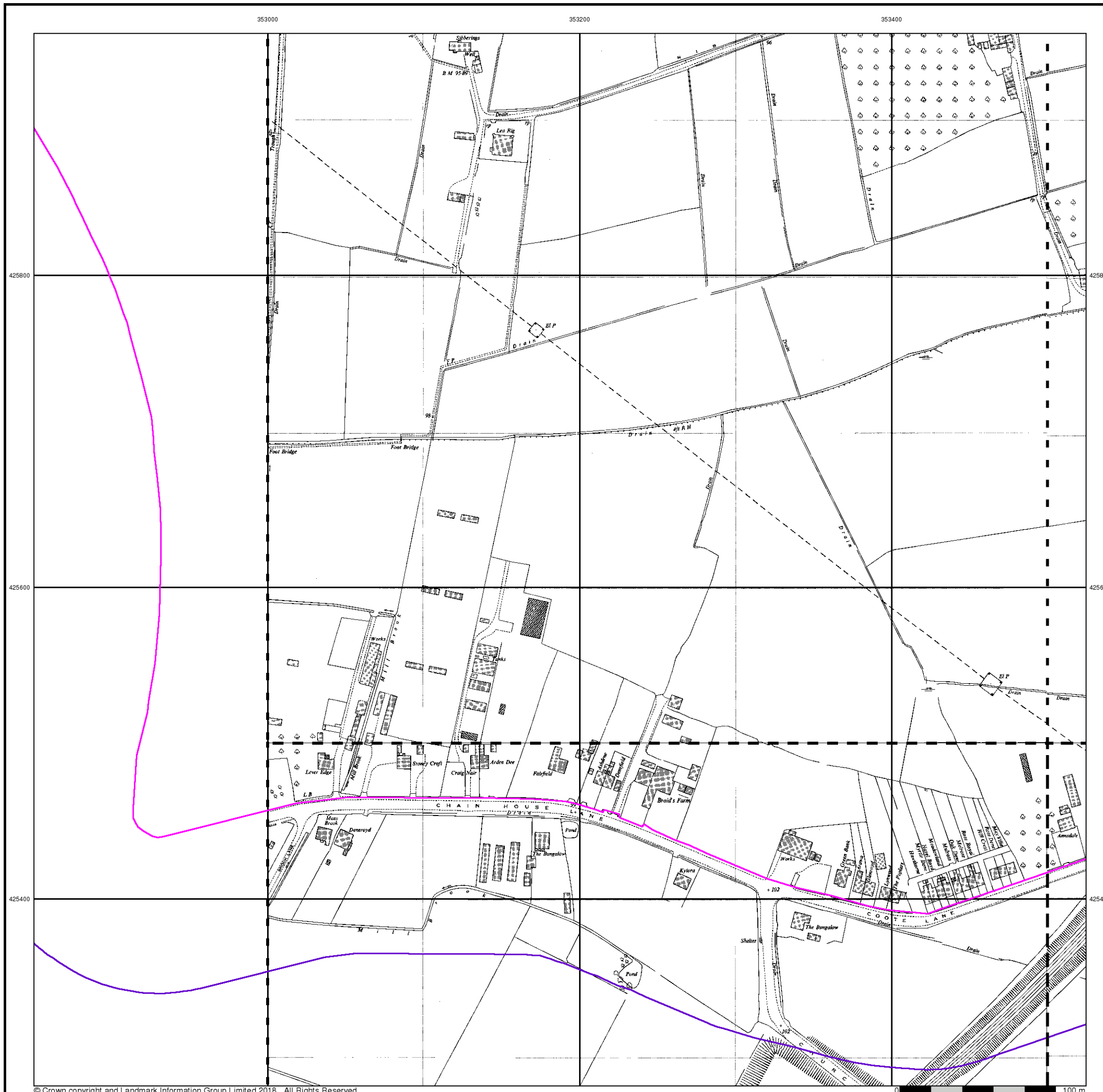
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

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353000

353200

353400



Additional SIMs

Published 1963 - 1979

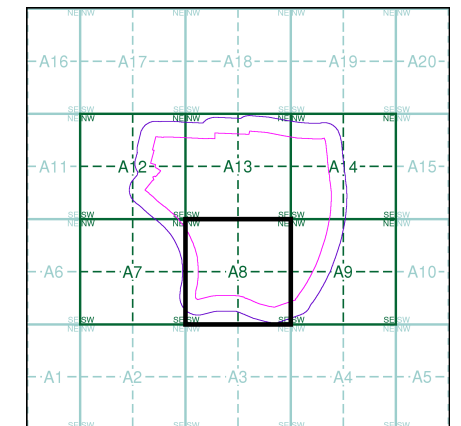
Source map scale - 1:1,250

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)

SD5325NW 1963 1:1,250	SD5325NE 1979 1:1,250
SD5325SW 1963 1:1,250	SD5325SE 1963 1:1,250

Historical Map - Segment A8



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

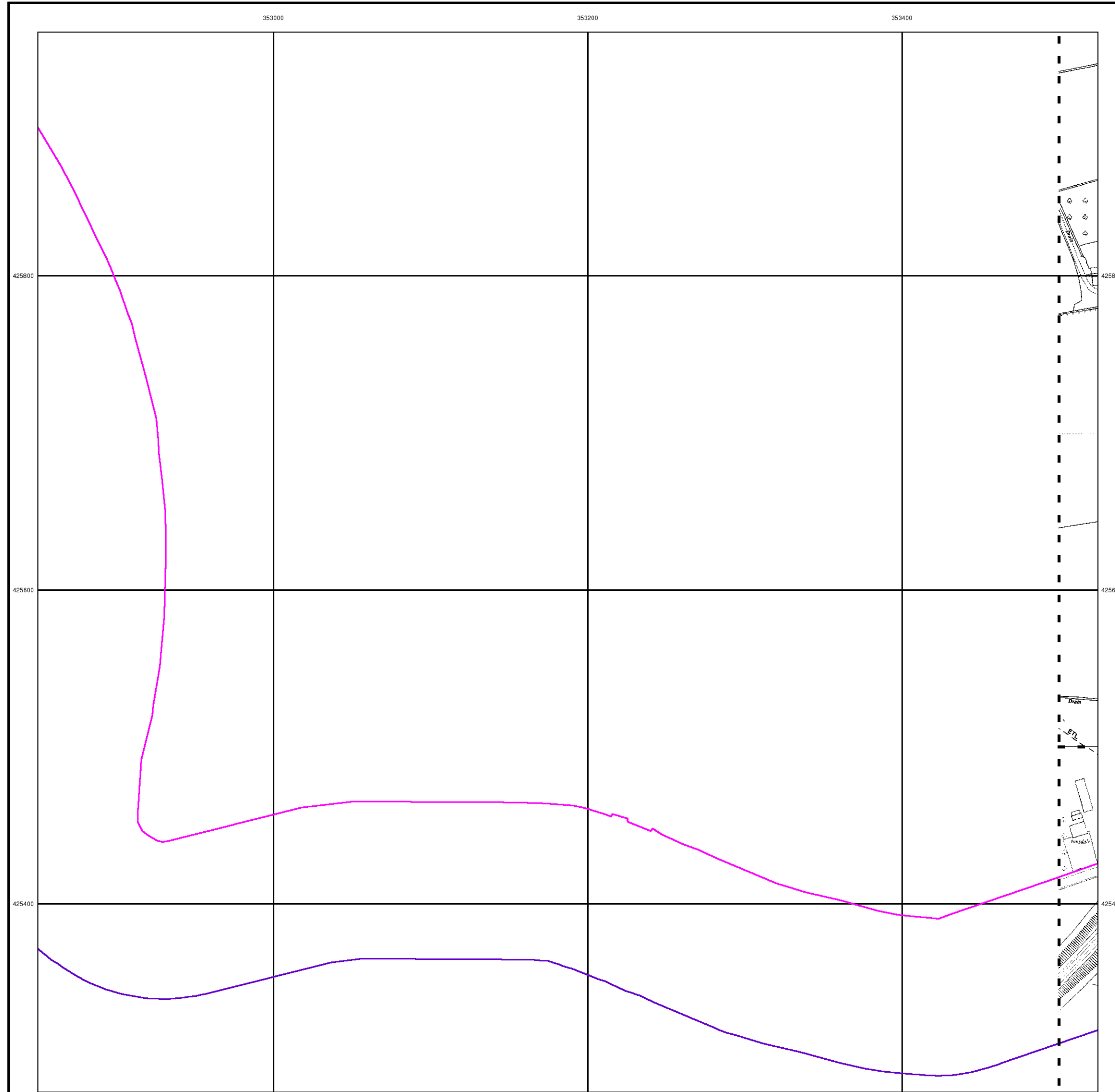
Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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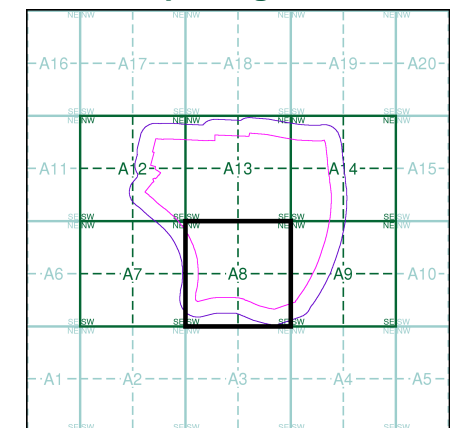
Additional SIMs
Published 1977 - 1985
Source map scale - 1:1,250

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)

	SD5325NE 1985 1:1,250
	SD5325SE 1977 1:1,250

Historical Map - Segment A8



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



Additional SIMs

Published 1987 - 1990

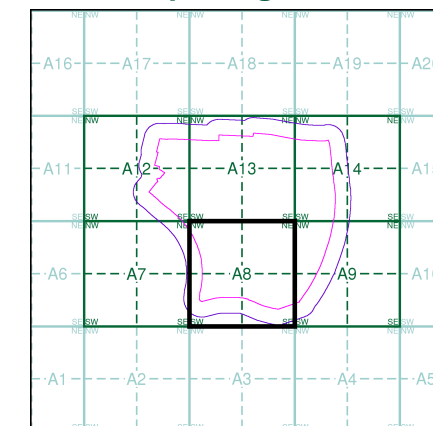
Source map scale - 1:1,250

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)

	SD5325NE 1990 1:1,250
	SD5325SE 1987 1:1,250

Historical Map - Segment A8



Order Details

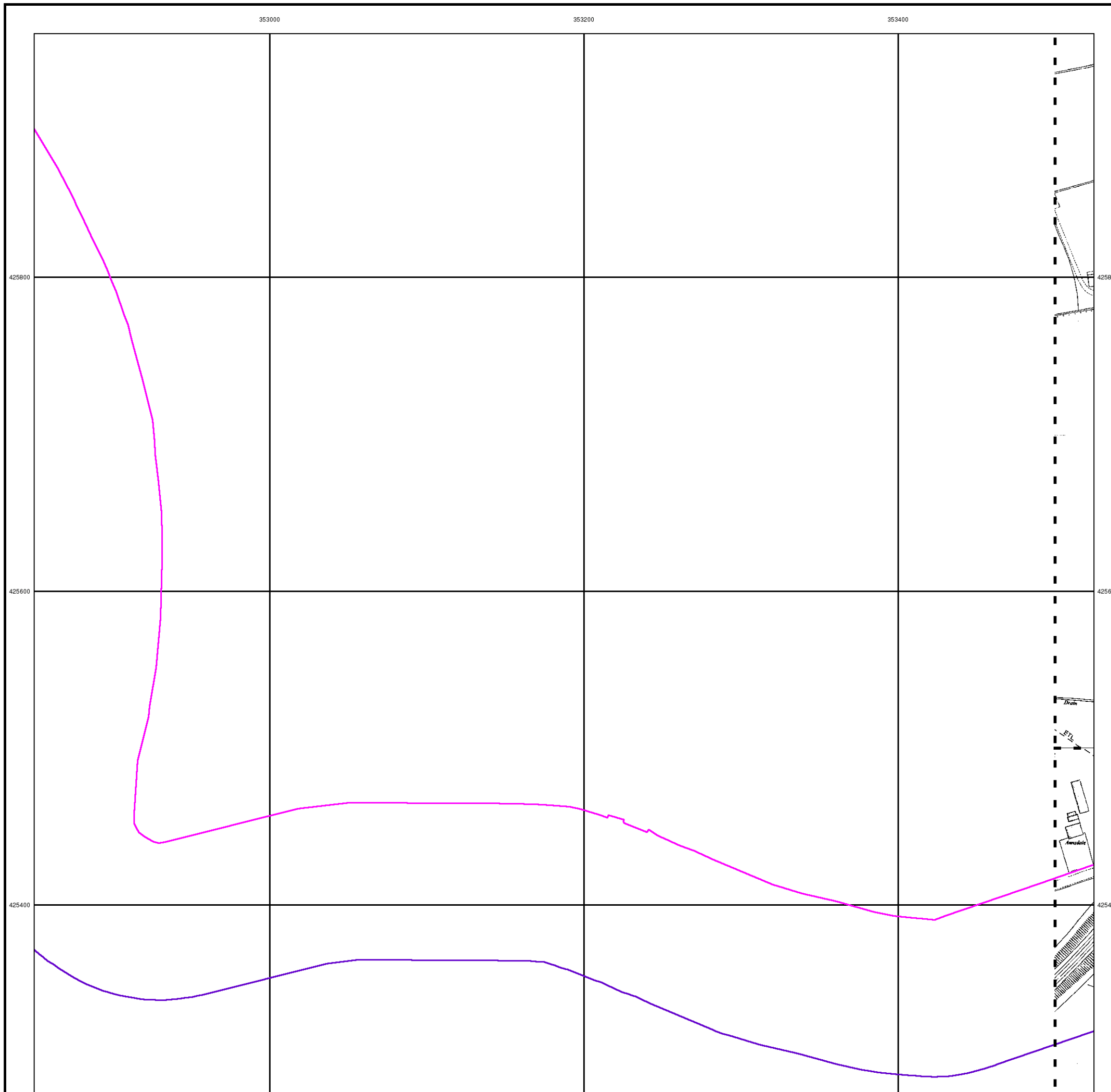
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

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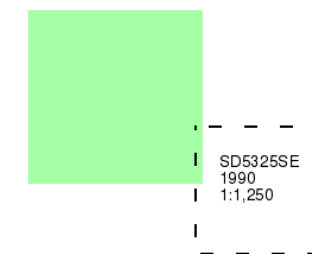
Ordnance Survey Plan

Published 1990

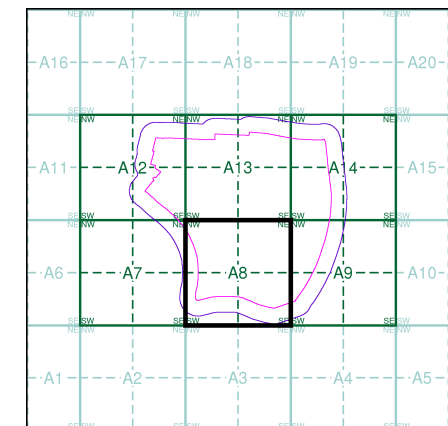
Source map scale - 1:1,250

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)



Historical Map - Segment A8



Order Details

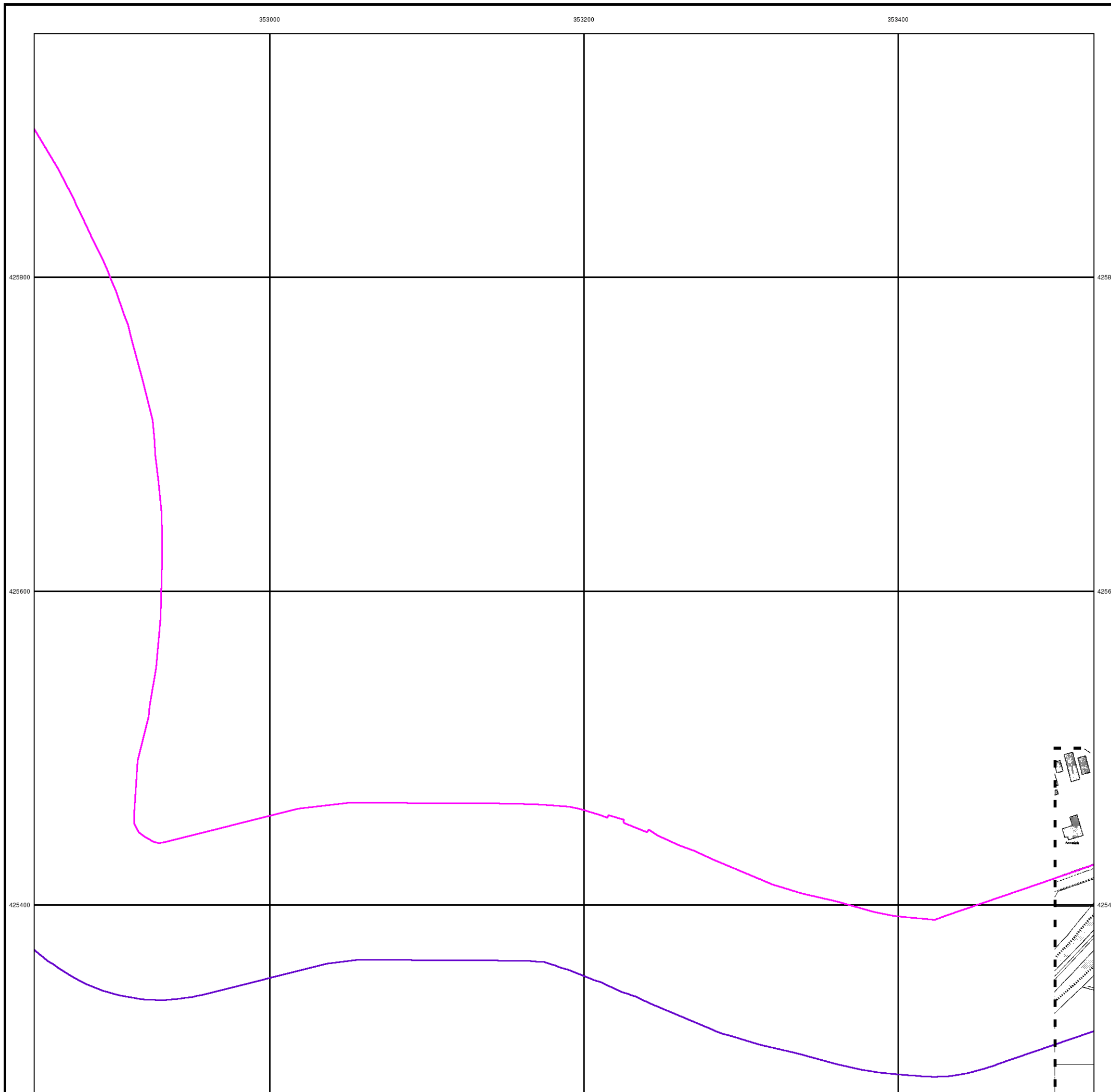
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

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Large-Scale National Grid Data

Published 1993

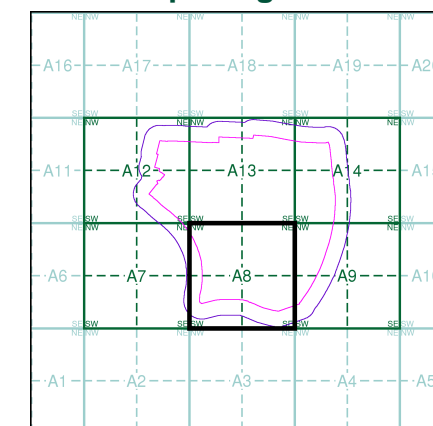
Source map scale - 1:1,250

'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)

SD5325NW 1993 1:1,250	SD5325NE 1993 1:1,250
SD5325SW 1993 1:1,250	SD5325SE 1993 1:1,250

Historical Map - Segment A8



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

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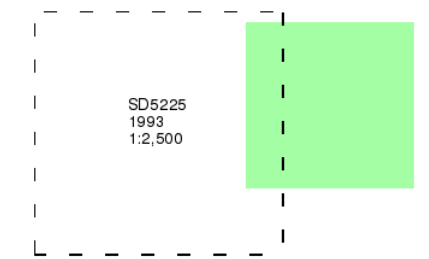
353000 353200 353400



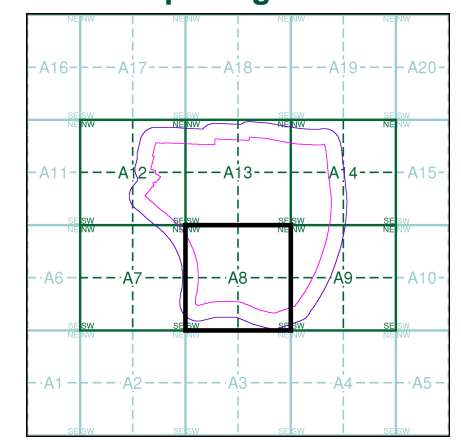
Large-Scale National Grid Data Published 1993 Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A8



Order Details

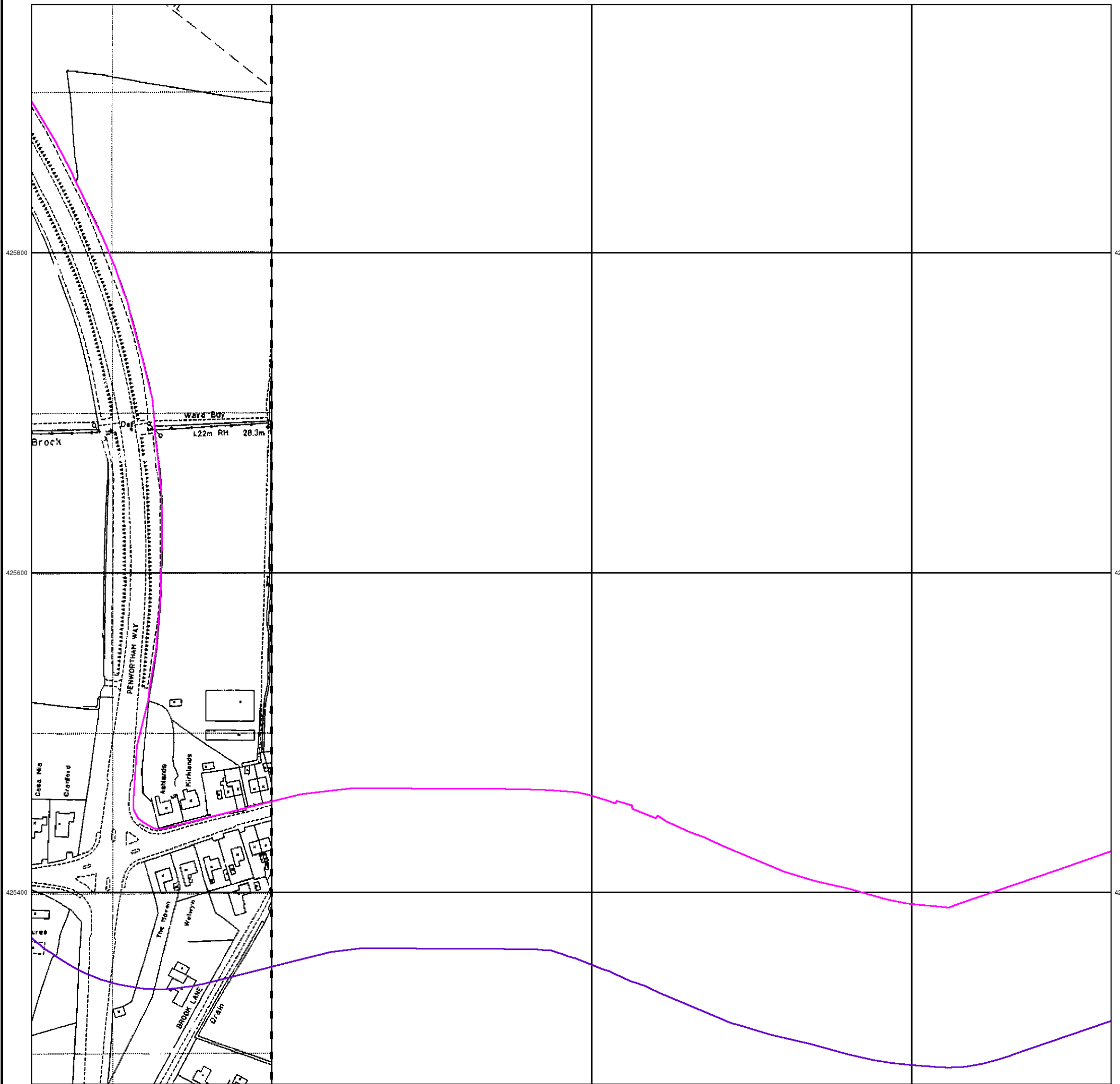
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Historical Mapping Legends

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

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
County Burgh Boundary (Scotland)
Co. Boro. Bdy.
Co. Burgh Bdy.
BP BS Boundary Post or Stone **P.C.B** Police Call Box
B.R. Bridle Road **P** Pump
E.P Electricity Pylon **S.P** Signal Post
F.B. Foot Bridge **SL** Sluice
F.P. Foot Path **Sp.** Spring
G.P Guide Post or Board **T.C.B** Telephone Call Box
M.S Mile Stone **Tr.** Trough
M.P M.R Mooring Post or Ring **W** Well

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

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
BH Beer House **P** Pillar, Pole or Post
BP, BS Boundary Post or Stone **PO** Post Office
Cn, C Capstan, Crane **PC** Public Convenience
Chy Chimney **PH** Public House
D Fn Drinking Fountain **Pp** Pump
EI P Electricity Pillar or Post **SB, S Br** Signal Box or Bridge
FAP Fire Alarm Pillar **SP, SL** Signal Post or Light
FB Foot Bridge **Spr** Spring
GP Guide Post **Tk** Tank or Track
H Hydrant or Hydraulic **TCB** Telephone Call Box
LC Level Crossing **TCP** Telephone Call Post
MH Manhole **Tr** Trough
MP Mile Post or Mooring Post **Wr Pt, Wr T** Water Point, Water Tap
MS Mile Stone **W** Well
NTL Normal Tidal Limit **Wd Pp** Wind Pump

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

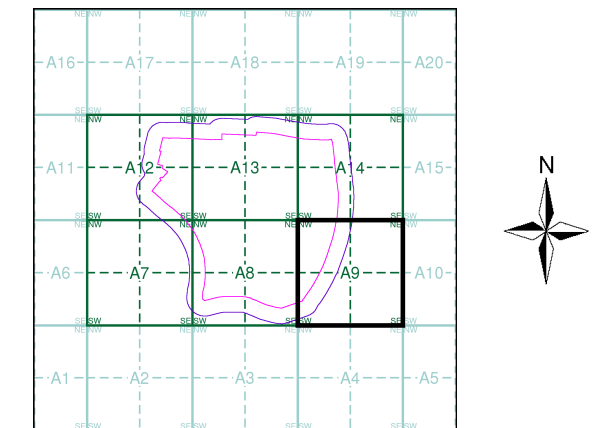
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 231.60m Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Bks Barracks **P** Pillar, Pole or Post
Bty Battery **PO** Post Office
Cemy Cemetery **PC** Public Convenience
Chy Chimney **Pp** Pump
Cis Cistern **Ppg Sta** Pumping Station
Dismtd Rly Dismantled Railway **PW** Place of Worship
EI Gen Sta Electricity Generating Station **Sewage Ppg Sta** Sewage Pumping Station
EI P Electricity Pole, Pillar **SB, S Br** Signal Box or Bridge
EI Sub Sta Electricity Sub Station **SP, SL** Signal Post or Light
FB Filter Bed **Spr** Spring
Fn / D Fn Fountain / Drinking Ftn. **Tk** Tank or Track
Gas Gov Gas Valve Compound **Tr** Trough
GVC Gas Governor **Wd Pp** Wind Pump
GP Guide Post **Wr Pt, Wr T** Water Point, Water Tap
MH Manhole **Wks** Works (building or area)
MP, MS Mile Post or Mile Stone **W** Well



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1911	3
Lancashire And Furness	1:2,500	1931	4
Lancashire And Furness	1:2,500	1938	5
Ordnance Survey Plan	1:2,500	1963 - 1965	6
Ordnance Survey Plan	1:1,250	1963 - 1964	7
Additional SIMs	1:1,250	1963 - 1979	8
Ordnance Survey Plan	1:1,250	1970 - 1991	9
Additional SIMs	1:1,250	1977 - 1986	10
Additional SIMs	1:1,250	1987 - 1990	11
Additional SIMs	1:1,250	1988	12
Ordnance Survey Plan	1:1,250	1989	13
Large-Scale National Grid Data	1:1,250	1993	14

Historical Map - Segment A9



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Lancashire And Furness

Published 1893

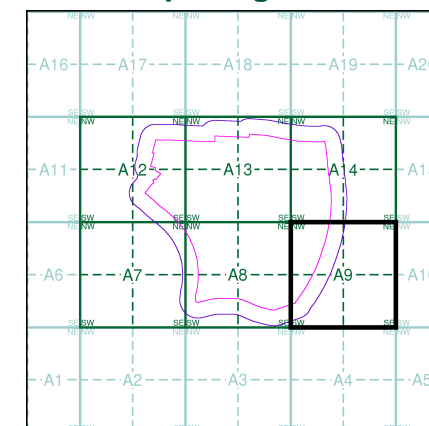
Source map scale - 1:2,500

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)

069_02	1893	1:2,500
069_06	1893	1:2,500

Historical Map - Segment A9



Order Details

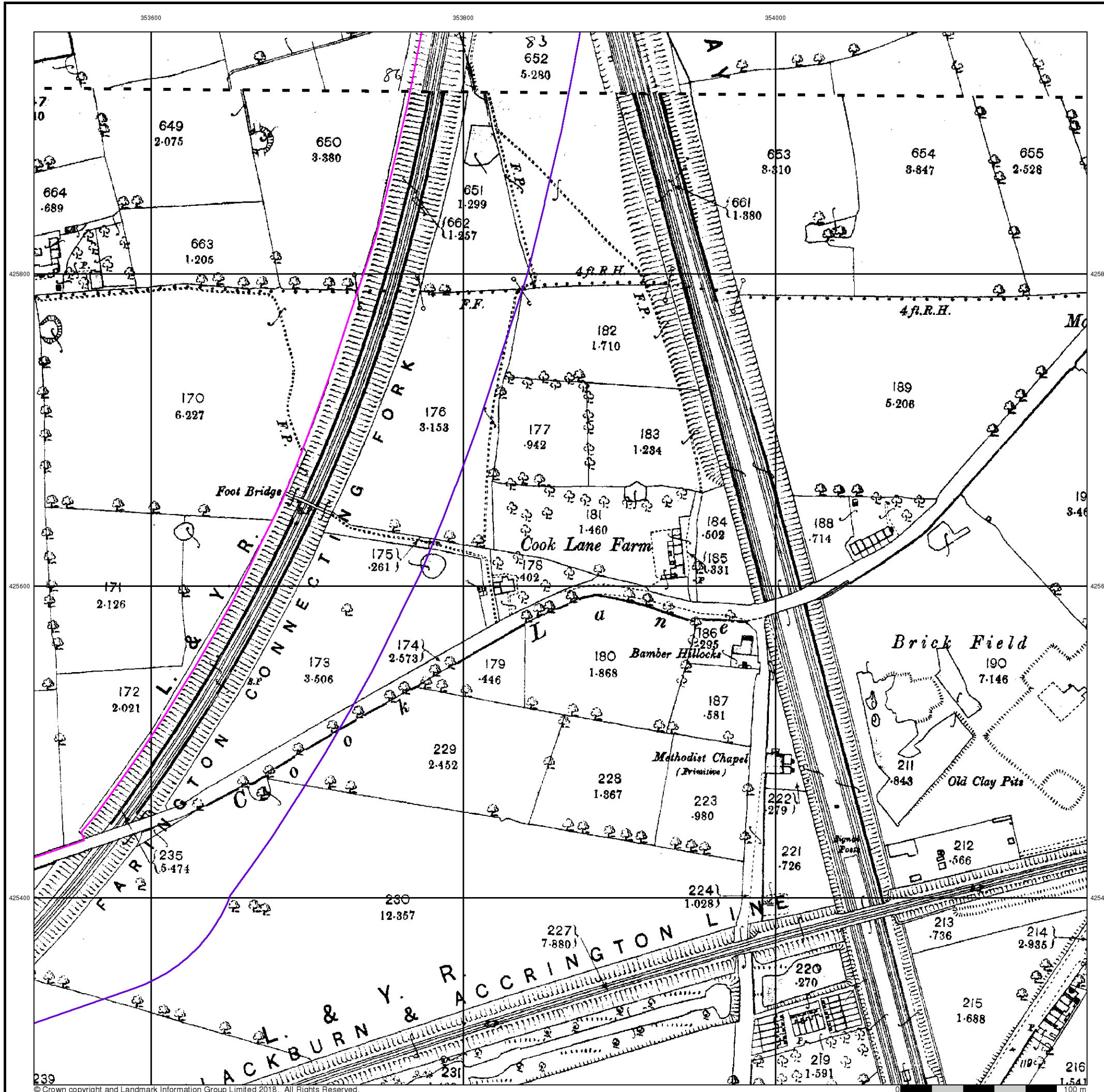
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
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Lancashire And Furness

Published 1911

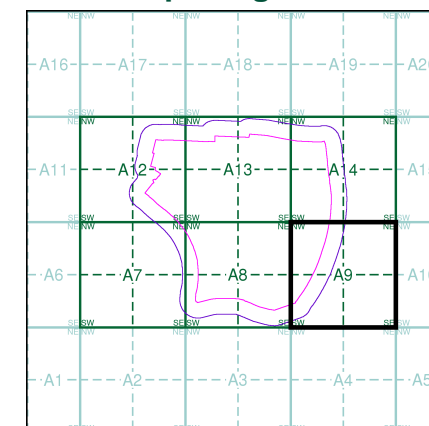
Source map scale - 1:2,500

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)

069_02	1911	1:2,500
069_06	1911	1:2,500

Historical Map - Segment A9



Order Details

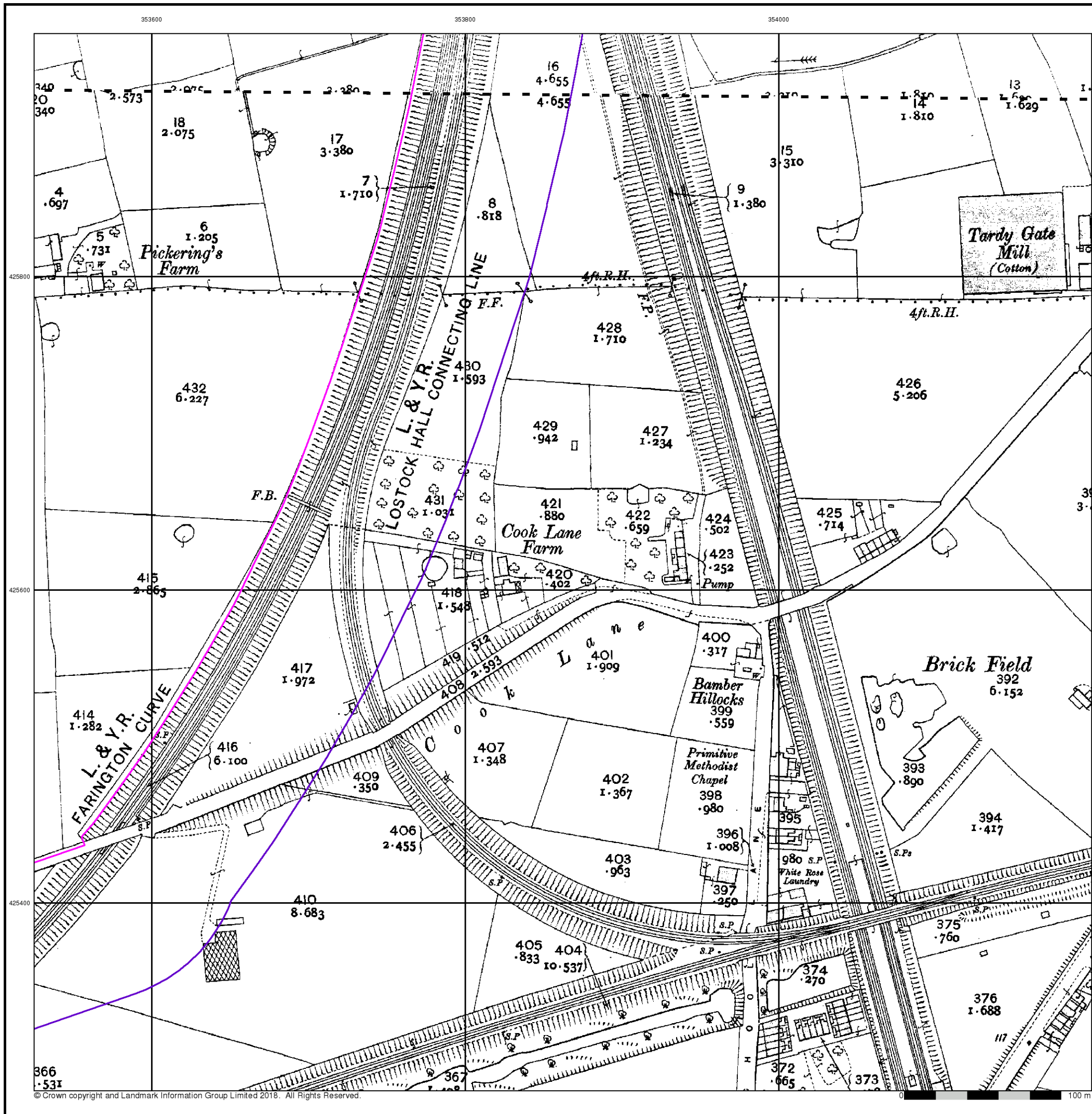
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

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Lancashire And Furness

Published 1931

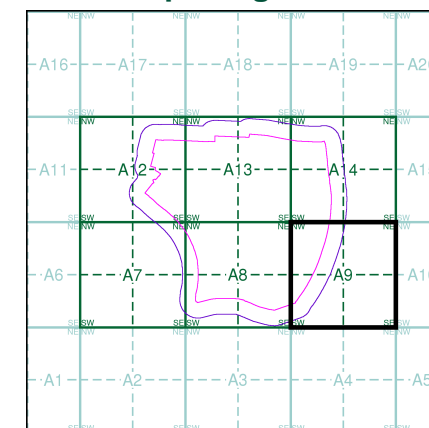
Source map scale - 1:2,500

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)

069_02	1931	1:2,500
069_06	1931	1:2,500

Historical Map - Segment A9



Order Details

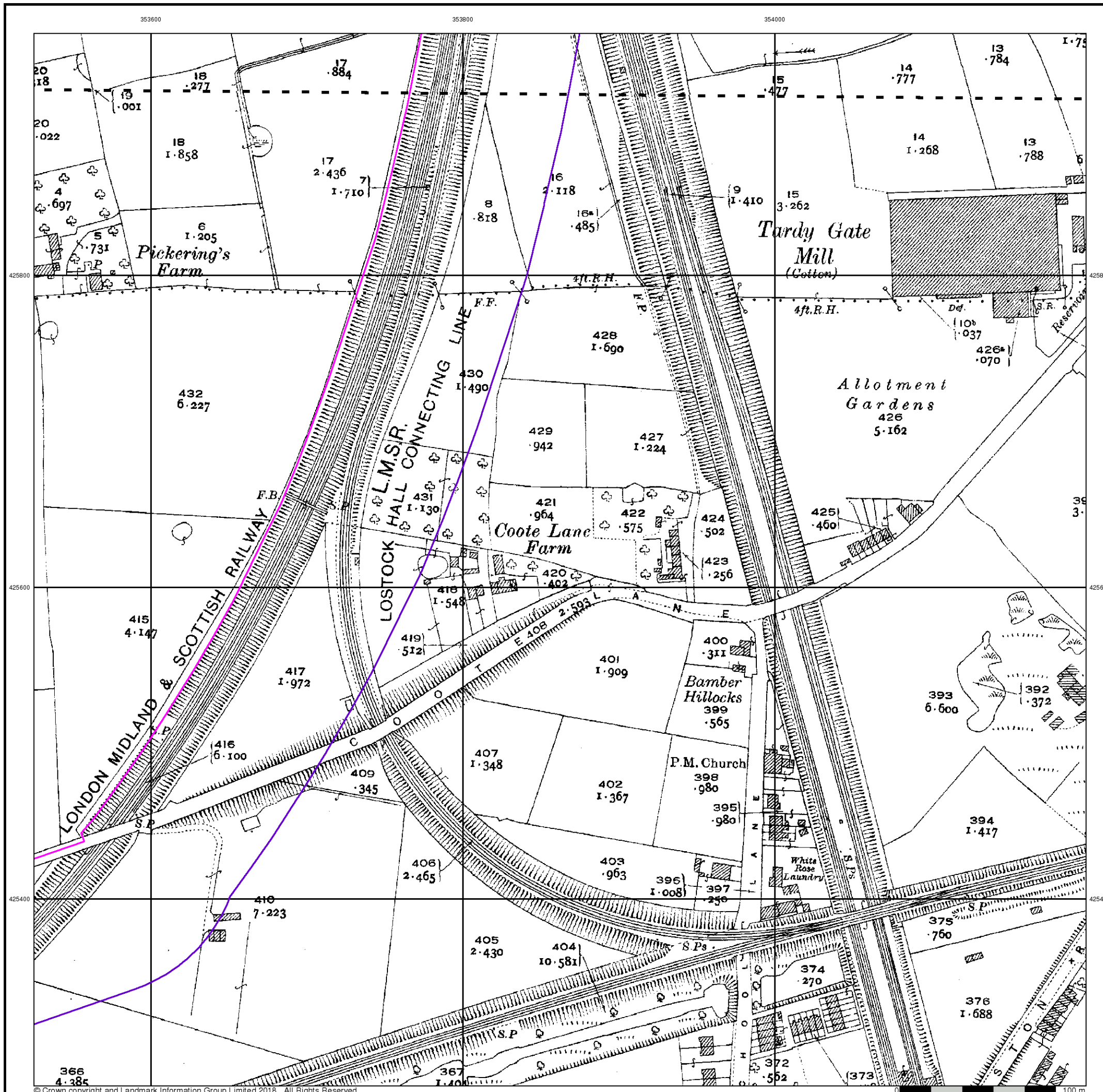
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

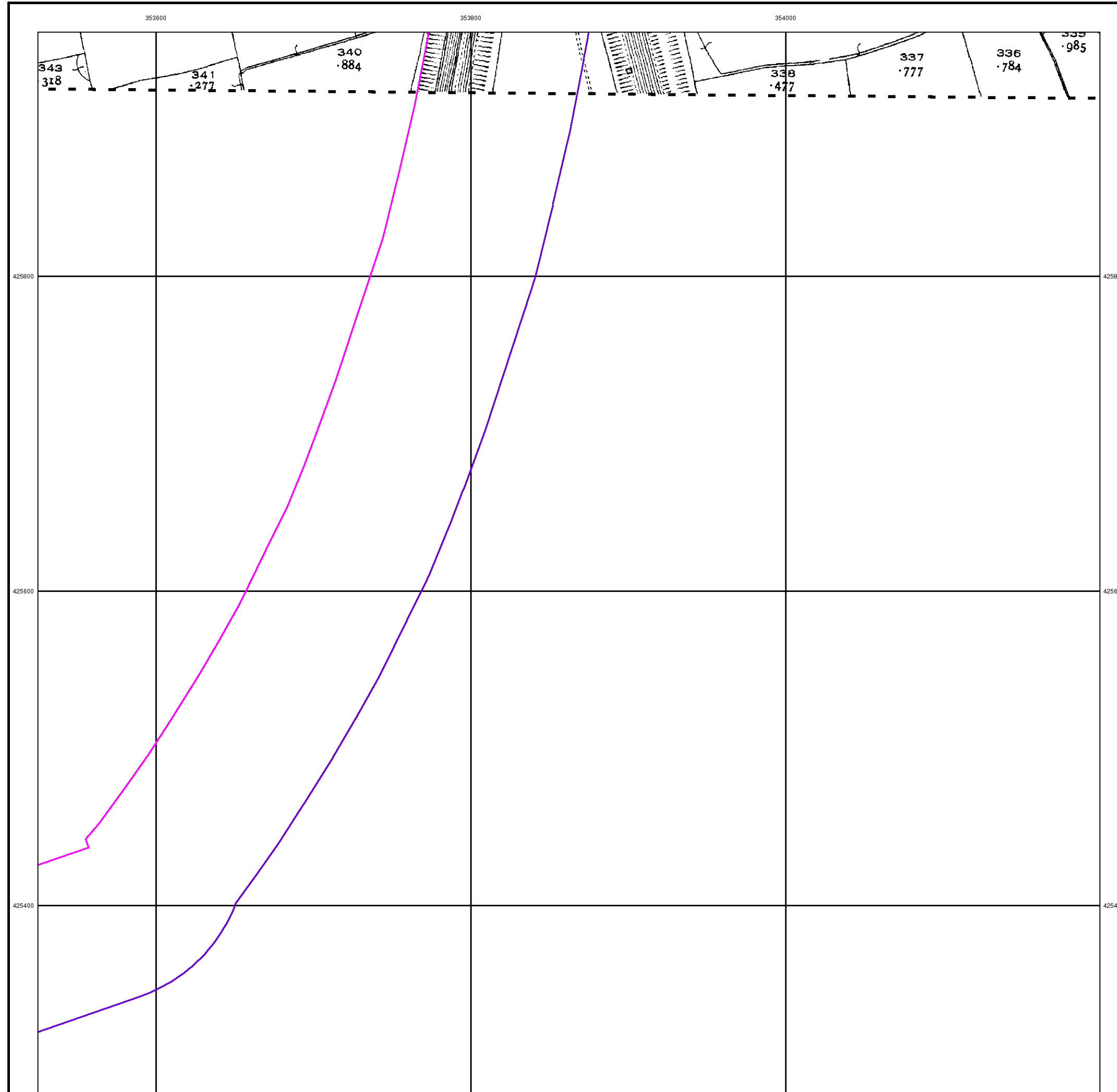
Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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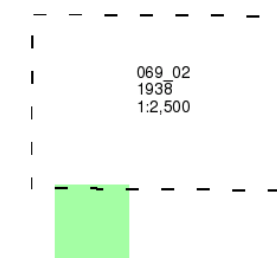
Lancashire And Furness

Published 1938

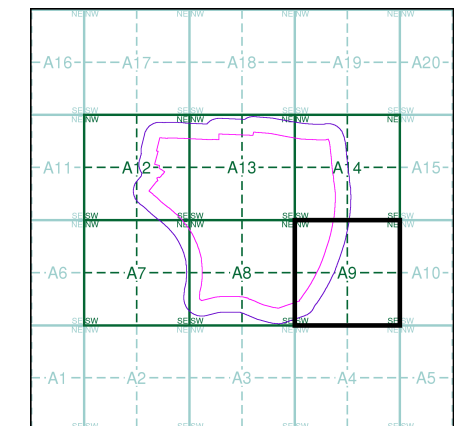
Source map scale - 1:2,500

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 A9



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



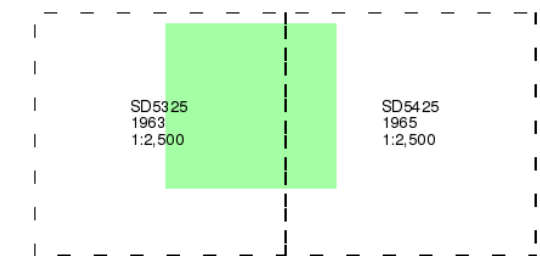
Ordnance Survey Plan

Published 1963 - 1965

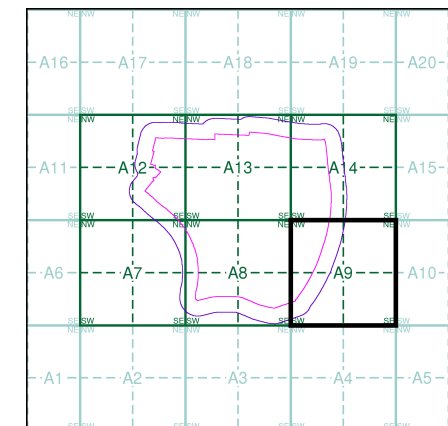
Source map scale - 1:2,500

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 A9



Order Details

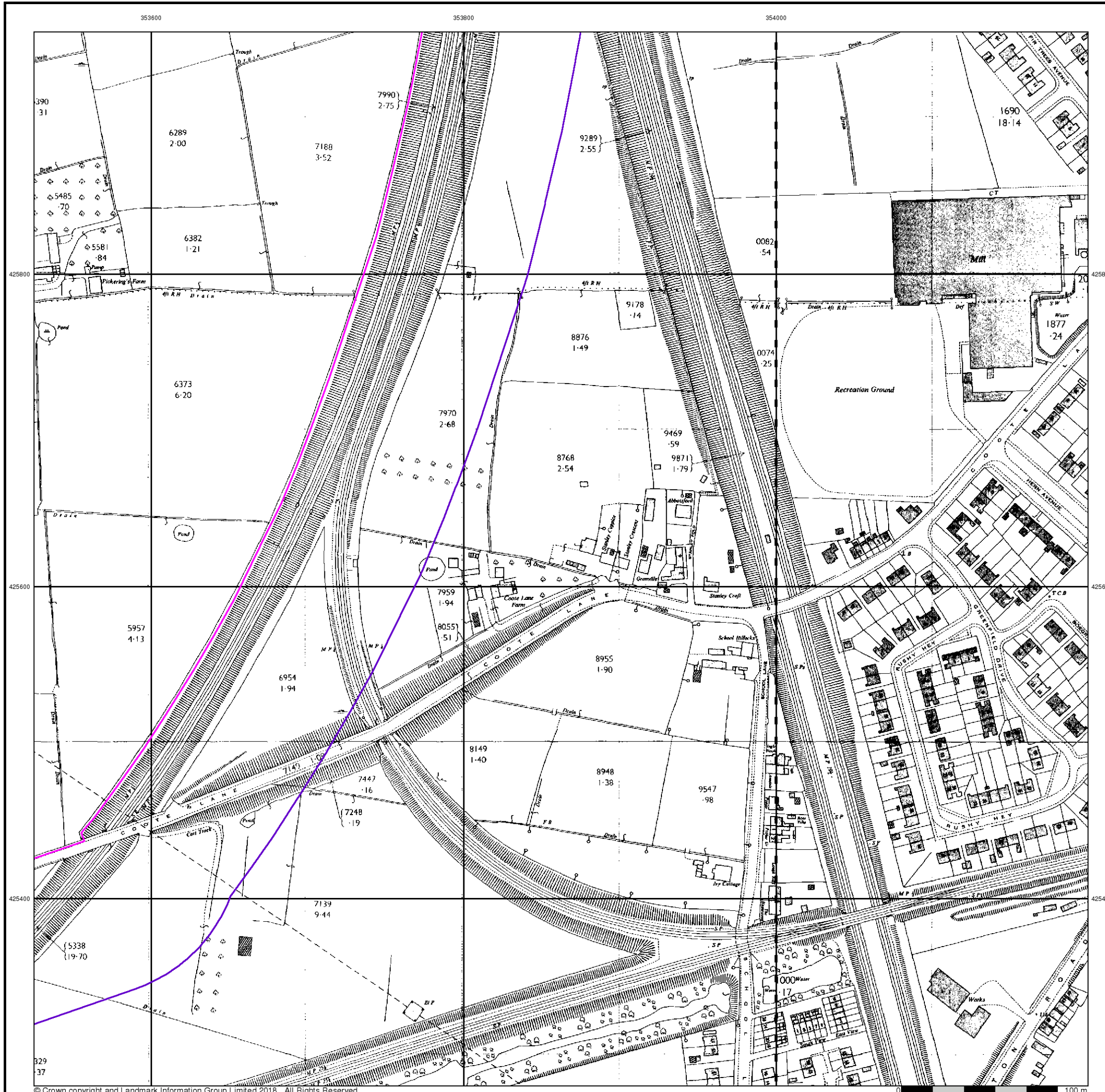
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Additional SIMs

Published 1963 - 1979

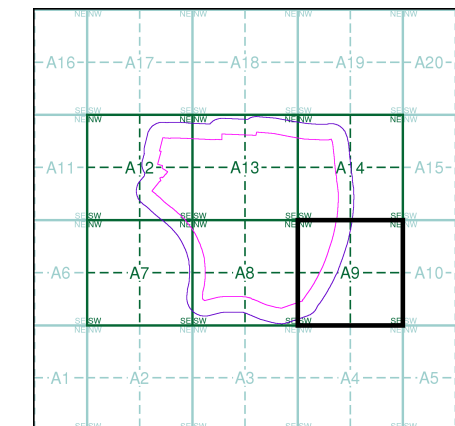
Source map scale - 1:1,250

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)

SD5325NE 1979 1:1,250	SD5425NW 1978 1:1,250
SD5325SE 1963 1:1,250	SD5425SW 1964 1:1,250

Historical Map - Segment A9



Order Details

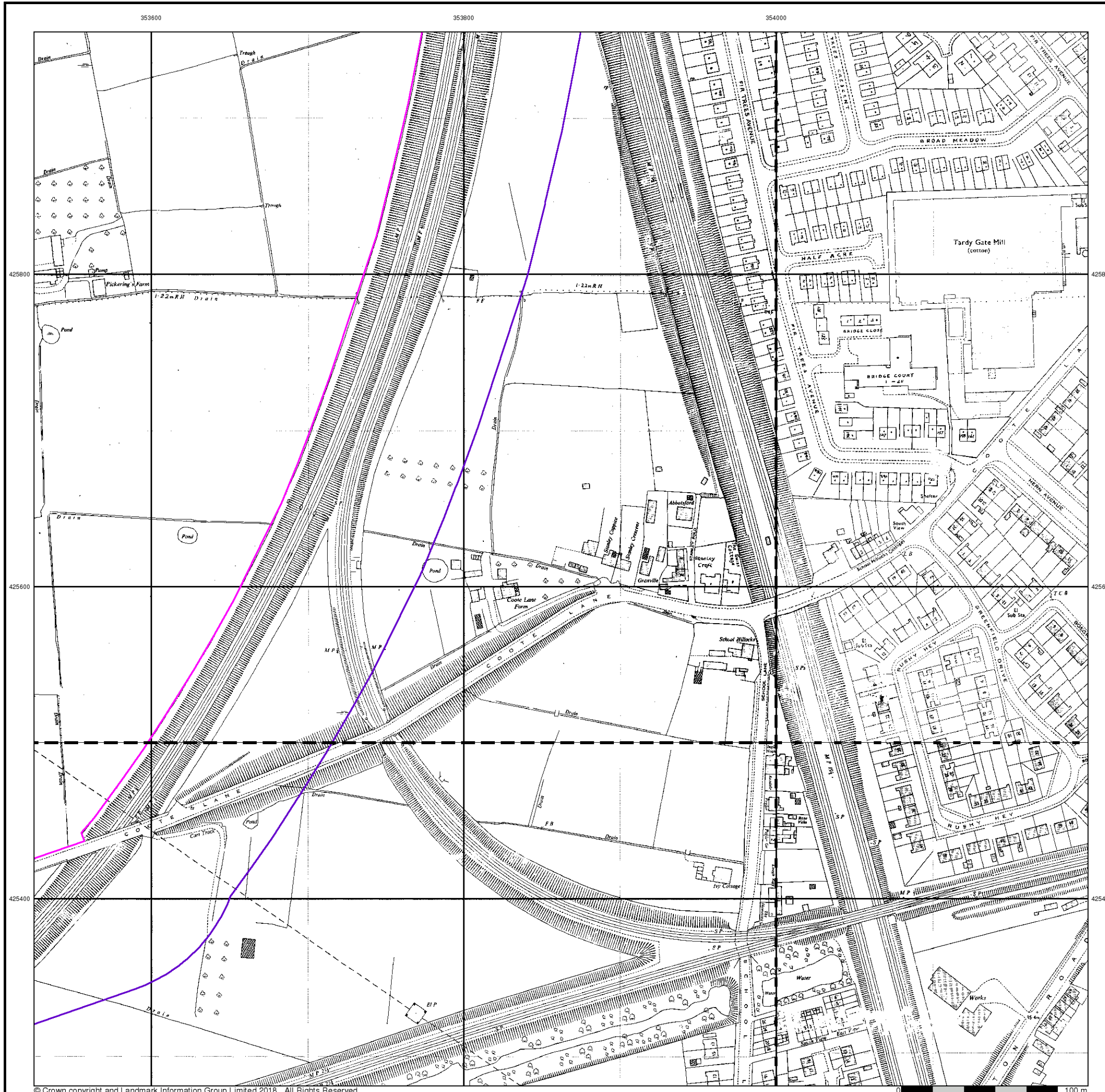
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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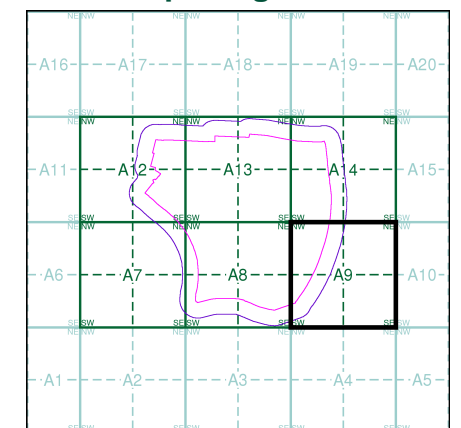
Ordnance Survey Plan
Published 1970 - 1991
Source map scale - 1:1,250

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)

SD5425NW	1970	1:1,250
SD5325SE	1990	1:1,250
SD5425SW	1991	1:1,250

Historical Map - Segment A9



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

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Additional SIMs

Published 1977 - 1986

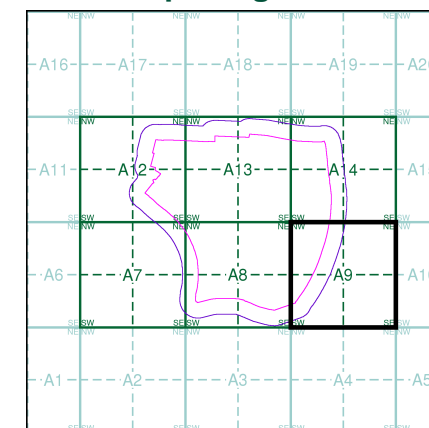
Source map scale - 1:1,250

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)

SD5325NE 1985 1:1,250	SD5425NW 1986 1:1,250
SD5325SE 1977 1:1,250	SD5425SW 1985 1:1,250

Historical Map - Segment A9



Order Details

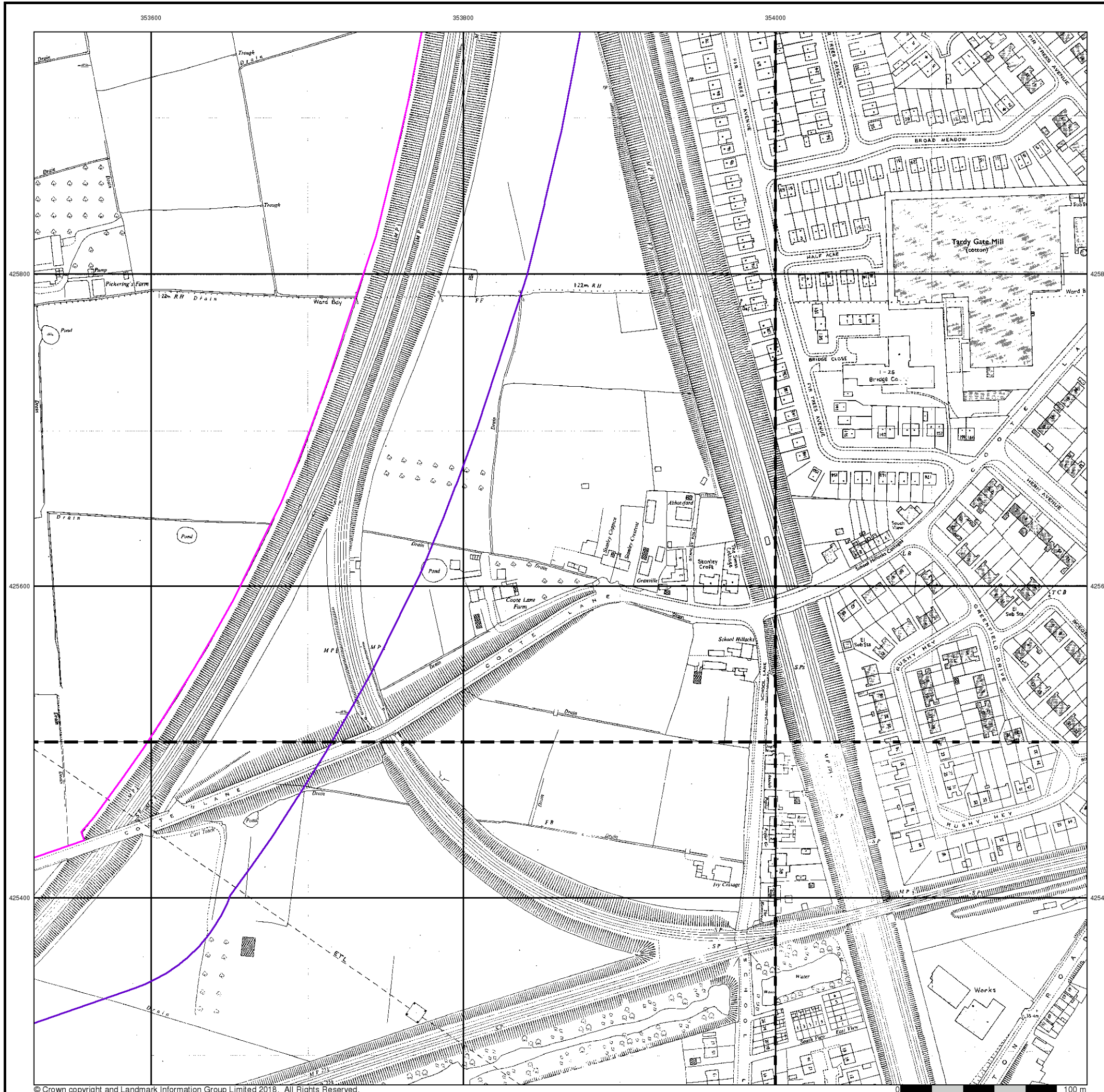
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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





Additional SIMs

Published 1987 - 1990

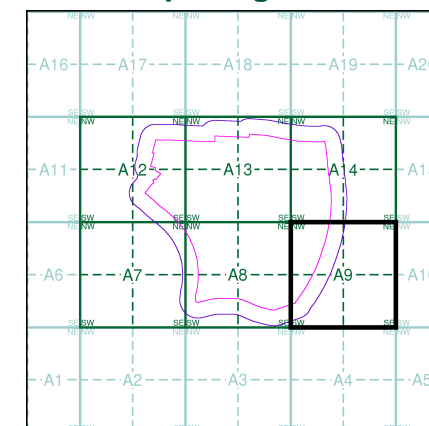
Source map scale - 1:1,250

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)

SD5325NE 1990 1:1,250	
SD5325SE 1987 1:1,250	SD5425SW 1988 1:1,250

Historical Map - Segment A9



Order Details

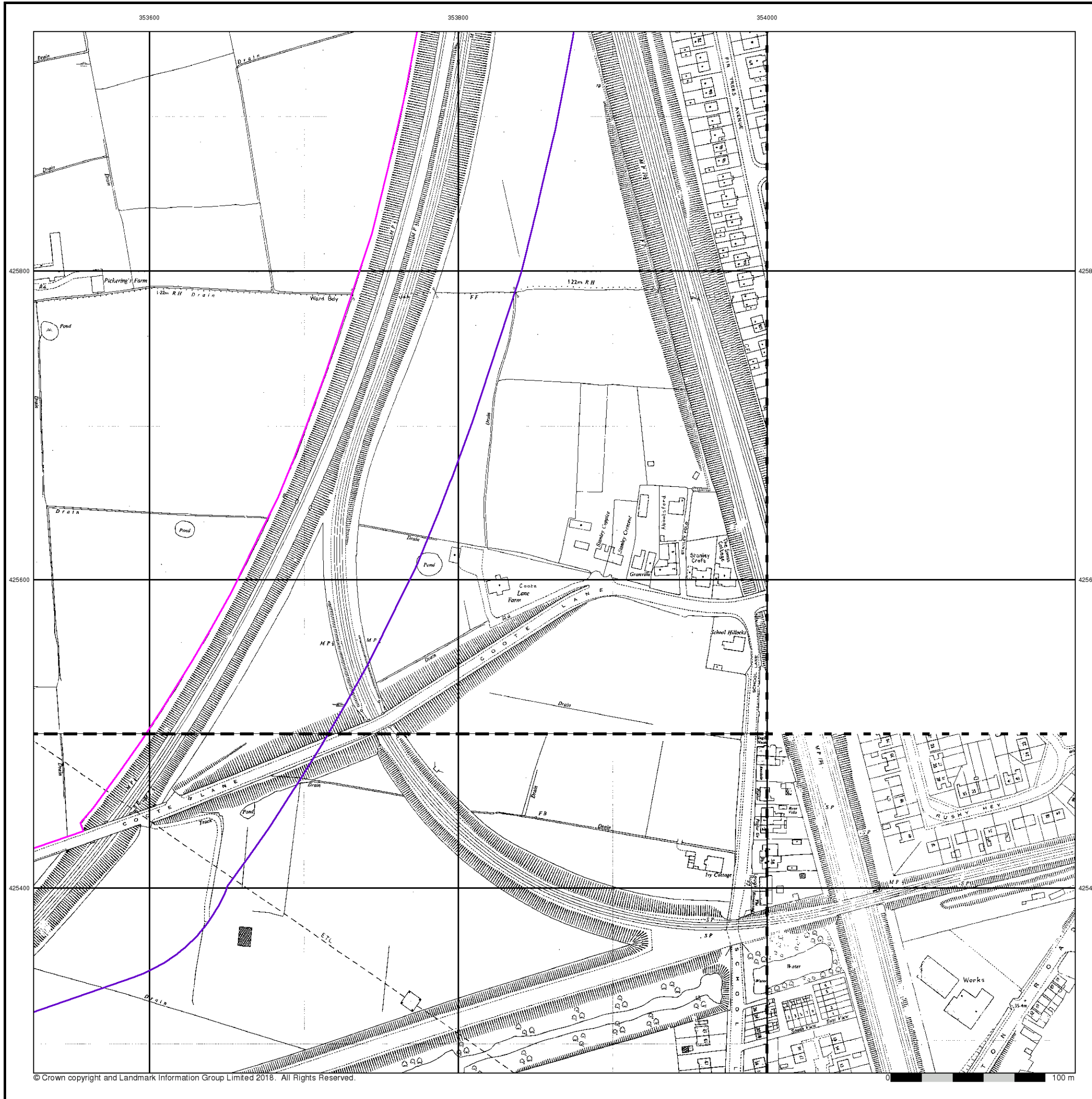
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

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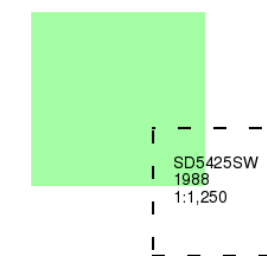
Additional SIMs

Published 1988

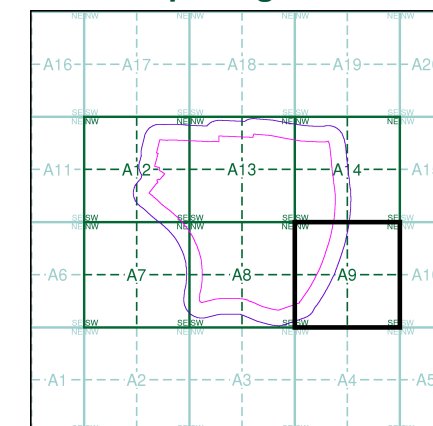
Source map scale - 1:1,250

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 A9



Order Details

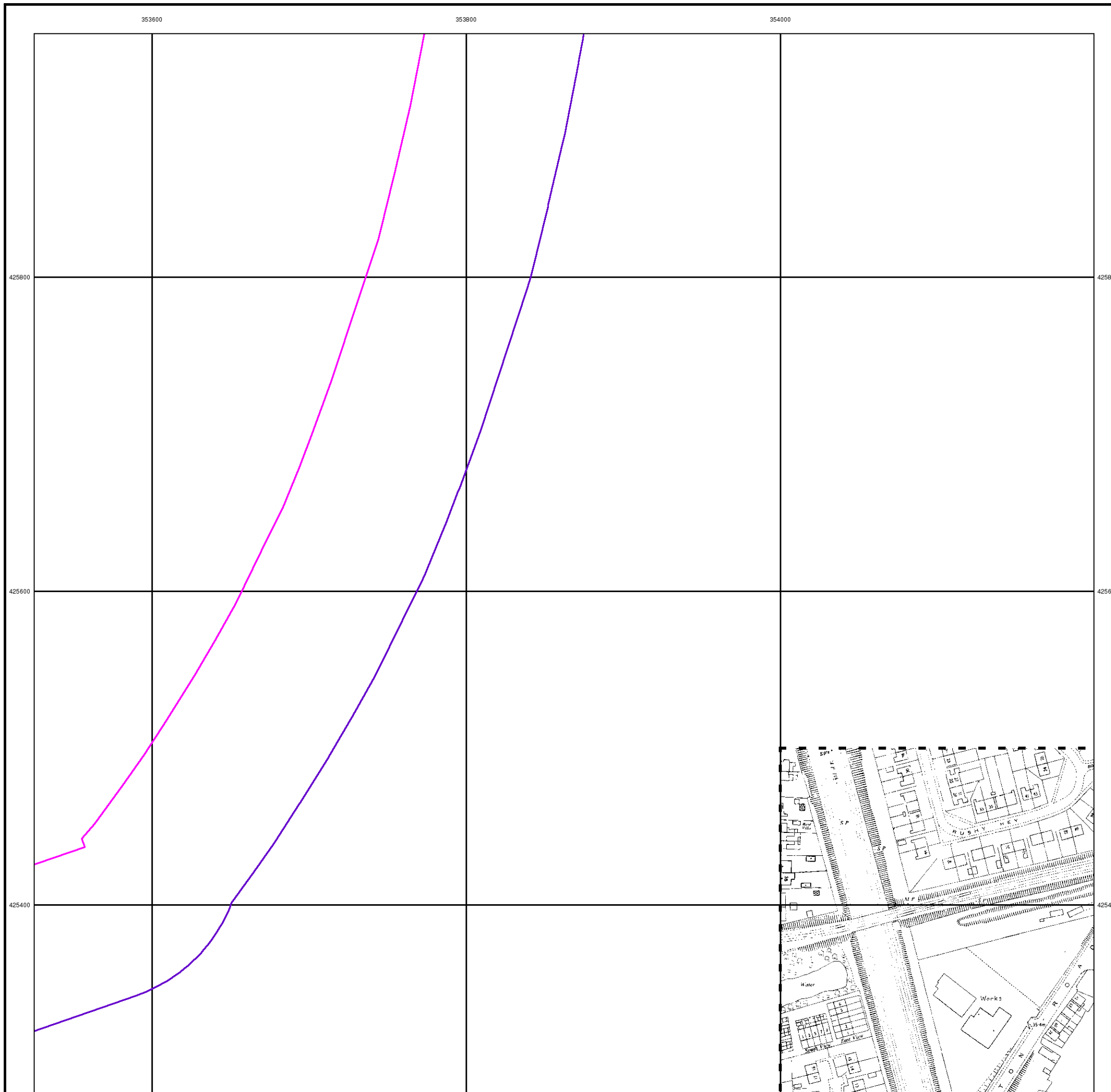
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



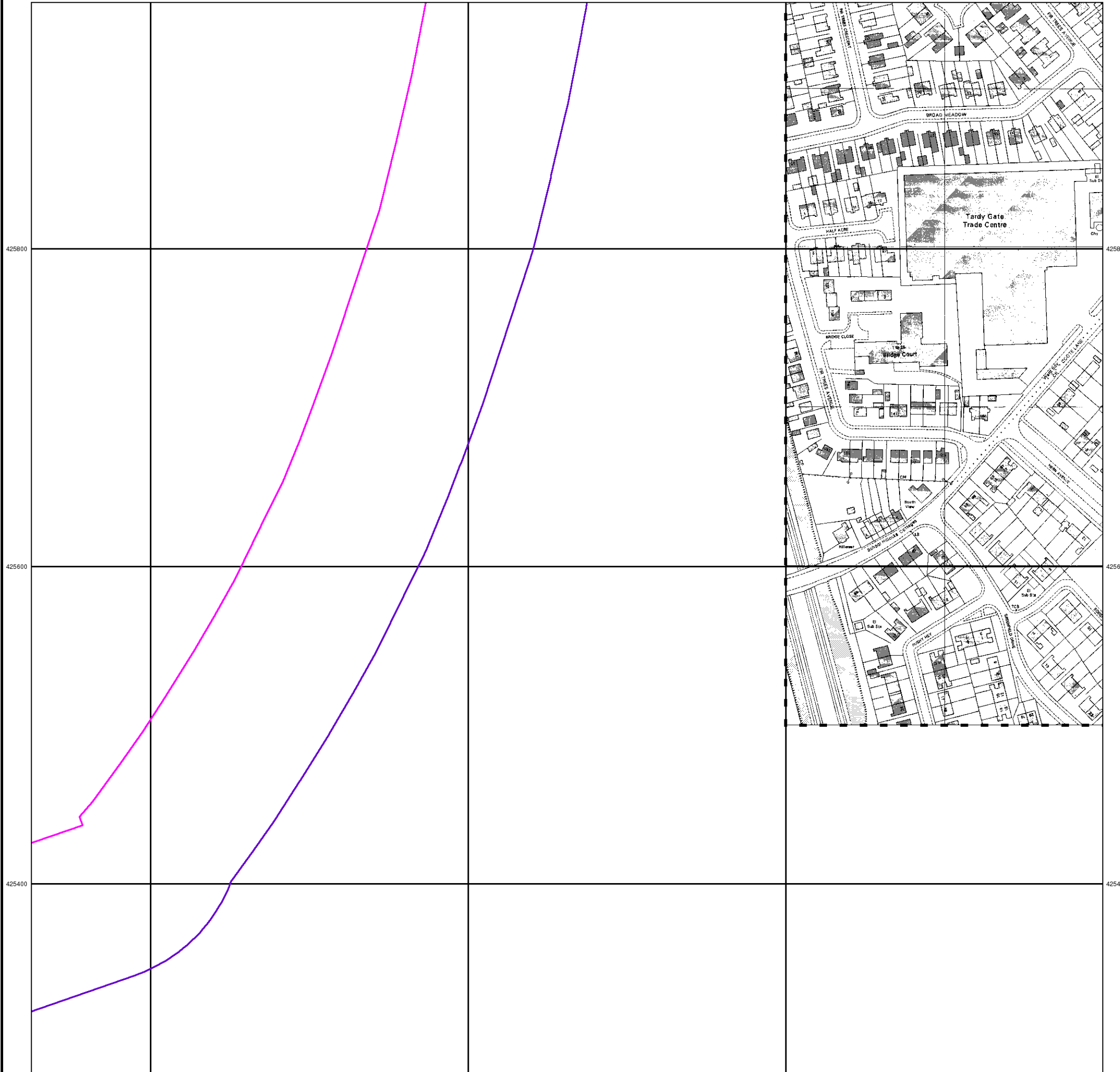
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



353600

353800

354000



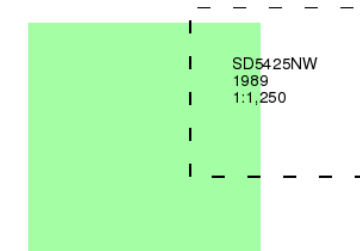
Ordnance Survey Plan

Published 1989

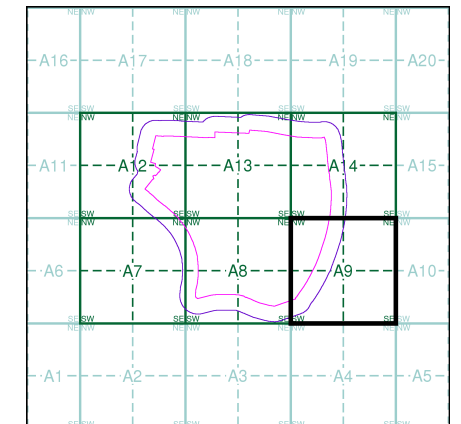
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A9



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



Large-Scale National Grid Data

Published 1993

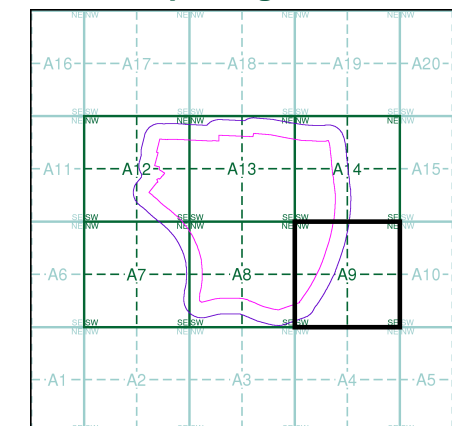
Source map scale - 1:1,250

'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)

SD5325NE 1993 1:1,250	SD5425NW 1993 1:1,250
SD5325SE 1993 1:1,250	SD5425SW 1993 1:1,250

Historical Map - Segment A9



Order Details

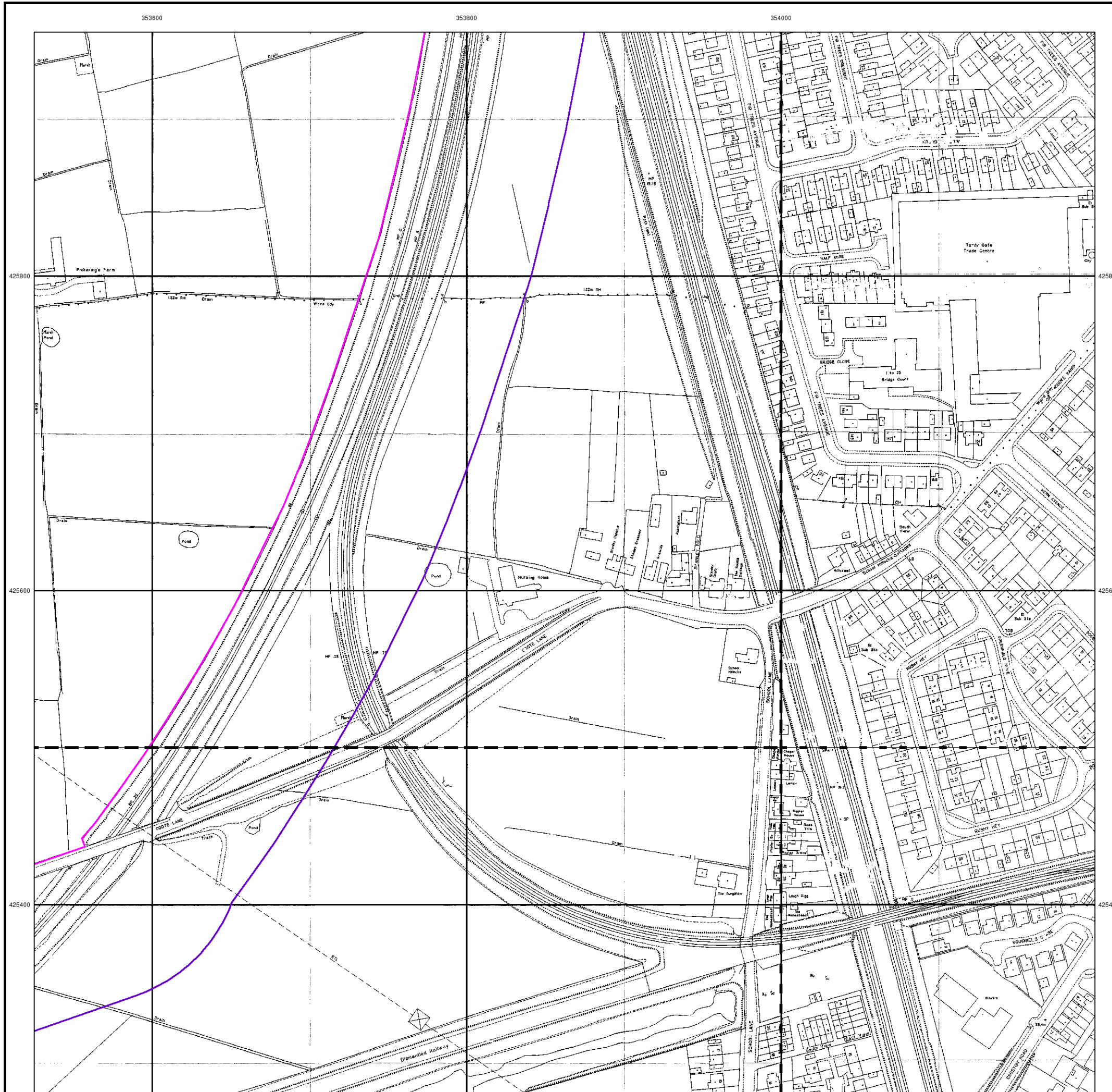
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
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Site Details

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Historical Mapping Legends

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

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
County Burgh Boundary (Scotland)
Boundary Post or Stone **Police Call Box**
B.R. Bridle Road **Pump**
E.P. Electricity Pylon **S.P. Signal Post**
F.B. Foot Bridge **Sl. Sluice**
F.P. Foot Path **Sp. Spring**
G.P. Guide Post or Board **T.C.B. Telephone Call Box**
M.S. Mile Stone **Tr. Trough**
M.P. M.R. Mooring Post or Ring **W. Well**

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

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
BH Beer House **P Pillar, Pole or Post**
BP, BS Boundary Post or Stone **PO Post Office**
Cn, C Capstan, Crane **PC Public Convenience**
Chy Chimney **PH Public House**
D Fn Drinking Fountain **Pp Pump**
EI P Electricity Pillar or Post **SB, S Br Signal Box or Bridge**
FAP Fire Alarm Pillar **SP, SL Signal Post or Light**
FB Foot Bridge **Spr Spring**
GP Guide Post **Tk Tank or Track**
H Hydrant or Hydraulic **TCB Telephone Call Box**
LC Level Crossing **TCP Telephone Call Post**
MH Manhole **Tr Trough**
MP Mile Post or Mooring Post **Wr Pt, Wr T Water Point, Water Tap**
MS Mile Stone **W Well**
NTL Normal Tidal Limit **Wd Pp Wind Pump**

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

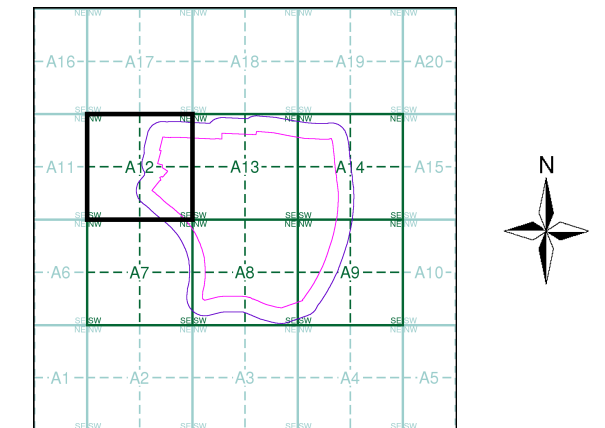
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Bks Barracks **P Pillar, Pole or Post**
Bty Battery **PO Post Office**
Cemy Cemetery **PC Public Convenience**
Chy Chimney **Pp Pump**
Cis Cistern **Ppg Sta Pumping Station**
Dismtd Rly Dismantled Railway **PW Place of Worship**
EI Gen Sta Electricity Generating Station **Sewage Ppg Sta Sewage Pumping Station**
EI P Electricity Pole, Pillar **SB, S Br Signal Box or Bridge**
EI Sub Sta Electricity Sub Station **SP, SL Signal Post or Light**
FB Filter Bed **Spr Spring**
Fn / D Fn Fountain / Drinking Ftn. **Tk Tank or Track**
Gas Gov Gas Valve Compound **Tr Trough**
GVC Gas Governor **Wd Pp Wind Pump**
GP Guide Post **Wr Pt, Wr T Water Point, Water Tap**
MH Manhole **Wks Works (building or area)**
MP, MS Mile Post or Mile Stone **W Well**



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1911	3
Lancashire And Furness	1:2,500	1931	4
Ordnance Survey Plan	1:1,250	1957	5
Additional SIMs	1:1,250	1957 - 1988	6
Ordnance Survey Plan	1:2,500	1960 - 1963	7
Ordnance Survey Plan	1:1,250	1964 - 1988	8
Ordnance Survey Plan	1:2,500	1970	9
Ordnance Survey Plan	1:1,250	1973	10
Additional SIMs	1:1,250	1981 - 1990	11
Additional SIMs	1:1,250	1983	12
Additional SIMs	1:1,250	1985	13
Additional SIMs	1:1,250	1986	14
Large-Scale National Grid Data	1:2,500	1993	15
Large-Scale National Grid Data	1:1,250	1993	16

Historical Map - Segment A12



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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



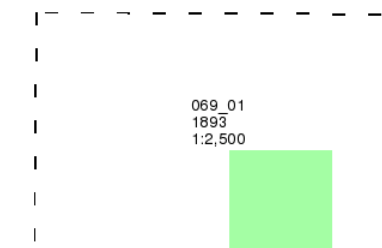
Lancashire And Furness

Published 1893

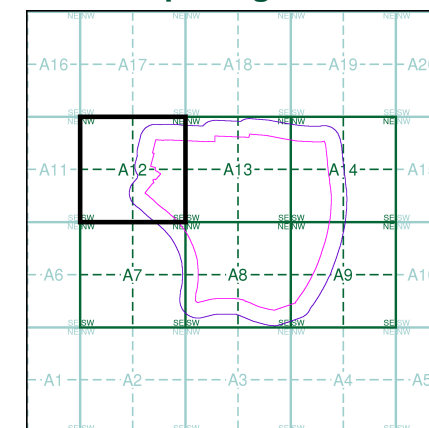
Source map scale - 1:2,500

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 A12



Order Details

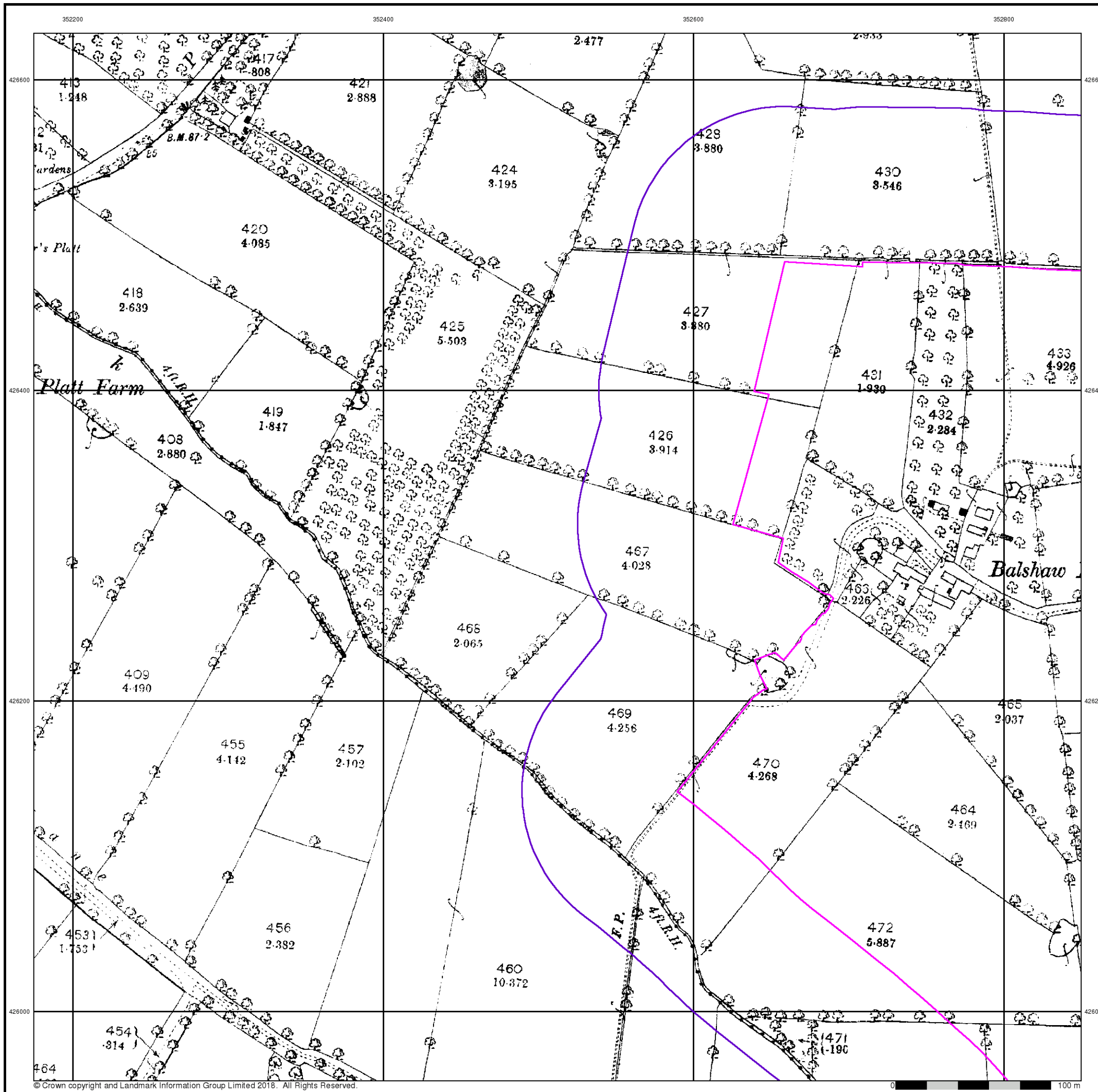
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
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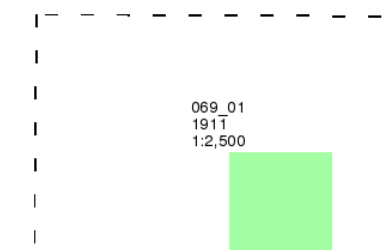
Lancashire And Furness

Published 1911

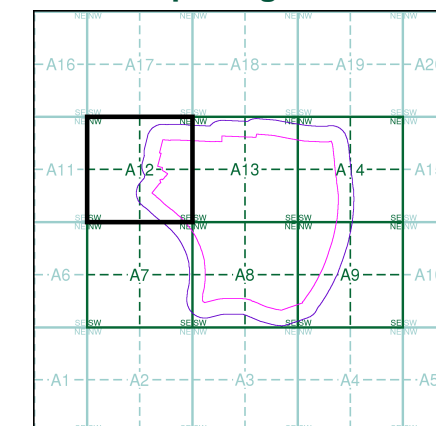
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered 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 A12



Order Details

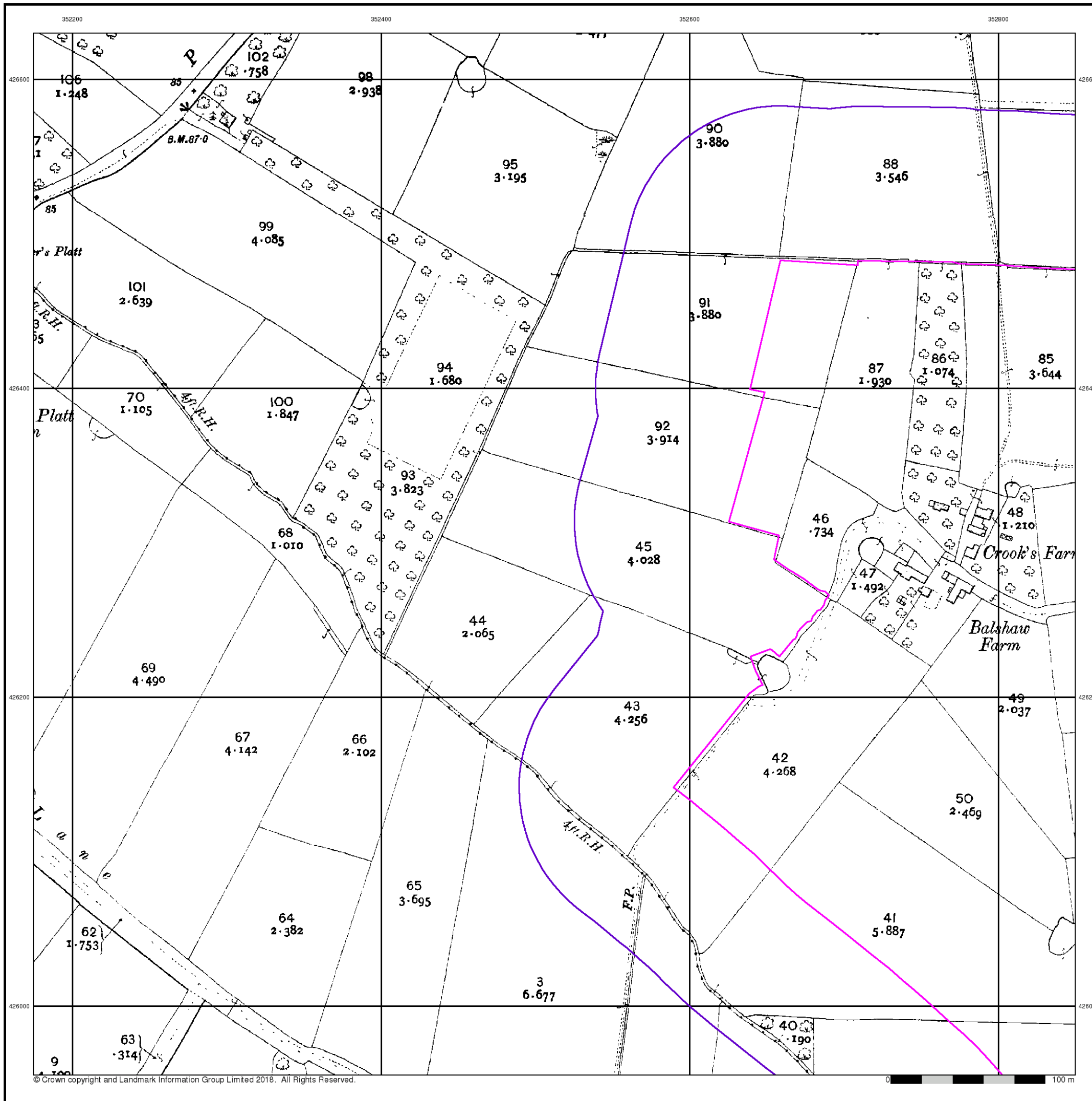
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Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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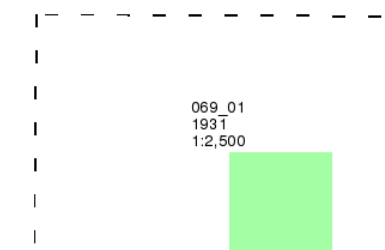
Lancashire And Furness

Published 1931

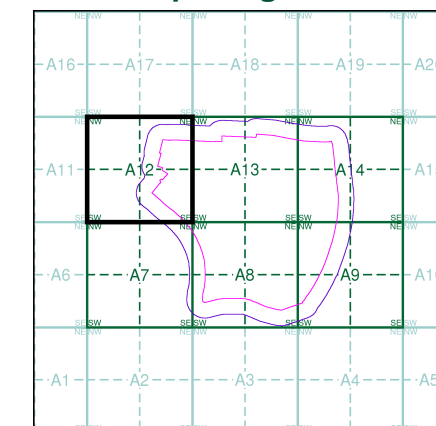
Source map scale - 1:2,500

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 A12



Order Details

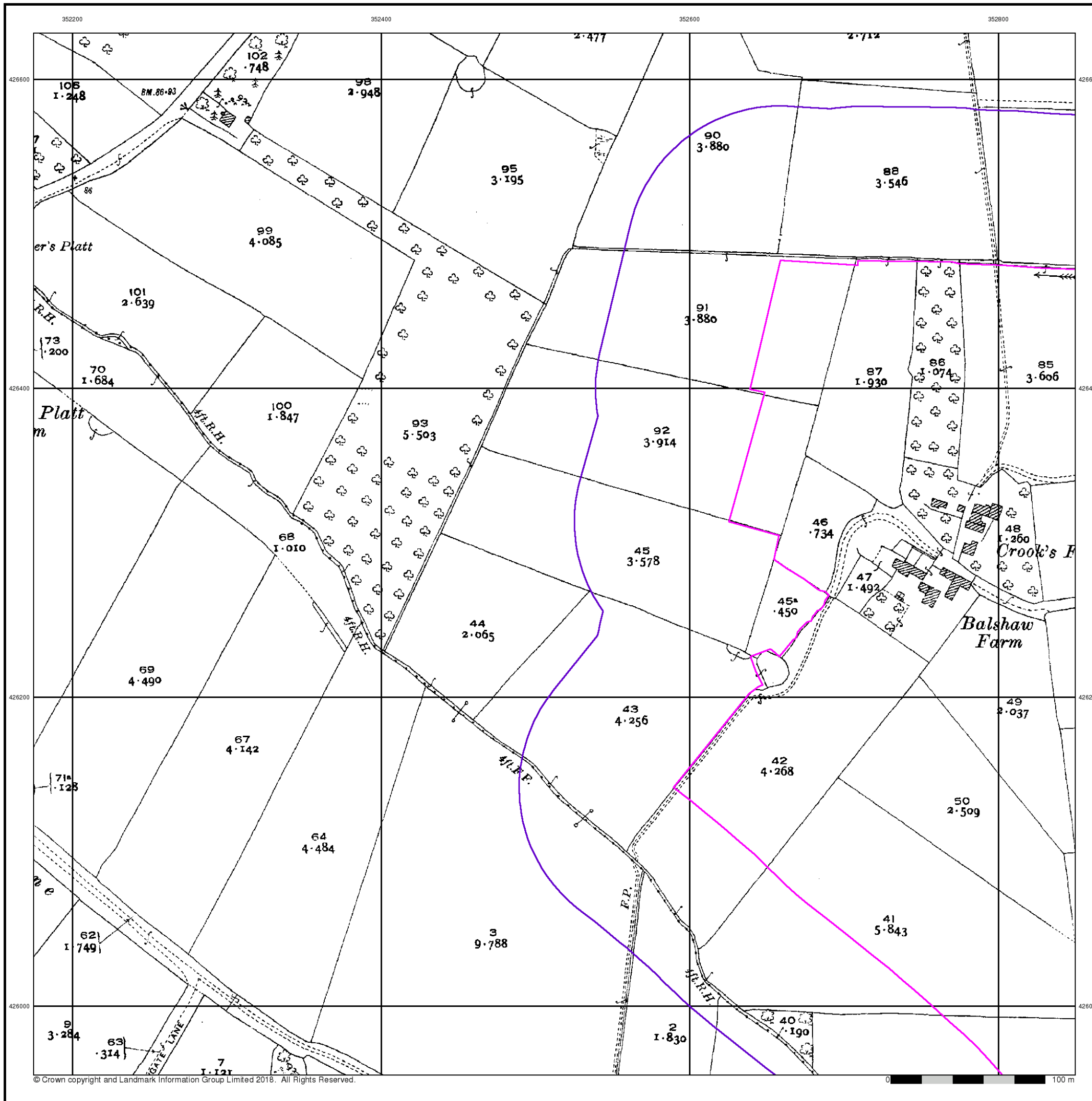
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Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Ordnance Survey Plan

Published 1957

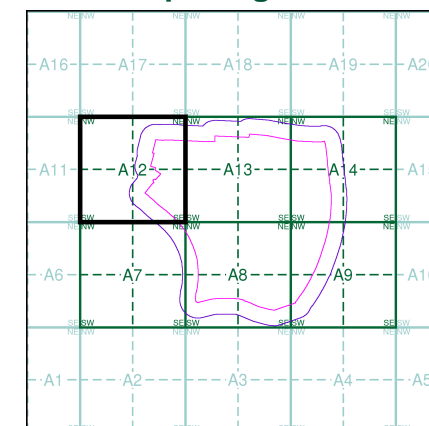
Source map scale - 1:1,250

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)

SD5226NW 1957 1:1,250	SD5226NE 1957 1:1,250
SD5226SW 1957 1:1,250	SD5226SE 1957 1:1,250

Historical Map - Segment A12



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

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Additional SIMs

Published 1957 - 1988

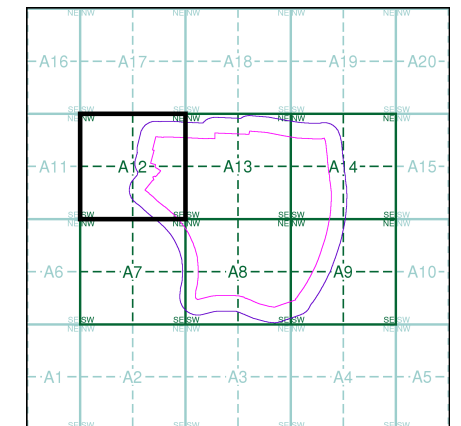
Source map scale - 1:1,250

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)

SD5226NW 1957 1:1,250	SD5226NE 1979 1:1,250
SD5226SW 1988 1:1,250	SD5226SE 1988 1:1,250

Historical Map - Segment A12



Order Details

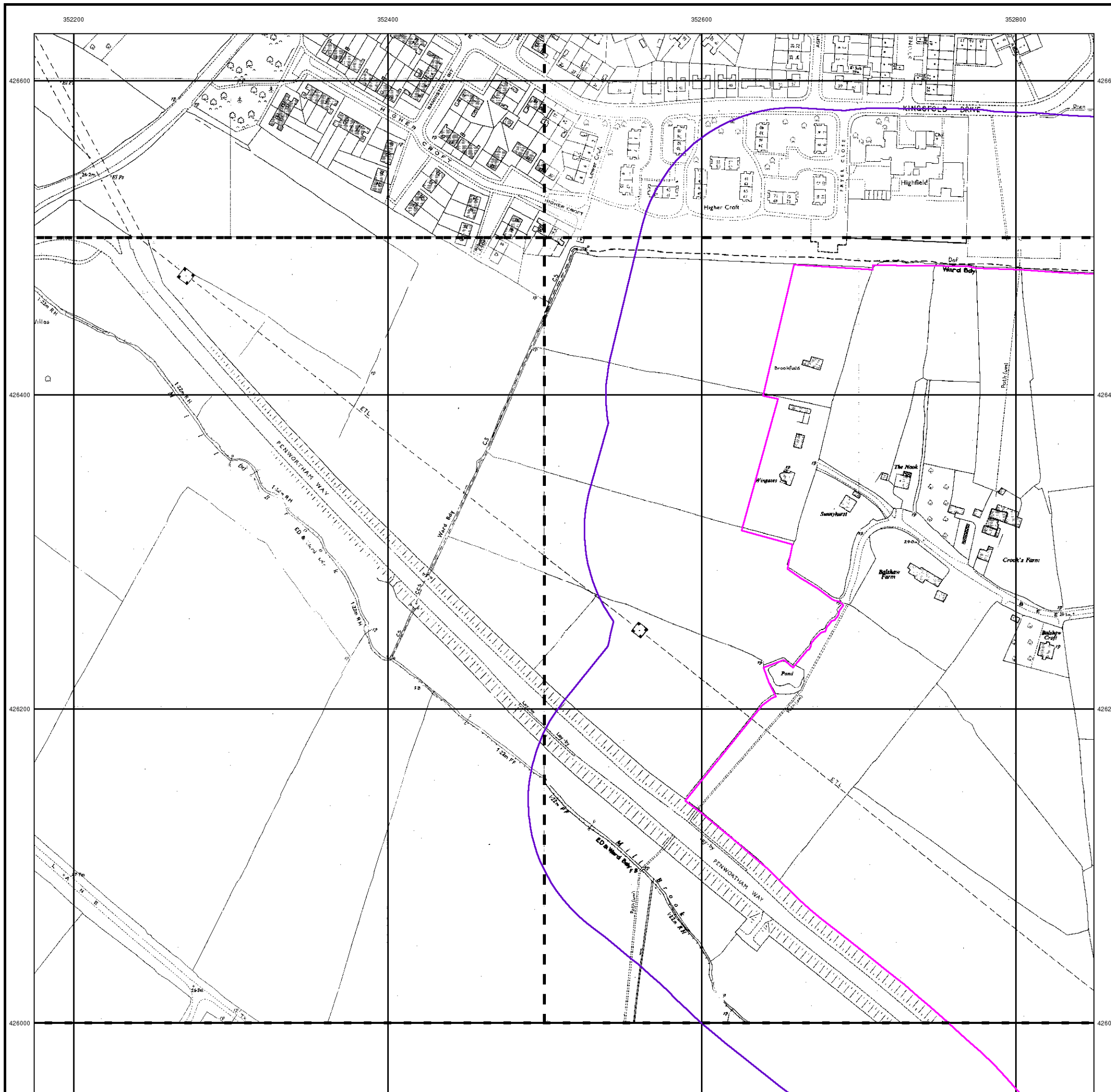
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

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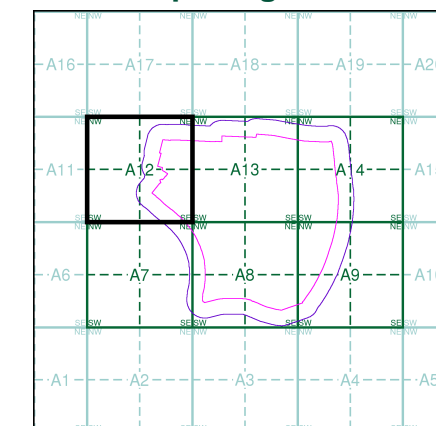
Ordnance Survey Plan
Published 1960 - 1963
Source map scale - 1:2,500

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)

SD5226	1960	1:2,500
SD5225	1963	1:2,500

Historical Map - Segment A12



Order Details

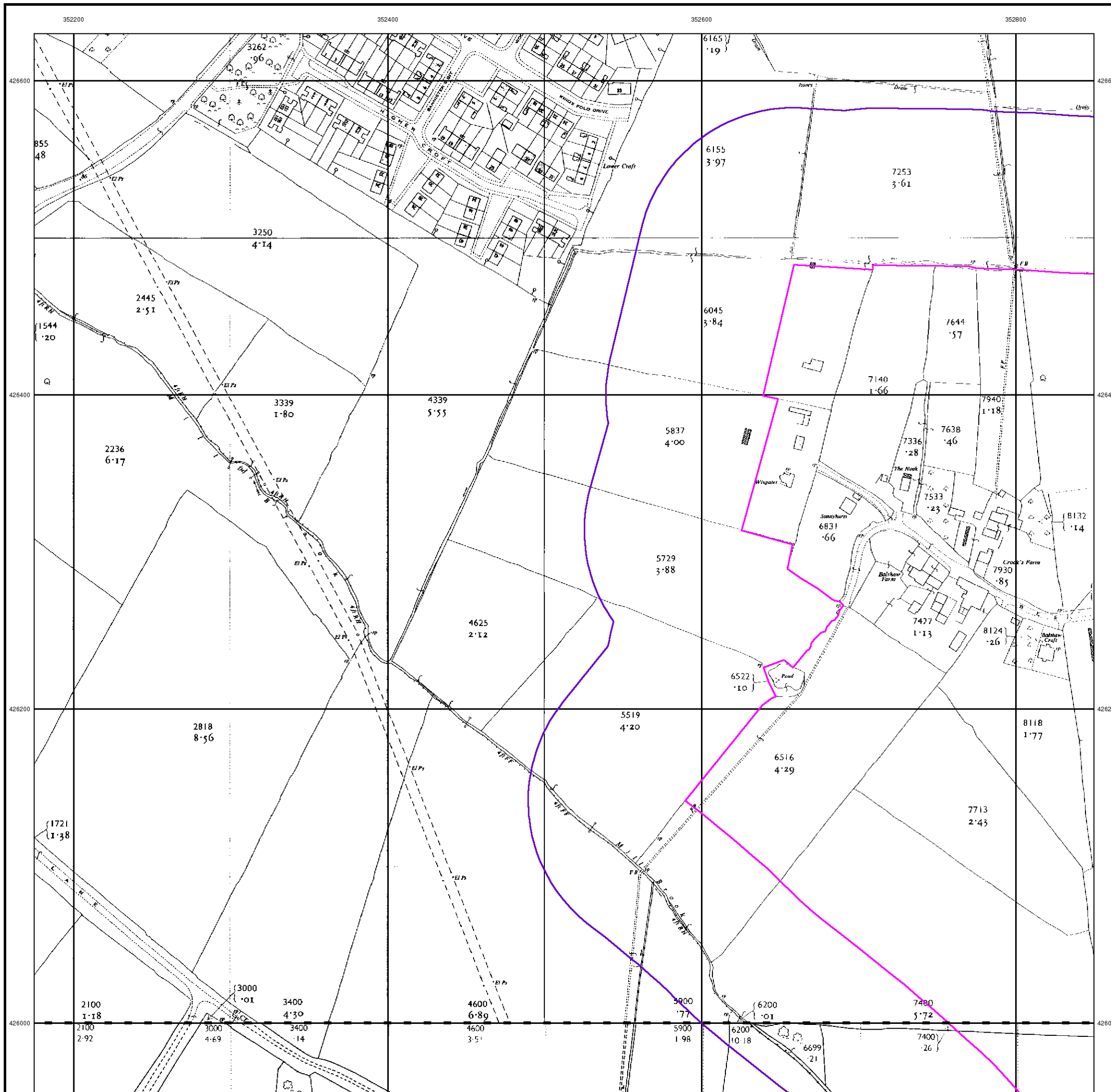
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1964 - 1988

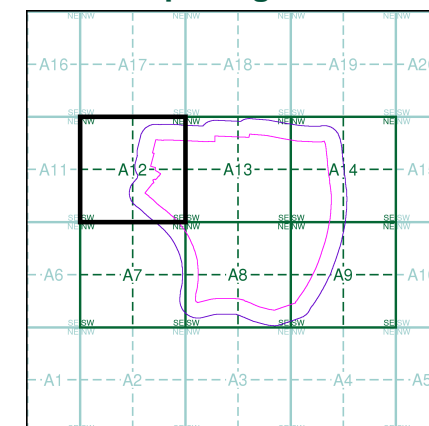
Source map scale - 1:1,250

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)

SD5226NW 1988 1:1,250	SD5226NE 1964 1:1,250
-----------------------------	-----------------------------

Historical Map - Segment A12



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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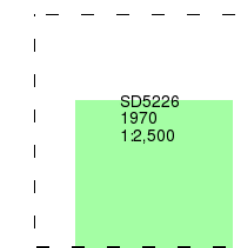
Ordnance Survey Plan

Published 1970

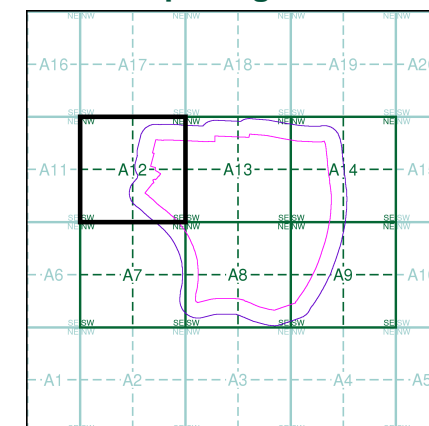
Source map scale - 1:2,500

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 A12



Order Details

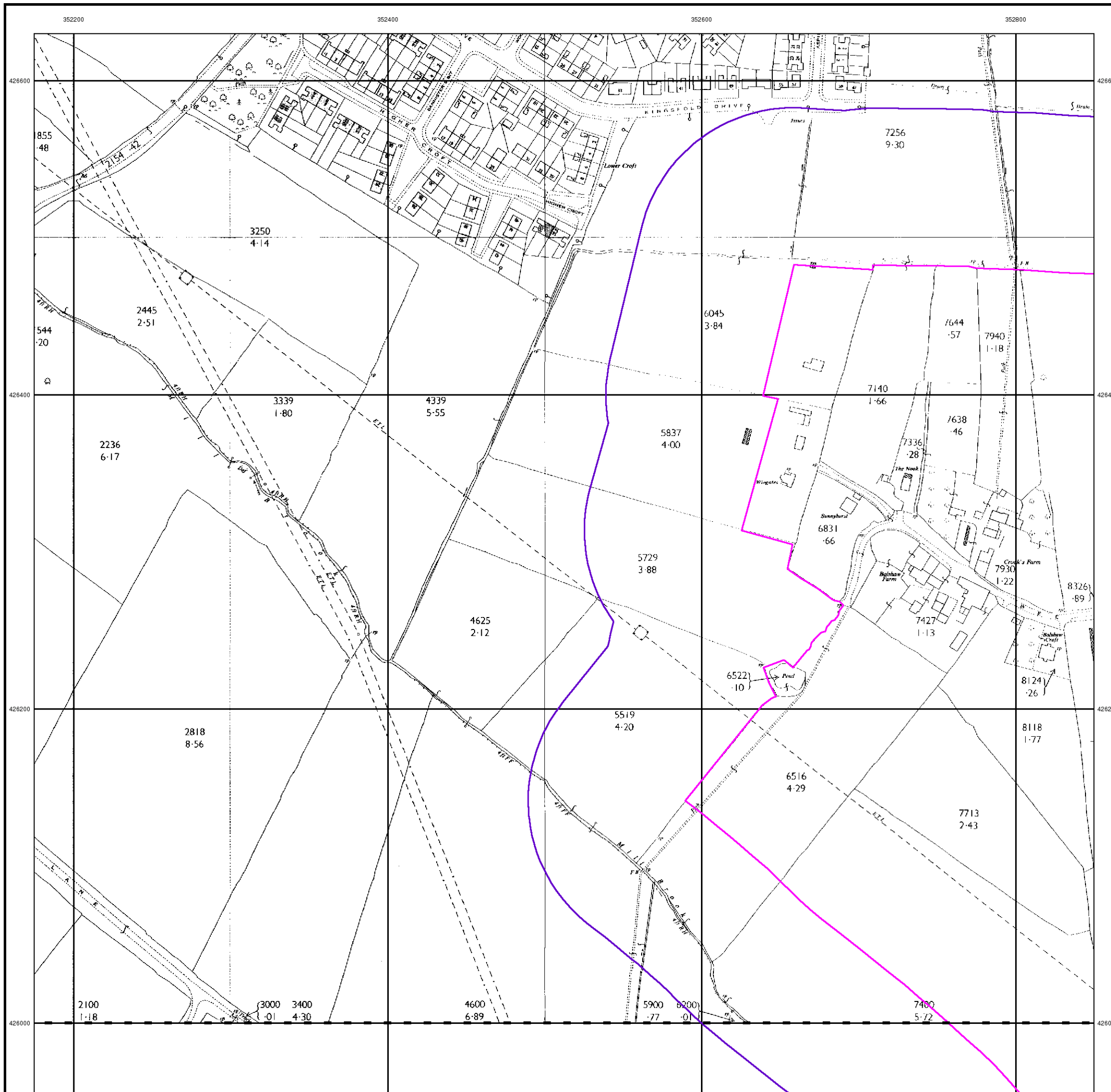
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

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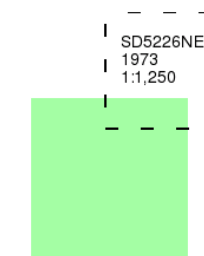
Ordnance Survey Plan

Published 1973

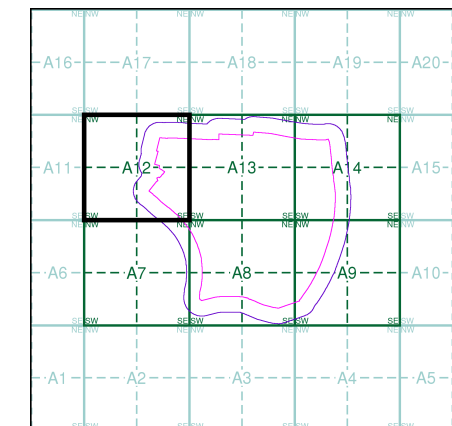
Source map scale - 1:1,250

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)



Historical Map - Segment A12



Order Details

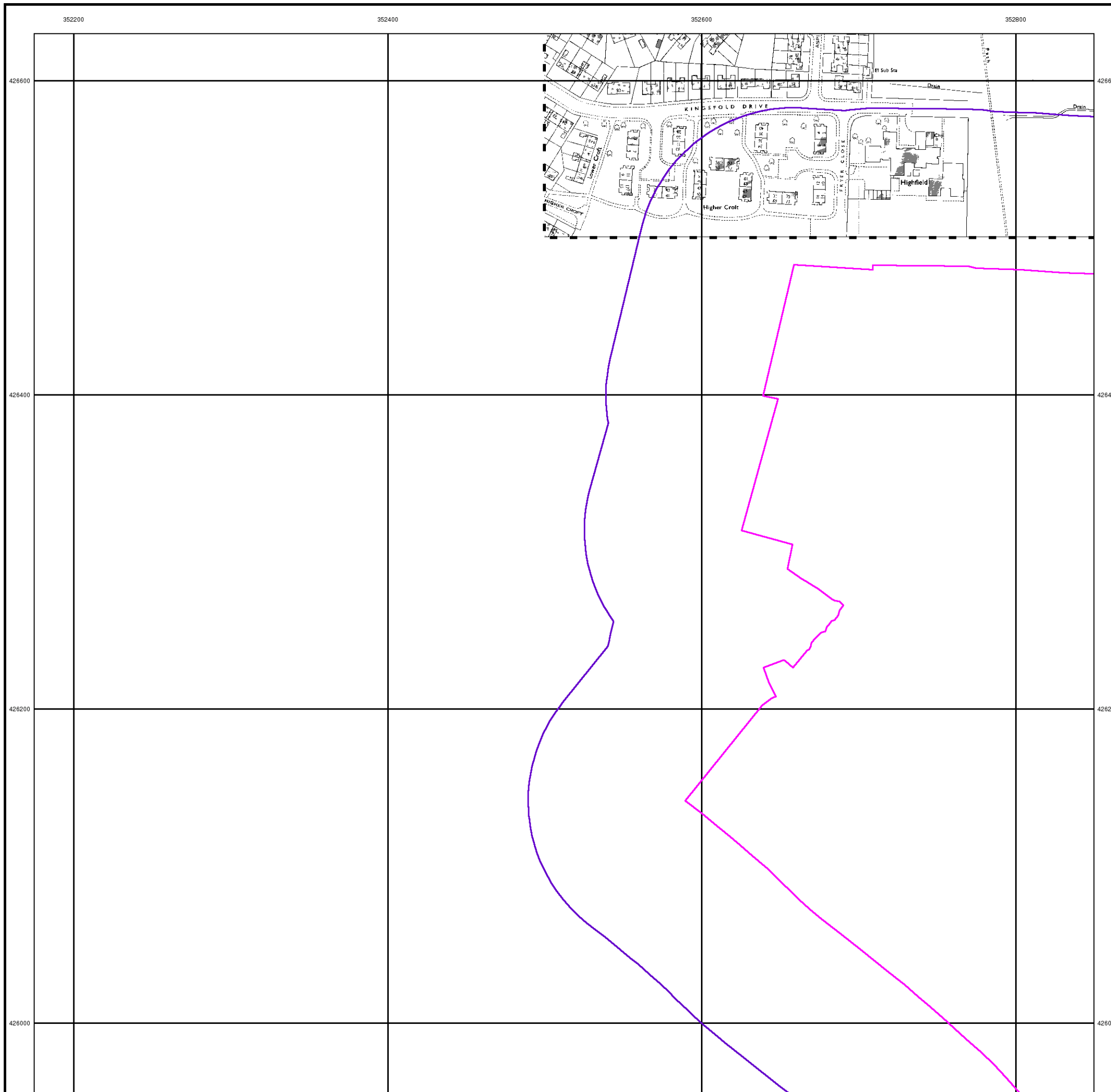
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Additional SIMs

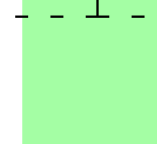
Published 1981 - 1990

Source map scale - 1:1,250

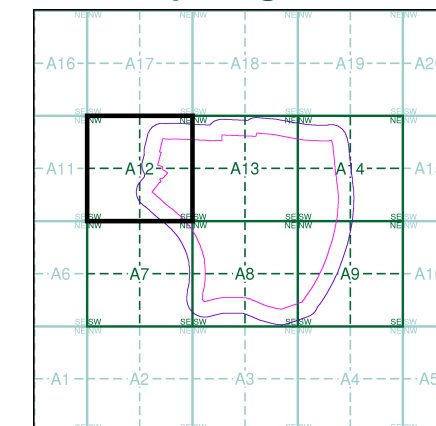
The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps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

Map Name(s) and Date(s)

SD5226NW	SD5226NE
1981	1990
1:1,250	1:1,250



Historical Map - Segment A12



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

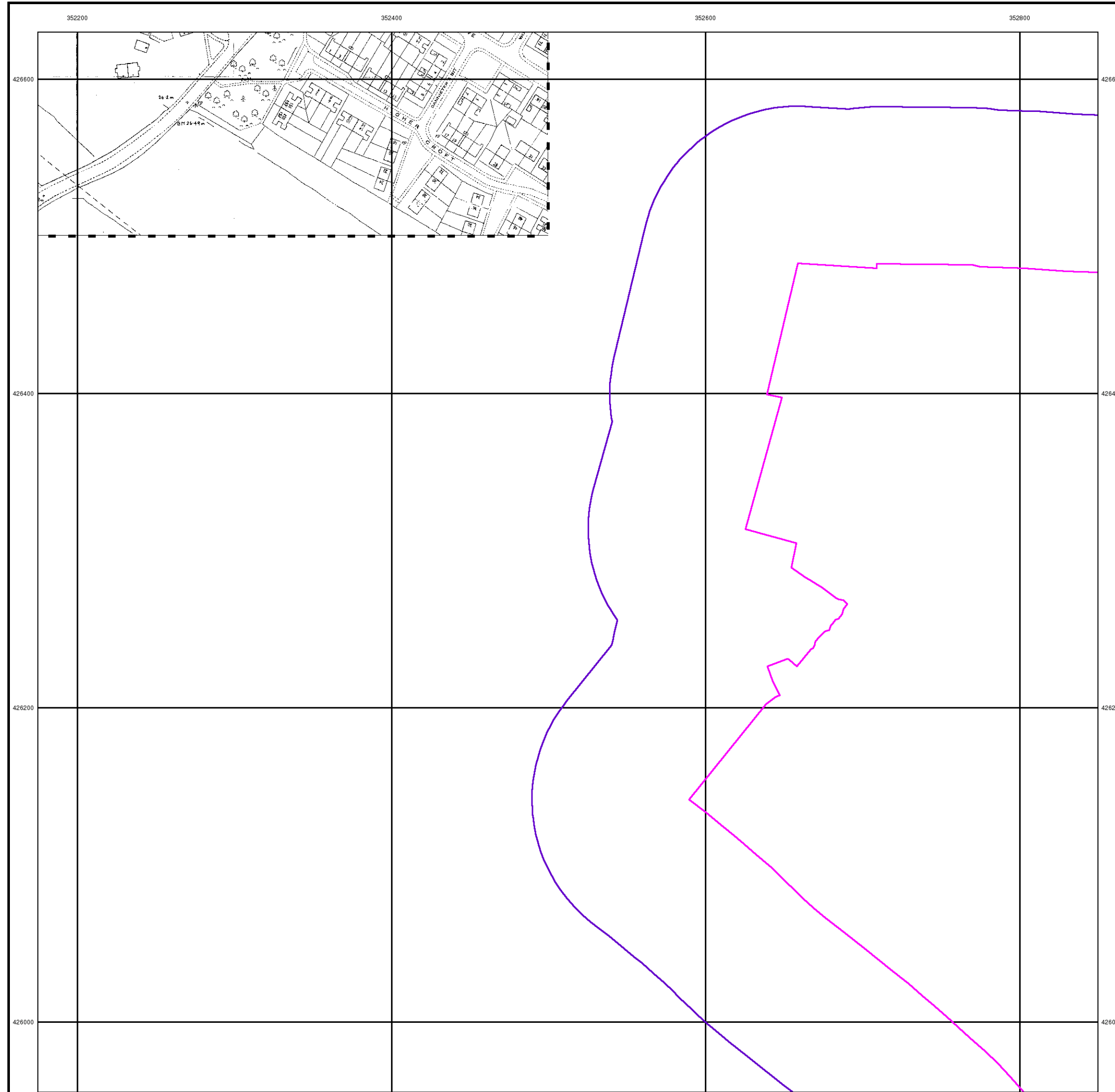
Site Details

Pickering's Farm, Penwortham, PR1 9TQ



Tel: 0844 844 9952
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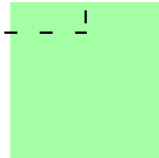


**Additional SIMs
Published 1983
Source map scale - 1:1,250**

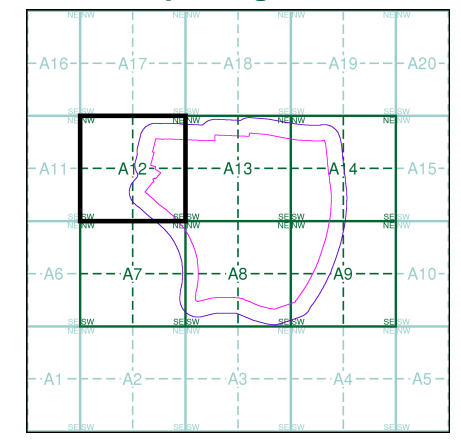
The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps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

Map Name(s) and Date(s)

SD5226NW	
1983	
1:1,250	



Historical Map - Segment A12



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Additional SIMs

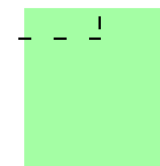
Published 1985

Source map scale - 1:1,250

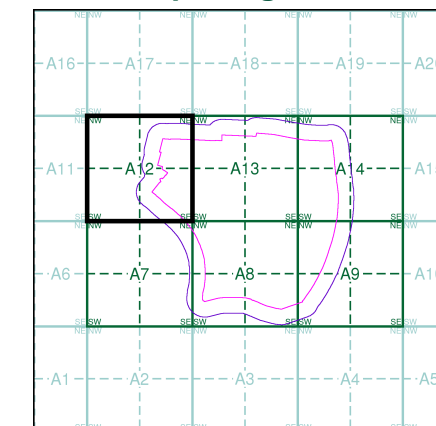
The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps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

Map Name(s) and Date(s)

SD5226NW
1985
1:1,250



Historical Map - Segment A12



Order Details

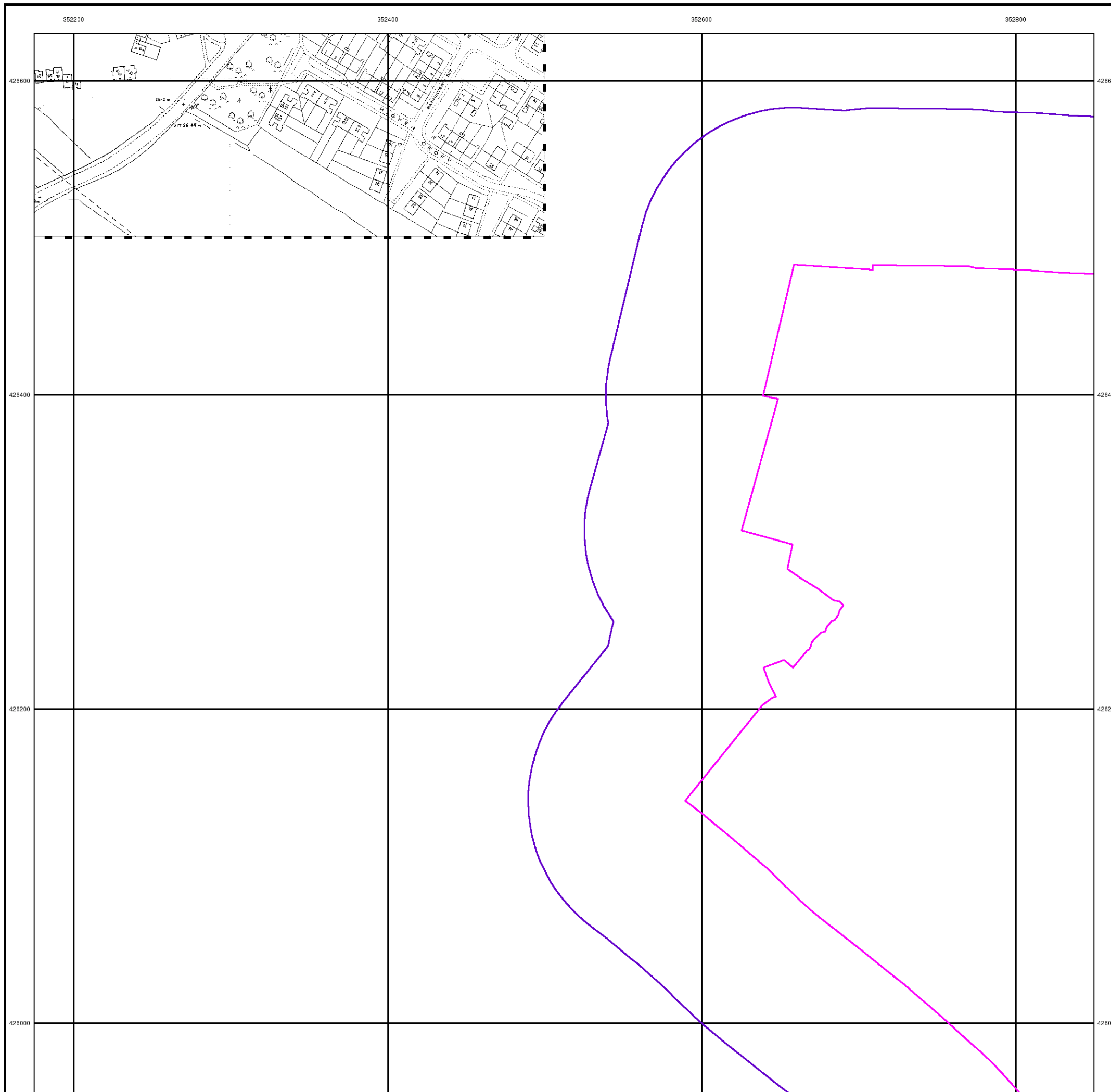
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Additional SIMs

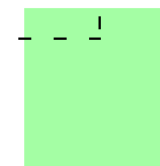
Published 1986

Source map scale - 1:1,250

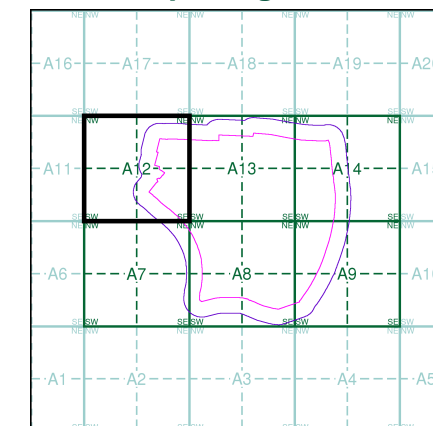
The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps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

Map Name(s) and Date(s)

SD5226NW
1986
1:1,250



Historical Map - Segment A12



Order Details

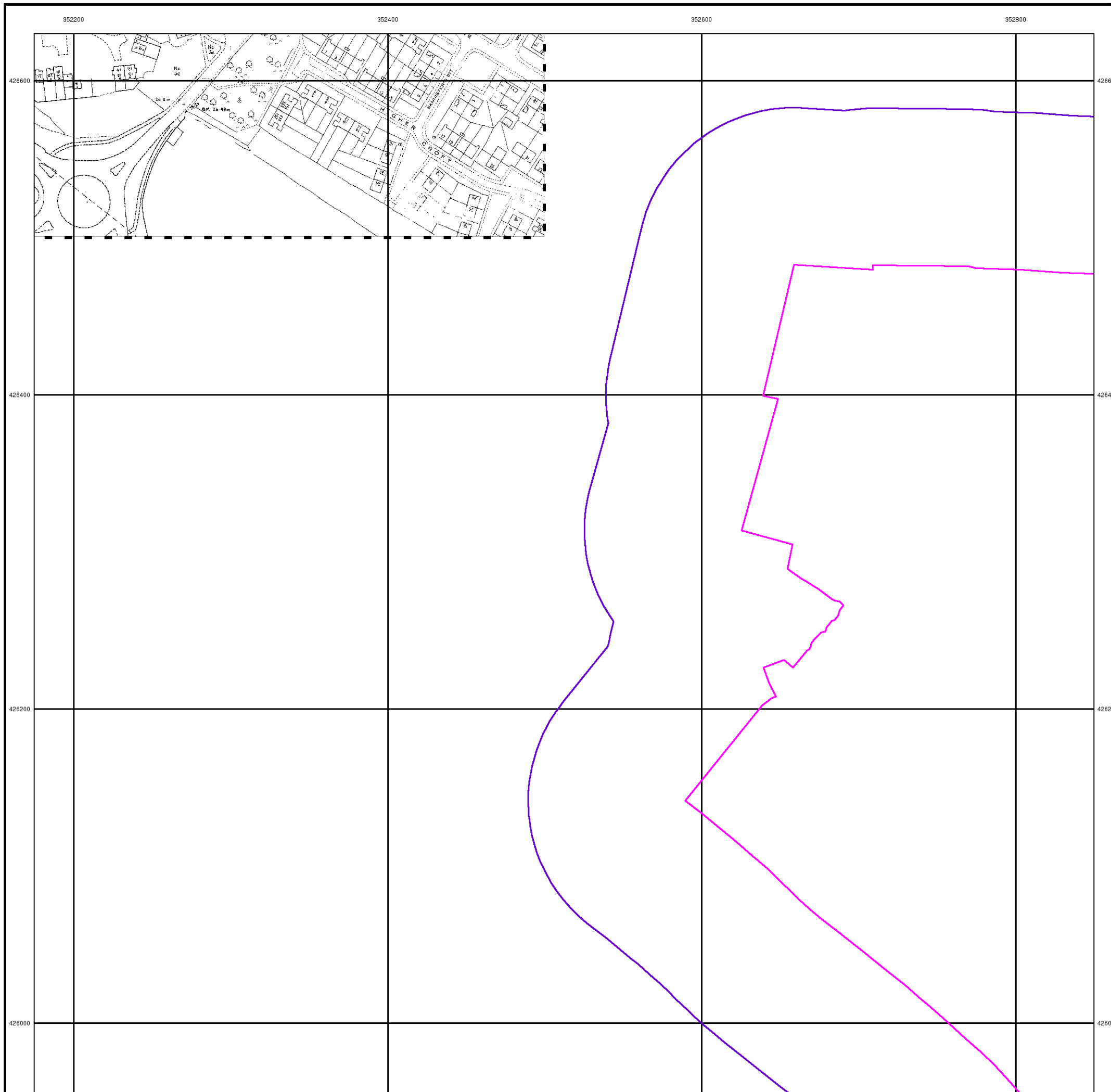
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

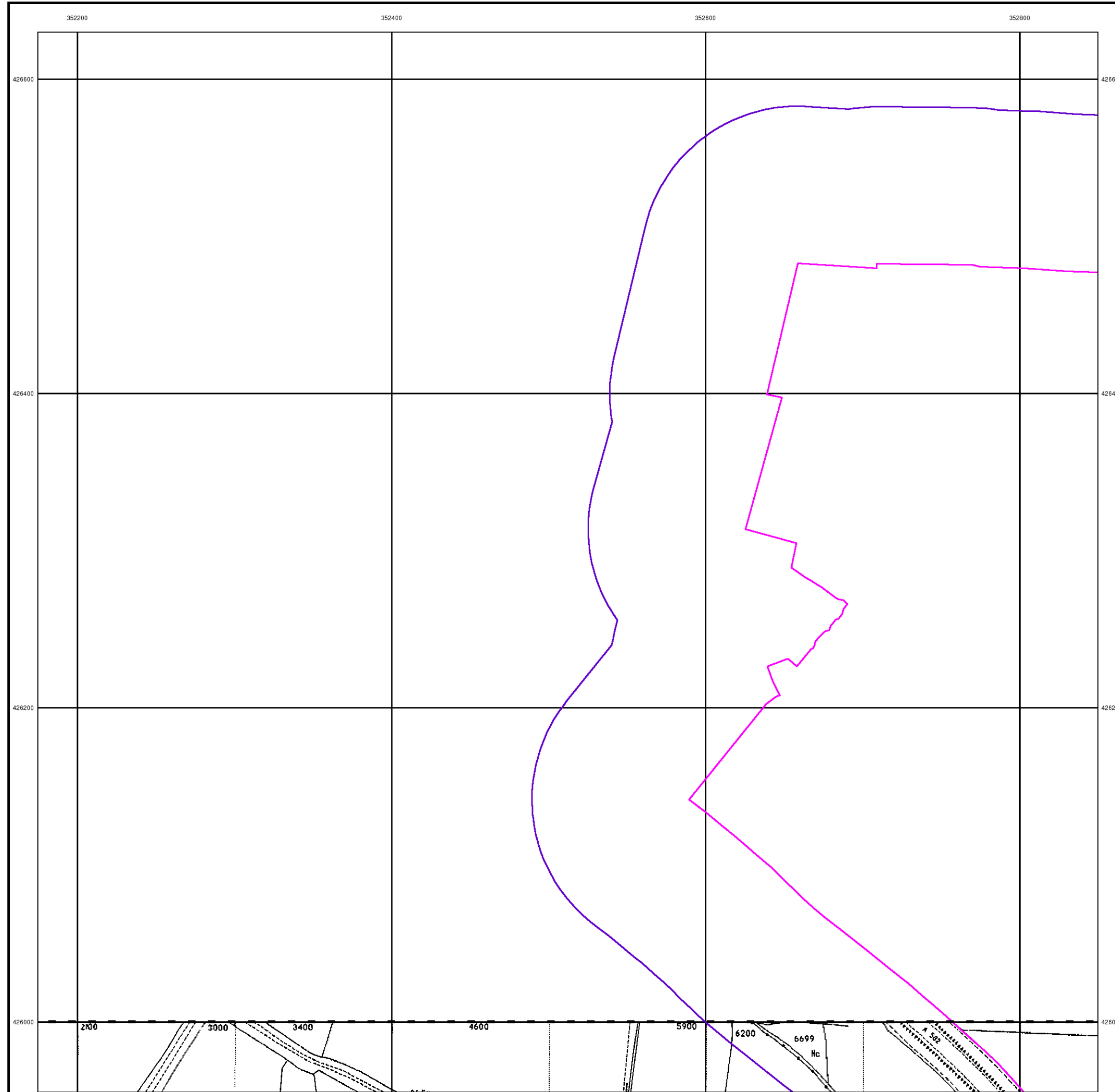
Site Details

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Large-Scale National Grid Data

Published 1993

Source map scale - 1:2,500

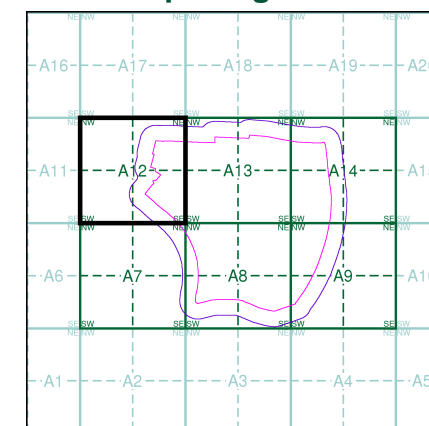
'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic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

Map Name(s) and Date(s)



SD5225
1993
1:2,500

Historical Map - Segment A12



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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 Fax: 0844 844 9951
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Large-Scale National Grid Data

Published 1993

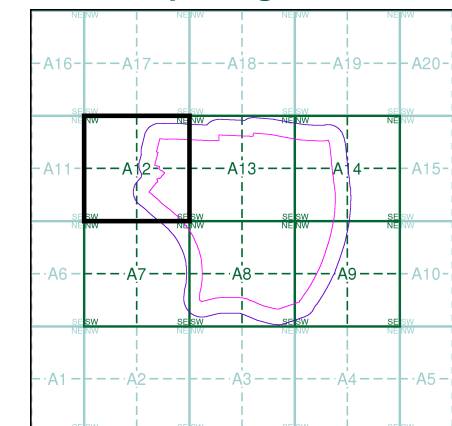
Source map scale - 1:1,250

'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)

SD5226NW 1993 1:1,250	SD5226NE 1993 1:1,250
SD5226SW 1993 1:1,250	SD5226SE 1993 1:1,250

Historical Map - Segment A12



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
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 Site Area (Ha): 99.74
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Site Details

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Historical Mapping Legends

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

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
County Burgh Boundary (Scotland)
Co. Boro. Bdy.
Co. Burgh Bdy.
BP BS Boundary Post or Stone **P.C.B** Police Call Box
B.R. Bridle Road **P** Pump
E.P Electricity Pylon **S.P** Signal Post
F.B. Foot Bridge **Sl** Sluice
F.P. Foot Path **Sp.** Spring
G.P Guide Post or Board **T.C.B** Telephone Call Box
M.S Mile Stone **Tr.** Trough
M.P M.R Mooring Post or Ring **W** Well

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

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
BH Beer House **P** Pillar, Pole or Post
BP, BS Boundary Post or Stone **PO** Post Office
Cn, C Capstan, Crane **PC** Public Convenience
Chy Chimney **PH** Public House
D Fn Drinking Fountain **Pp** Pump
EI P Electricity Pillar or Post **SB, S Br** Signal Box or Bridge
FAP Fire Alarm Pillar **SP, SL** Signal Post or Light
FB Foot Bridge **Spr** Spring
GP Guide Post **Tk** Tank or Track
H Hydrant or Hydraulic **TCB** Telephone Call Box
LC Level Crossing **TCP** Telephone Call Post
MH Manhole **Tr** Trough
MP Mile Post or Mooring Post **Wr Pt, Wr T** Water Point, Water Tap
MS Mile Stone **W** Well
NTL Normal Tidal Limit **Wd Pp** Wind Pump

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

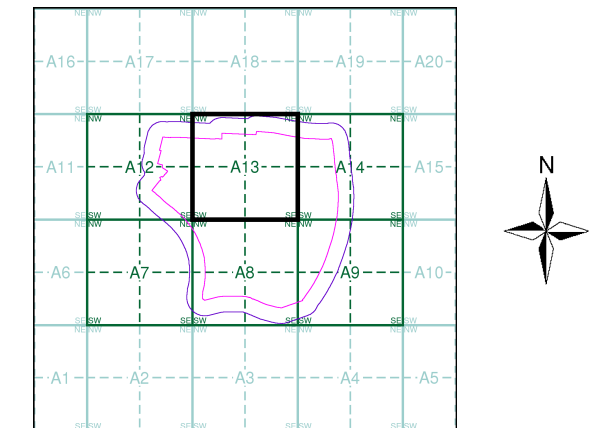
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 231.60m Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Bks Barracks **P** Pillar, Pole or Post
Bty Battery **PO** Post Office
Cemy Cemetery **PC** Public Convenience
Chy Chimney **Pp** Pump
Cis Cistern **Ppg Sta** Pumping Station
Dismtd Rly Dismantled Railway **PW** Place of Worship
EI Gen Sta Electricity Generating Station **Sewage Ppg Sta** Sewage Pumping Station
EI P Electricity Pole, Pillar **SB, S Br** Signal Box or Bridge
EI Sub Sta Electricity Sub Station **SP, SL** Signal Post or Light
FB Filter Bed **Spr** Spring
Fn / D Fn Fountain / Drinking Ftn. **Tk** Tank or Track
Gas Gov Gas Valve Compound **Tr** Trough
GVC Gas Governor **Wd Pp** Wind Pump
GP Guide Post **Wr Pt, Wr T** Water Point, Water Tap
MH Manhole **Wks** Works (building or area)
MP, MS Mile Post or Mile Stone **W** Well



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1911	3
Lancashire And Furness	1:2,500	1931	4
Lancashire And Furness	1:2,500	1938	5
Ordnance Survey Plan	1:1,250	1957 - 1963	6
Additional SIMs	1:1,250	1958 - 1988	7
Ordnance Survey Plan	1:2,500	1960 - 1963	8
Ordnance Survey Plan	1:1,250	1964	9
Ordnance Survey Plan	1:2,500	1970	10
Ordnance Survey Plan	1:1,250	1973 - 1976	11
Additional SIMs	1:1,250	1979 - 1990	12
Additional SIMs	1:1,250	1983 - 1990	13
Additional SIMs	1:1,250	1984	14
Additional SIMs	1:1,250	1988	15
Ordnance Survey Plan	1:1,250	1991	16
Large-Scale National Grid Data	1:1,250	1993	17
Large-Scale National Grid Data	1:2,500	1993	18
Large-Scale National Grid Data	1:1,250	1995	19

Historical Map - Segment A13



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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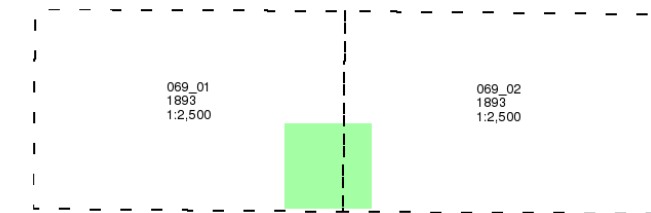
Lancashire And Furness

Published 1893

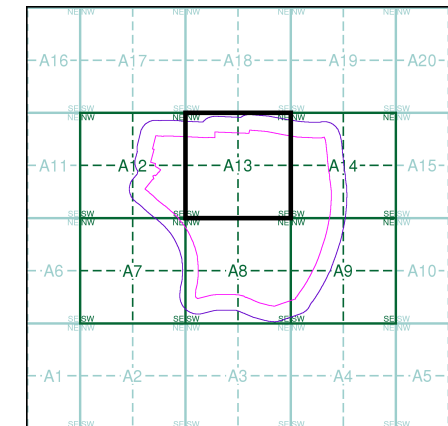
Source map scale - 1:2,500

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

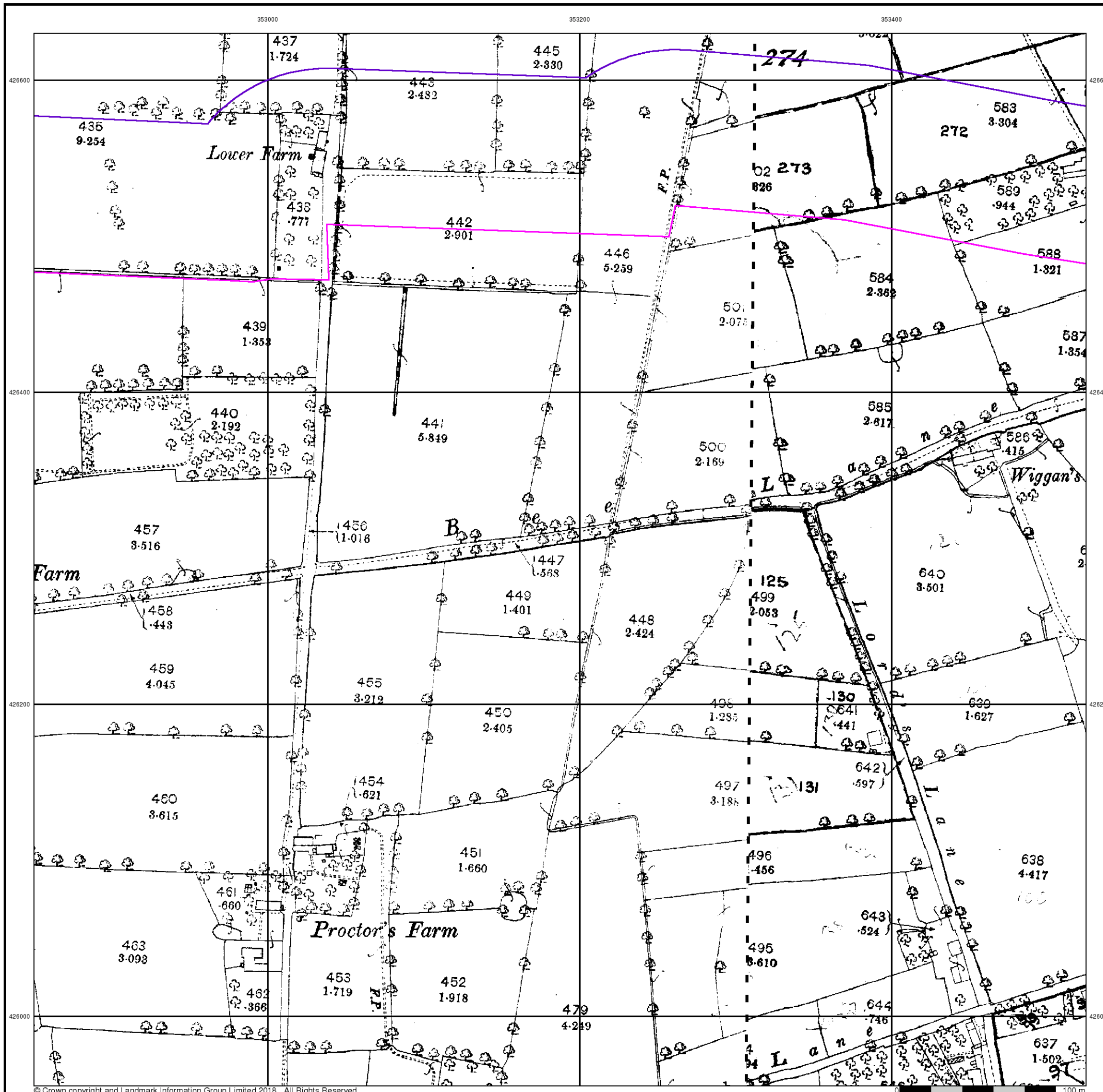
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

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Pickering's Farm, Penwortham, PR1 9TQ



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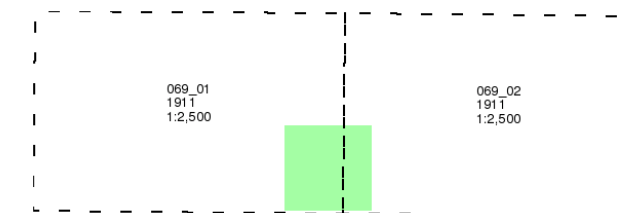
Lancashire And Furness

Published 1911

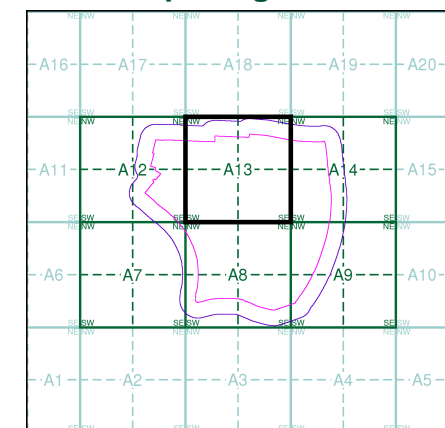
Source map scale - 1:2,500

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

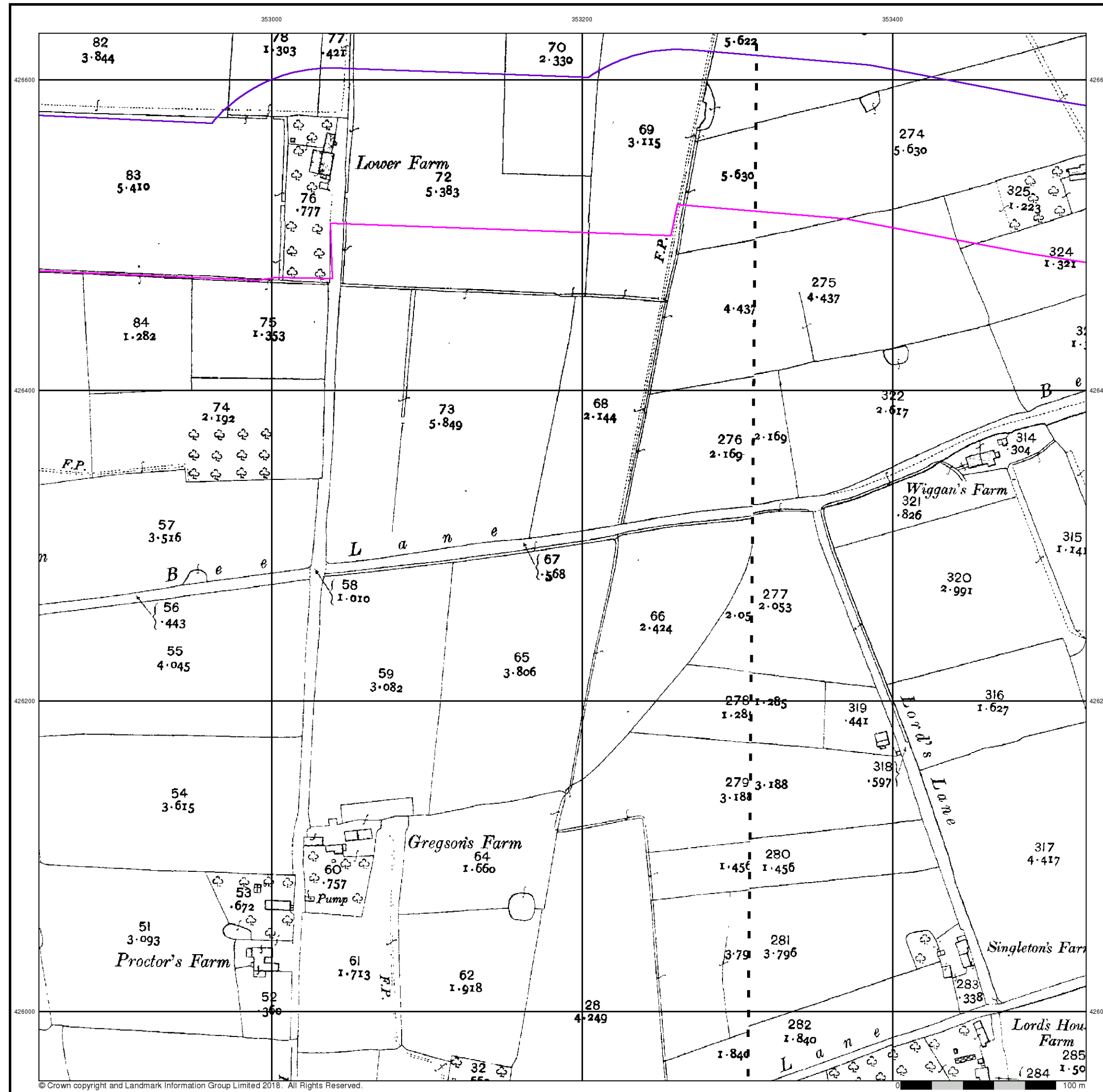
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

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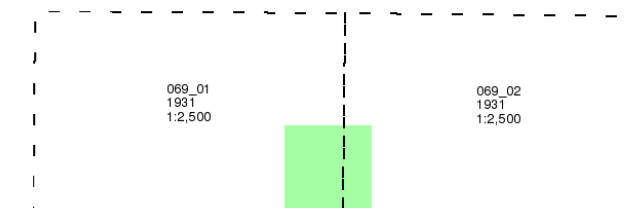
Lancashire And Furness

Published 1931

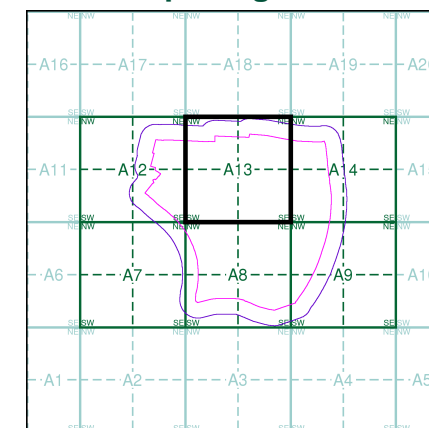
Source map scale - 1:2,500

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

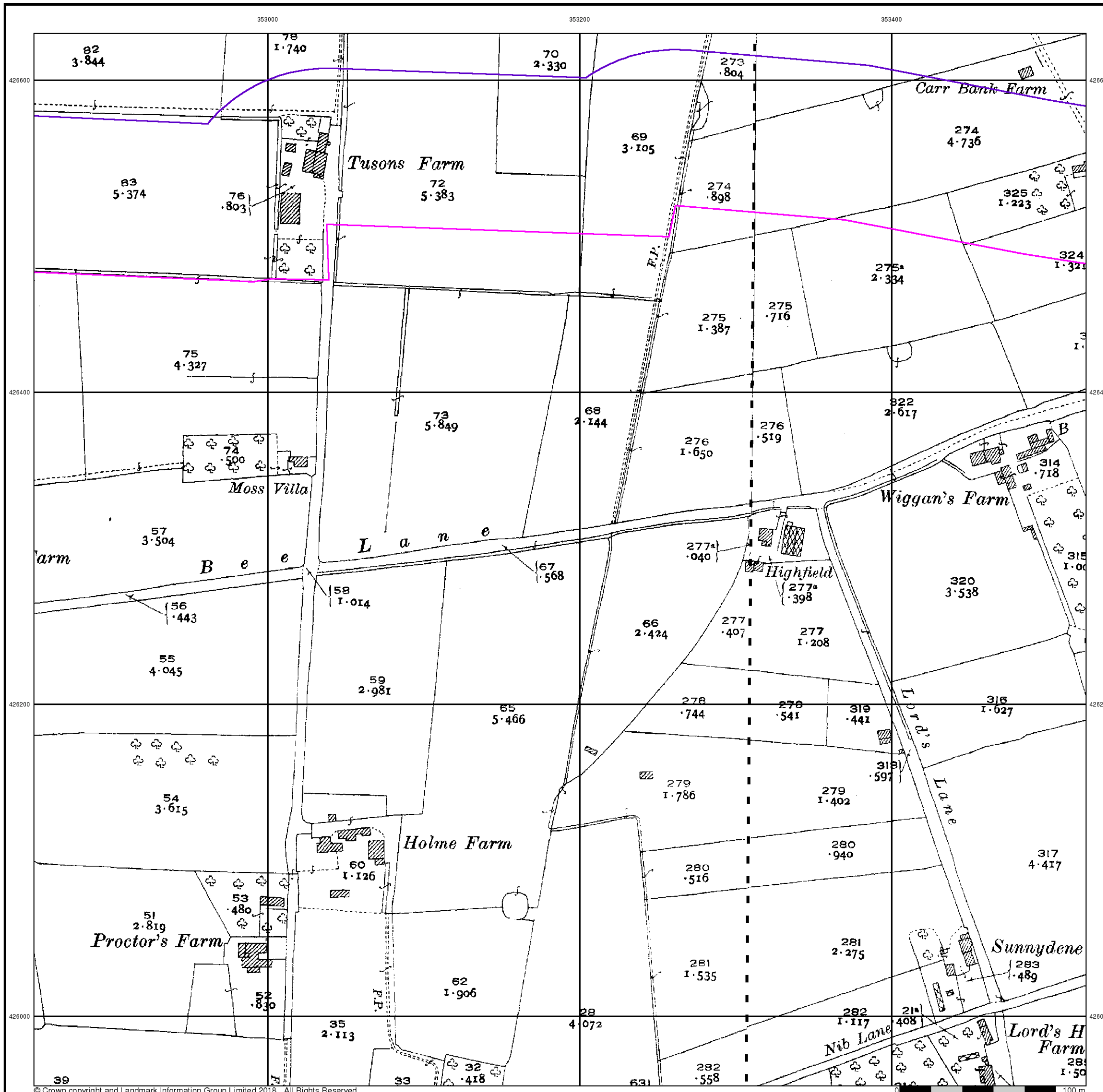
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

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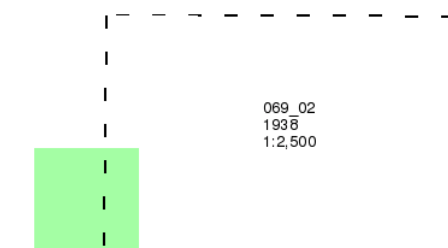
Lancashire And Furness

Published 1938

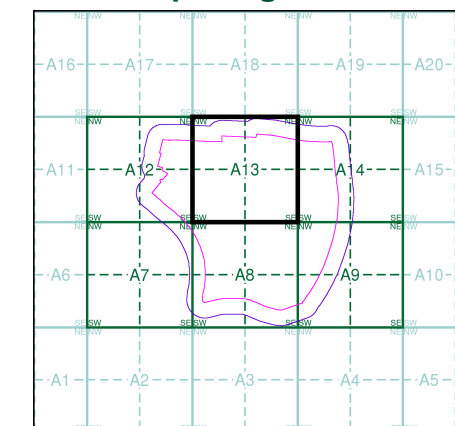
Source map scale - 1:2,500

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

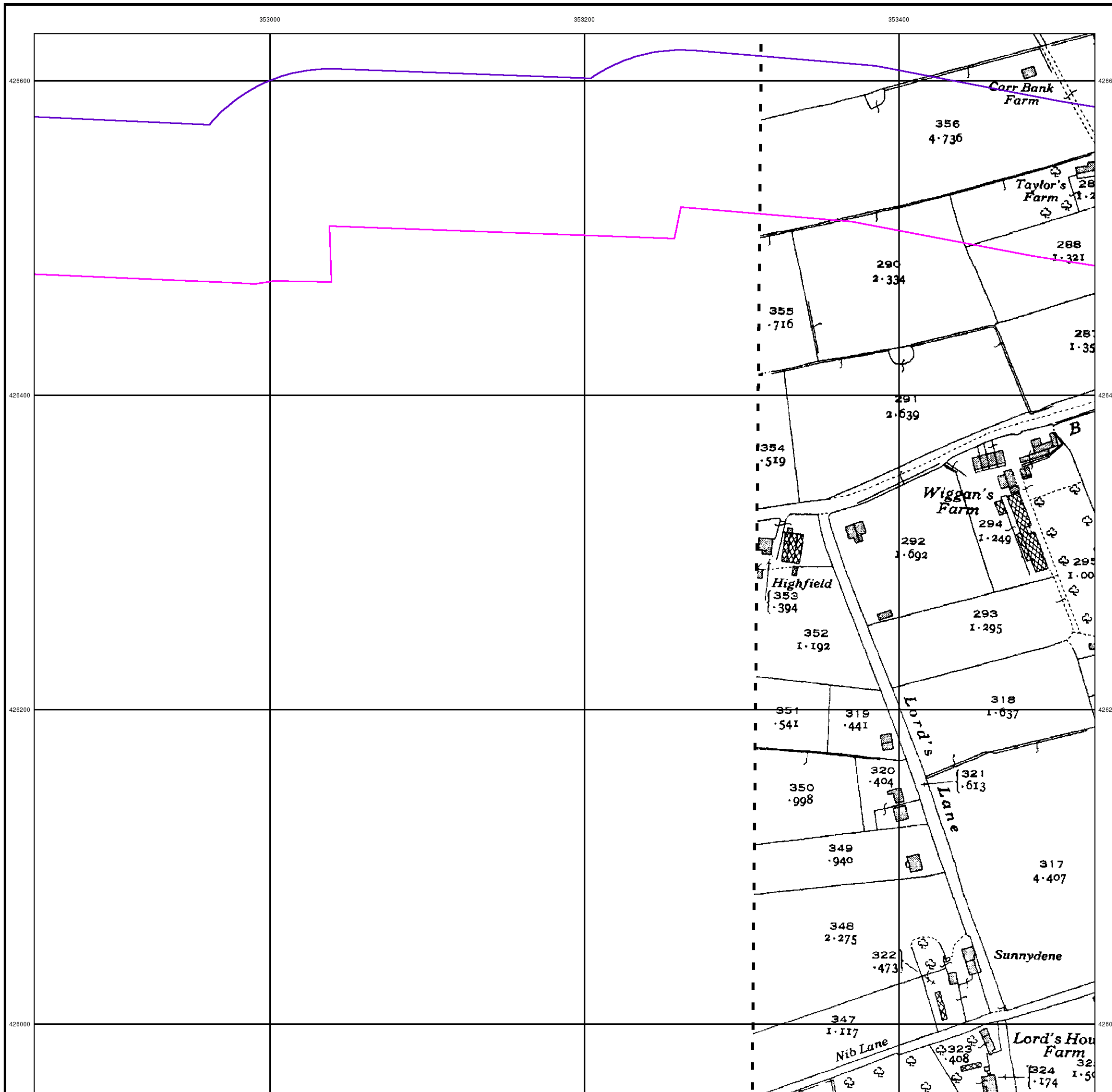
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Ordnance Survey Plan

Published 1957 - 1963

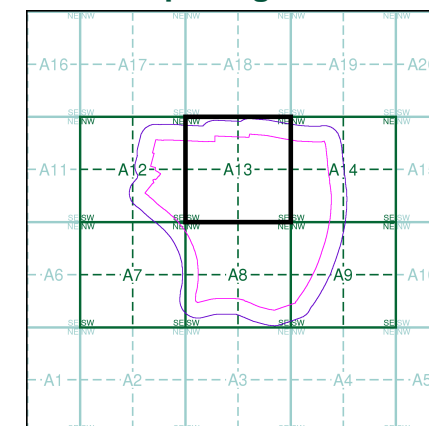
Source map scale - 1:1,250

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)

SD5226NE	SD5326NW	SD5326NE
1957	1958	1958
1:1,250	1:1,250	1:1,250
SD5226SE	SD5326SW	SD5326SE
1957	1958	1958
1:1,250	1:1,250	1:1,250
SD5325NW	SD5325NE	
1963	1963	
1:1,250	1:1,250	

Historical Map - Segment A13



Order Details

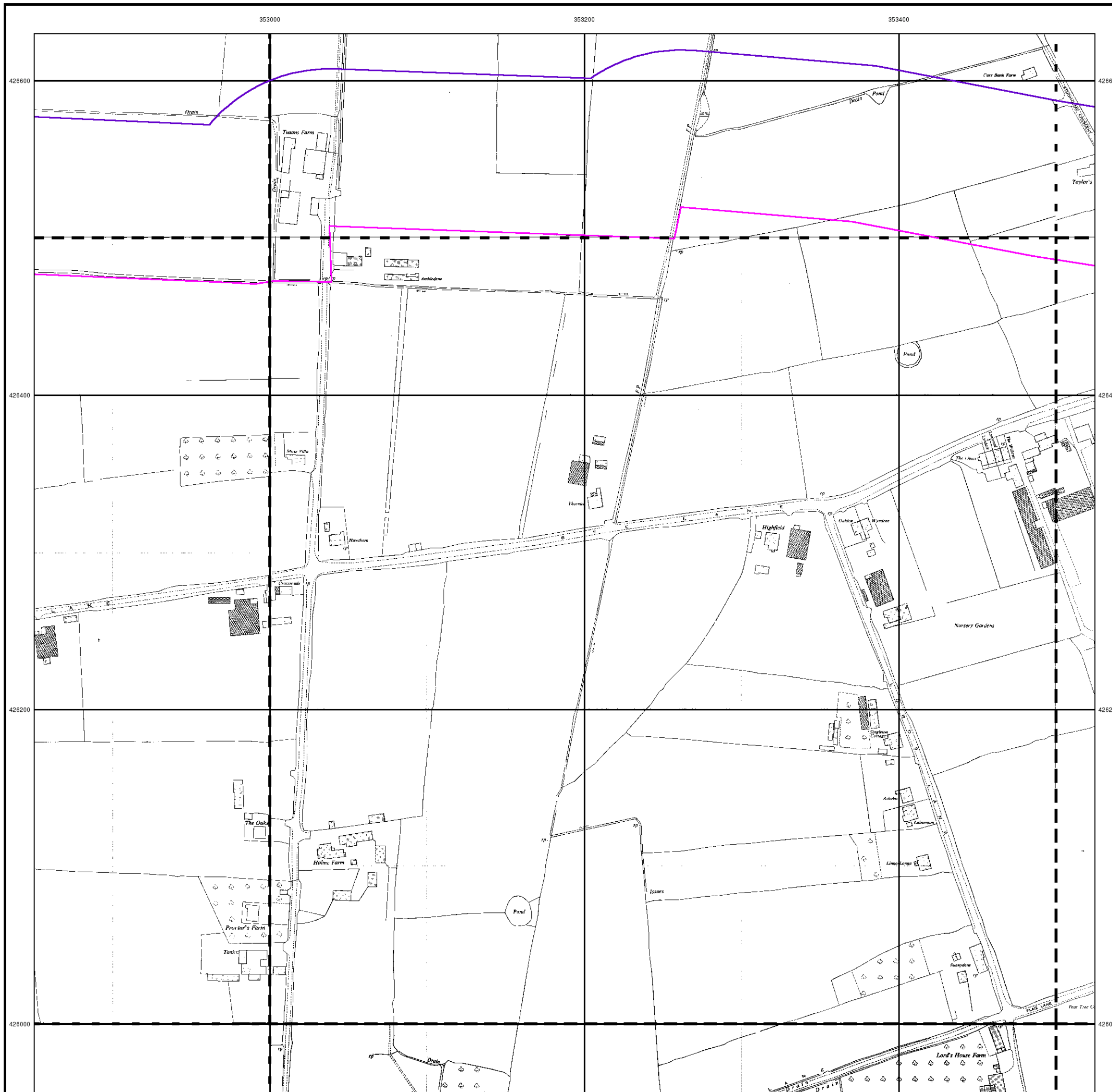
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Ordnance Survey Plan

Published 1960 - 1963

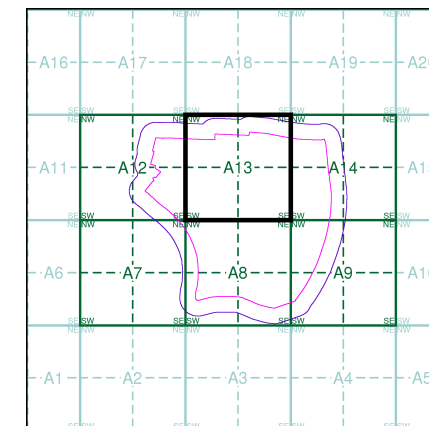
Source map scale - 1:2,500

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)

SD5226 1960 1:2,500	SD5326 1960 1:2,500
SD5225 1963 1:2,500	SD5325 1963 1:2,500

Historical Map - Segment A13



Order Details

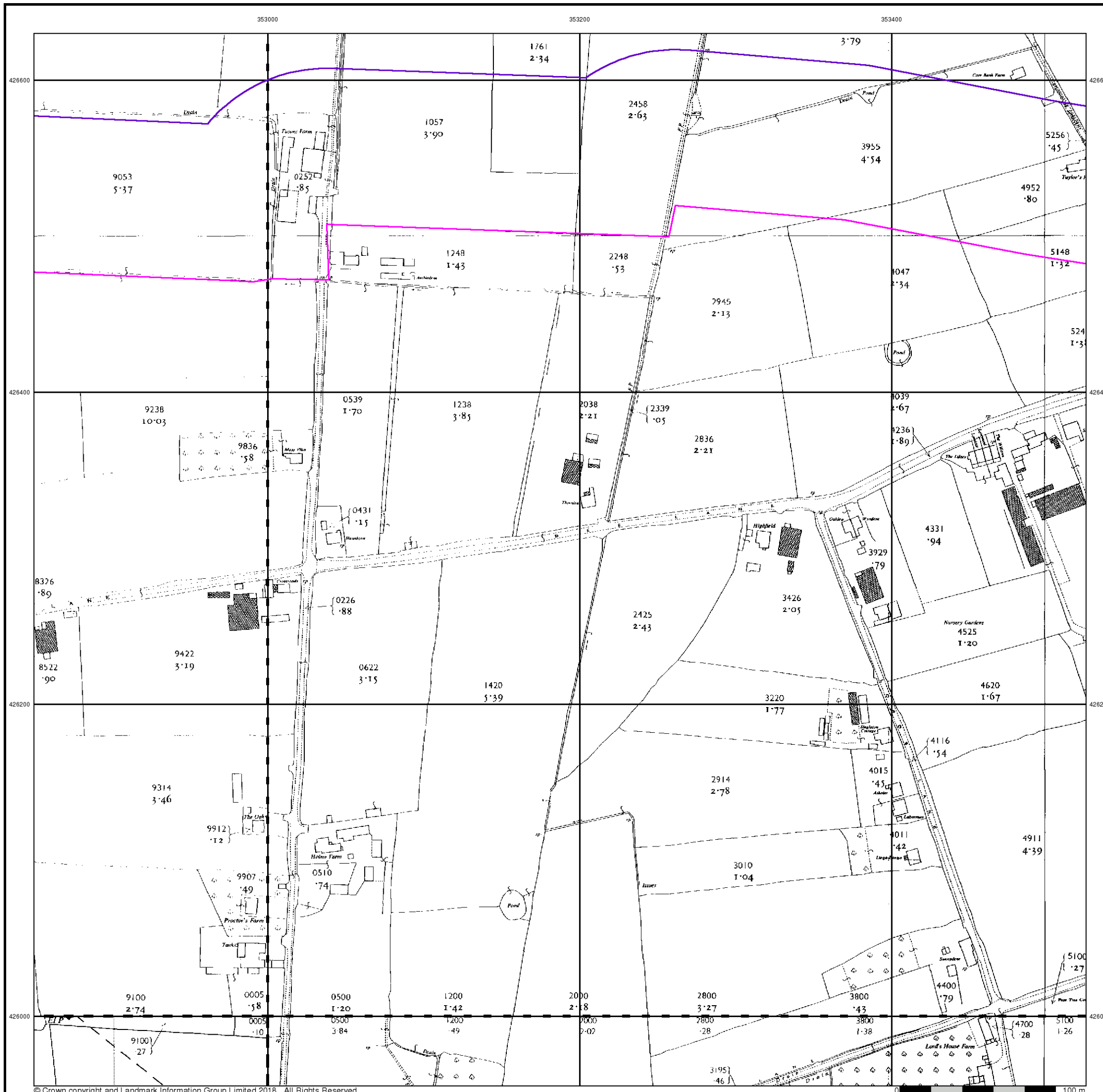
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1964

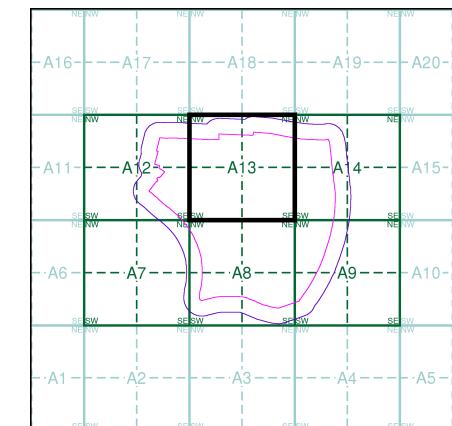
Source map scale - 1:1,250

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)

SD5226NE 1964 1:1,250	SD5326NE 1964 1:1,250
-----------------------------	-----------------------------

Historical Map - Segment A13



Order Details

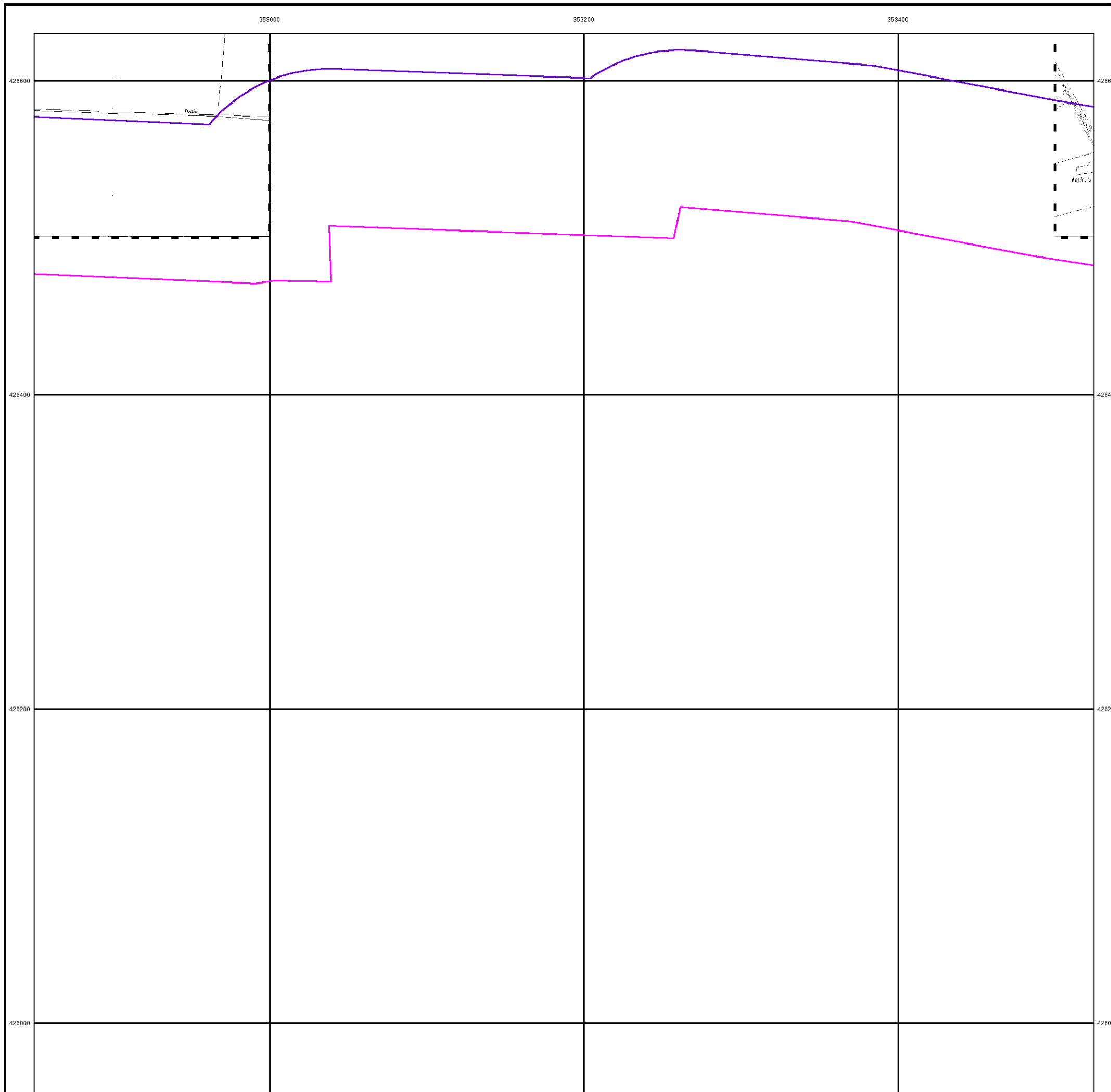
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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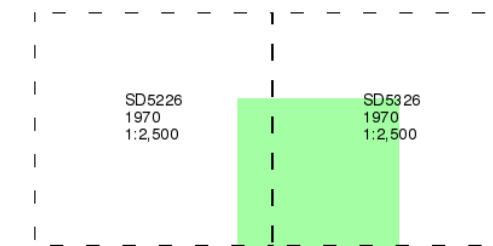
Ordnance Survey Plan

Published 1970

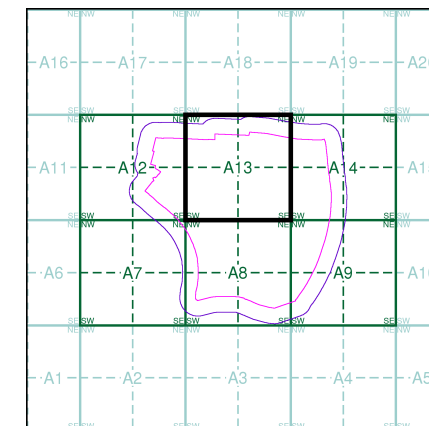
Source map scale - 1:2,500

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

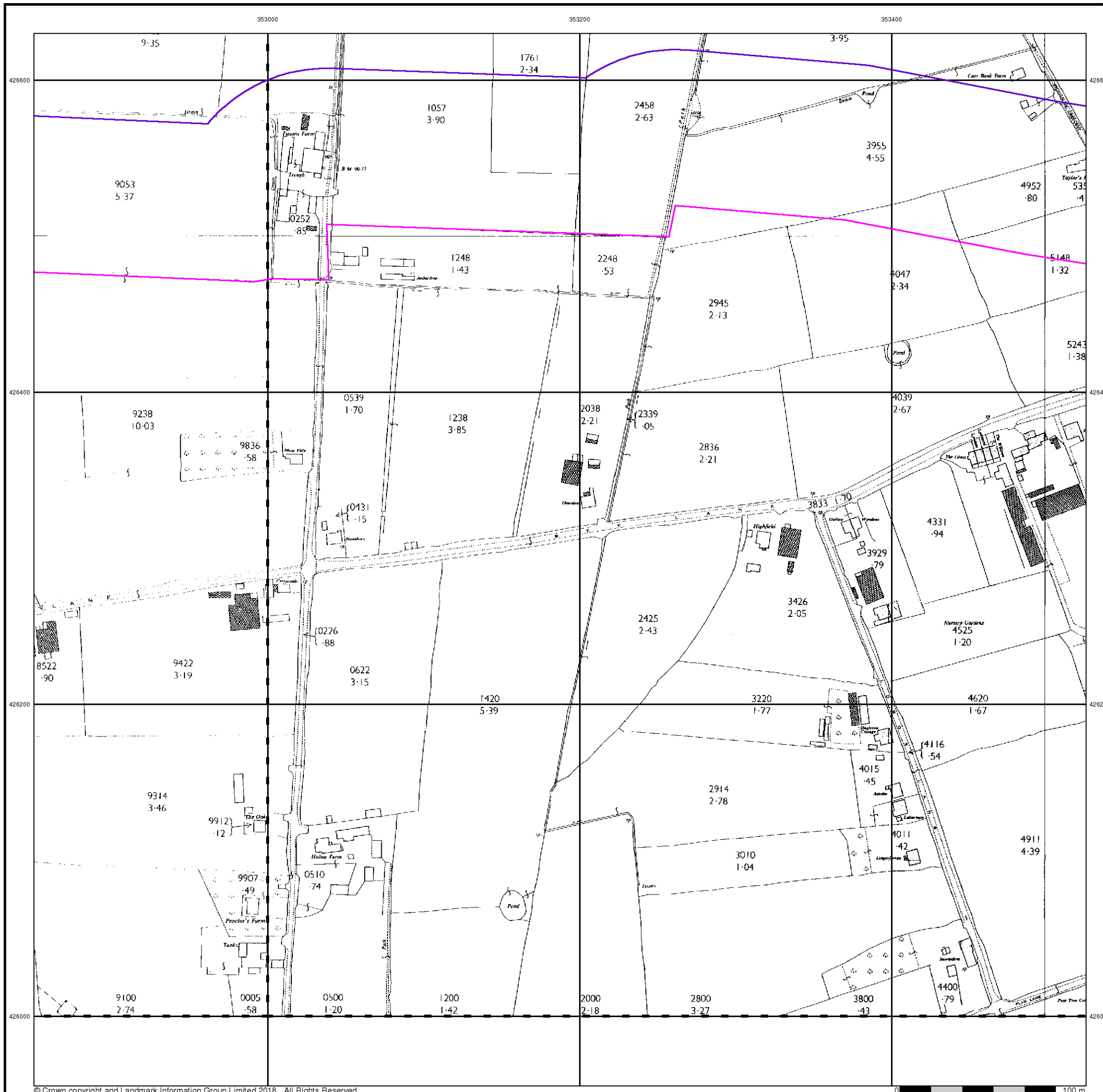
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Ordnance Survey Plan

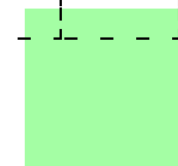
Published 1973 - 1976

Source map scale - 1:1,250

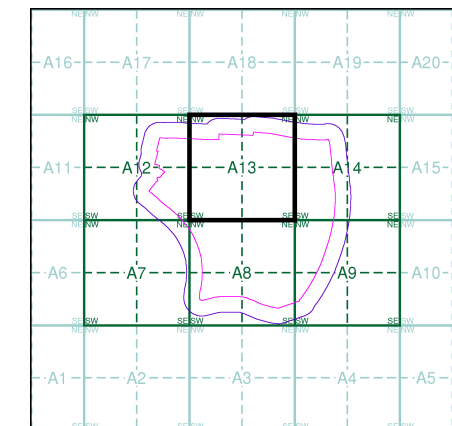
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain.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

SD5226NE 1973 1:1,250	SD5326NW 1976 1:1,250	SD5326NE 1974 1:1,250
-----------------------------	-----------------------------	-----------------------------



Historical Map - Segment A13



Order Details

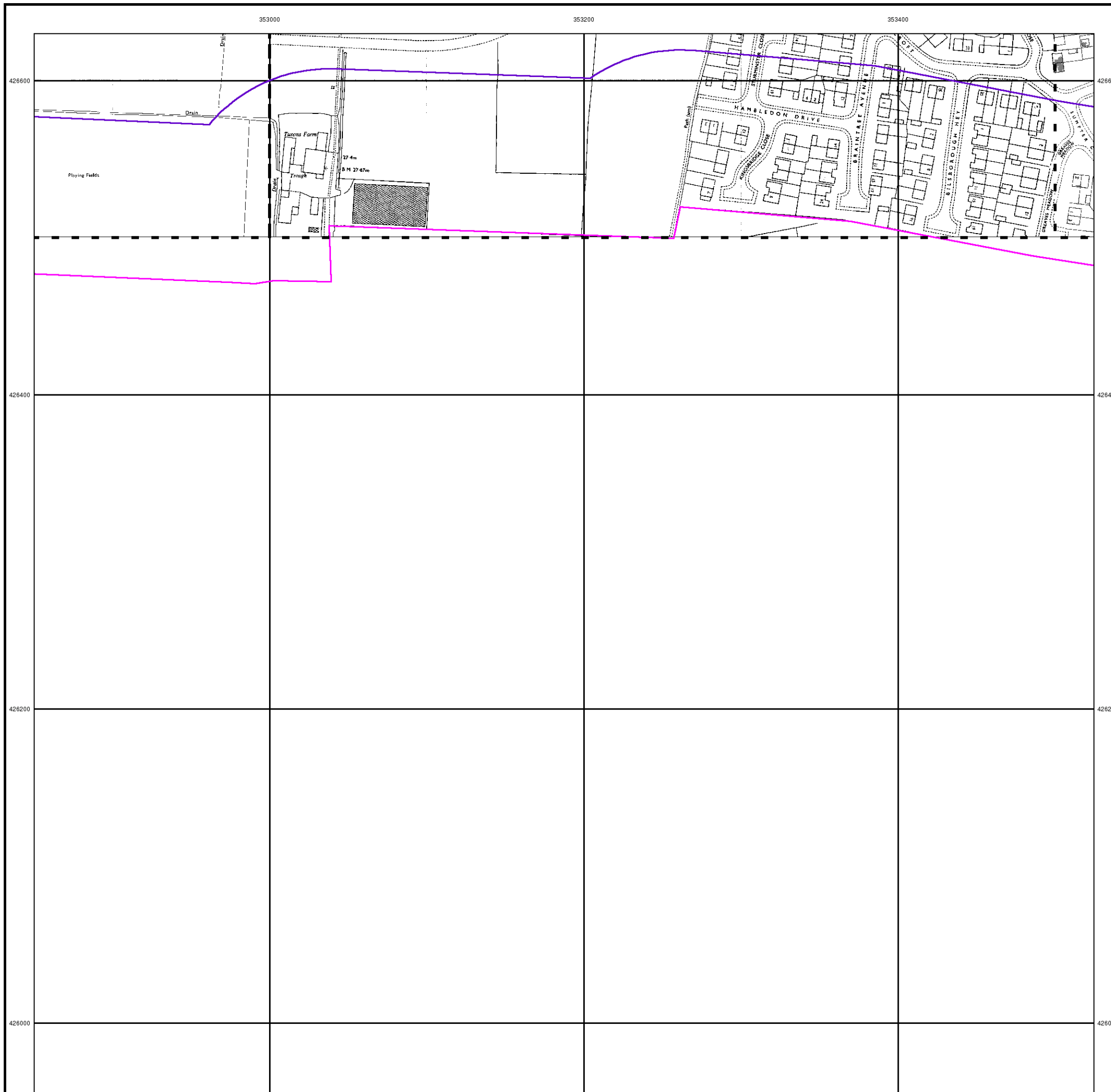
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Additional SIMs

Published 1979 - 1990

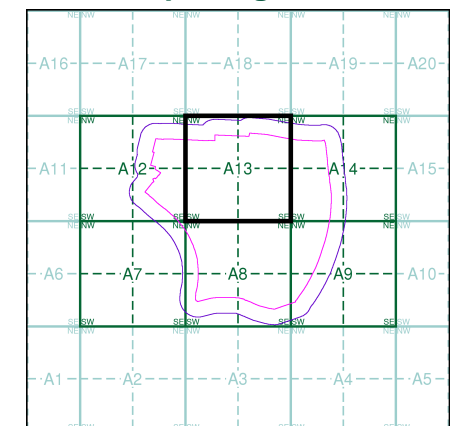
Source map scale - 1:1,250

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)

SD5228NE	SD5326NW	SD5326NE
1990	1979	1990
1:1,250	1:1,250	1:1,250
		SD5326SE
		1982
		1:1,250
		SD5325NE
		1985
		1:1,250

Historical Map - Segment A13



Order Details

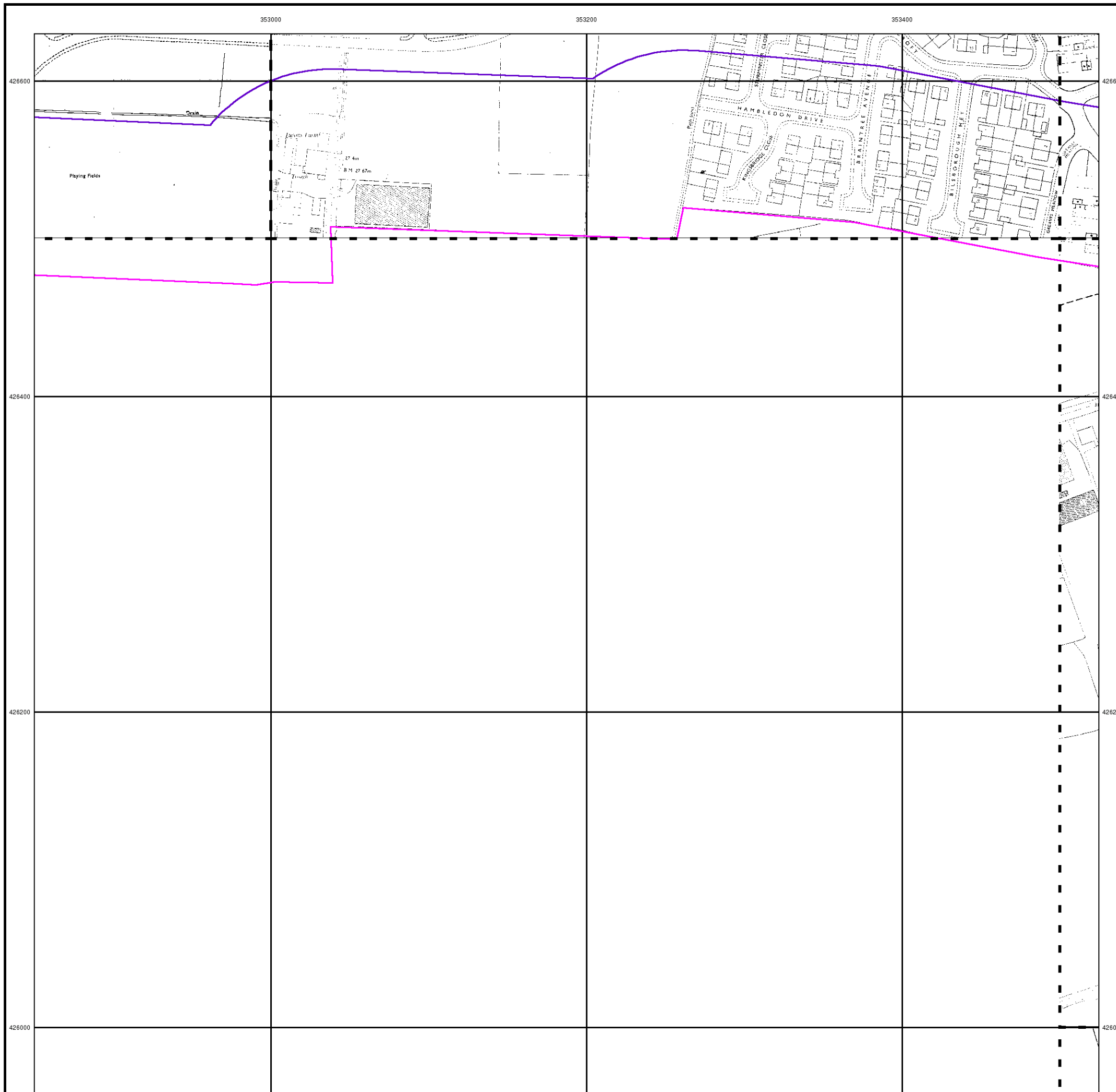
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

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Additional SIMs

Published 1983 - 1990

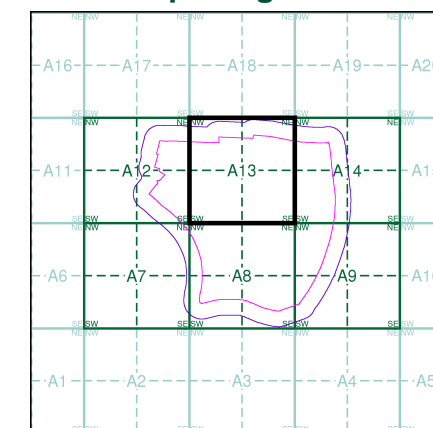
Source map scale - 1:1,250

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)

SD5326NW
1983
1:1,250
SD5326SE
1987
1:1,250
SD5325NE
1990
1:1,250

Historical Map - Segment A13



Order Details

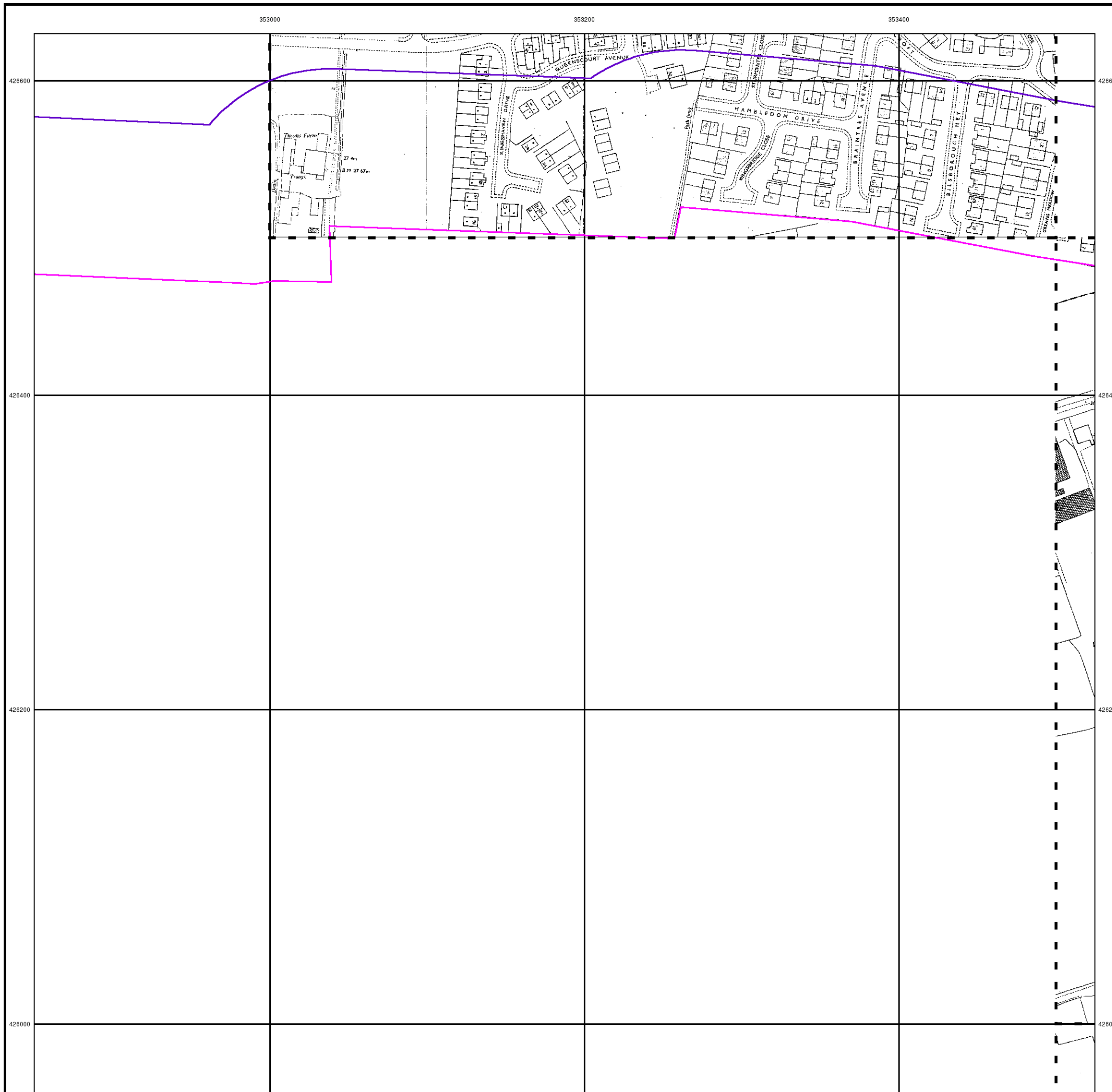
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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





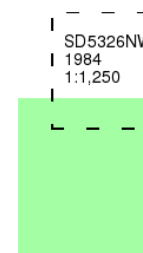
Additional SIMs

Published 1984

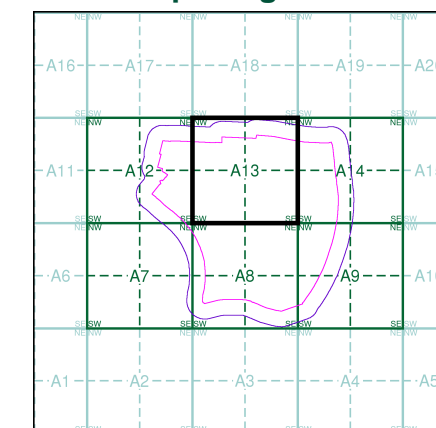
Source map scale - 1:1,250

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

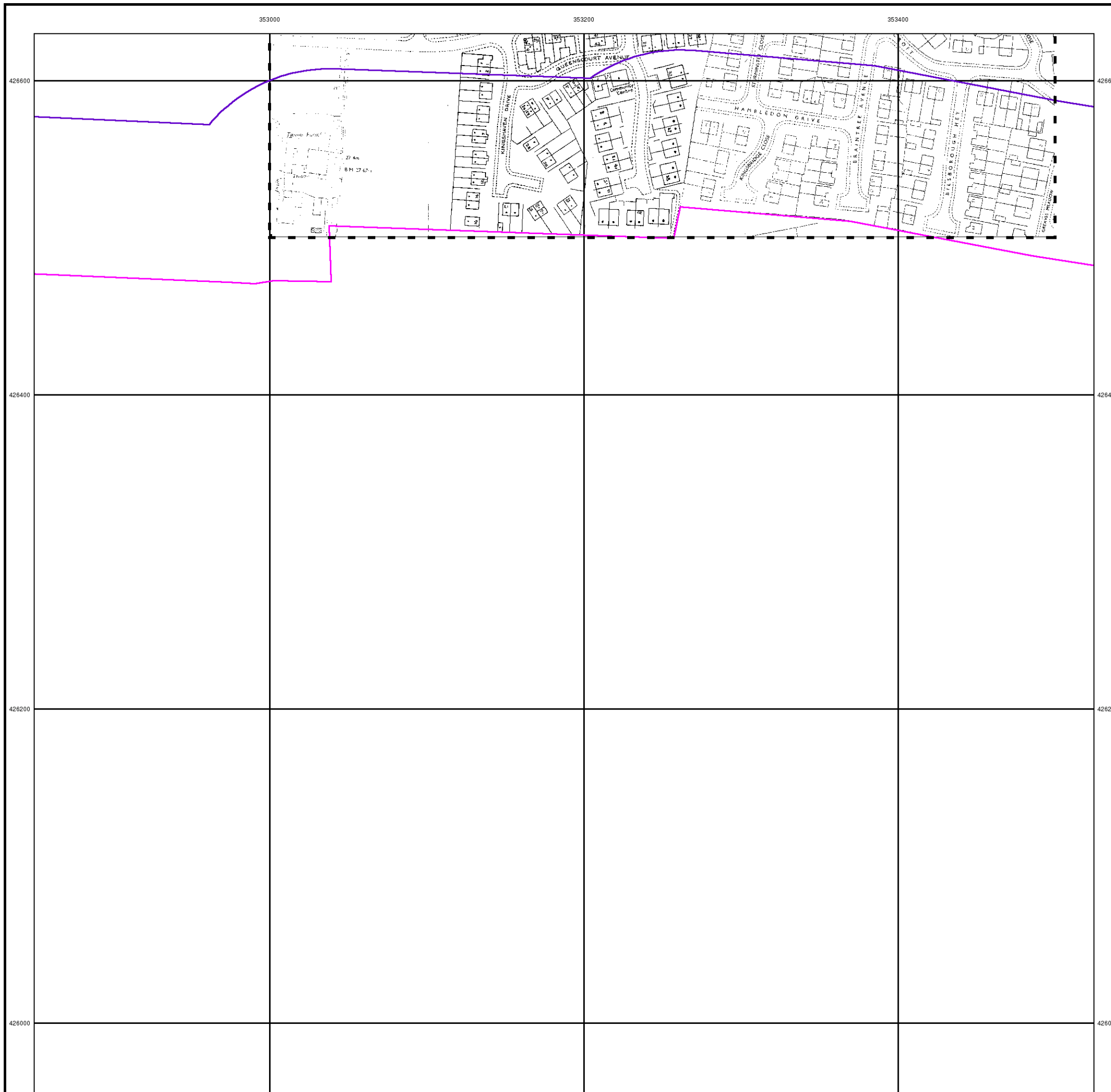
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
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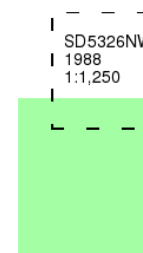
Additional SIMs

Published 1988

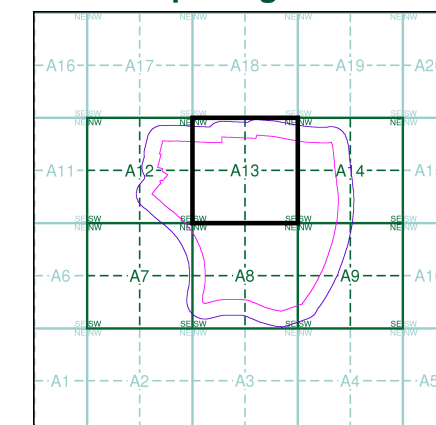
Source map scale - 1:1,250

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

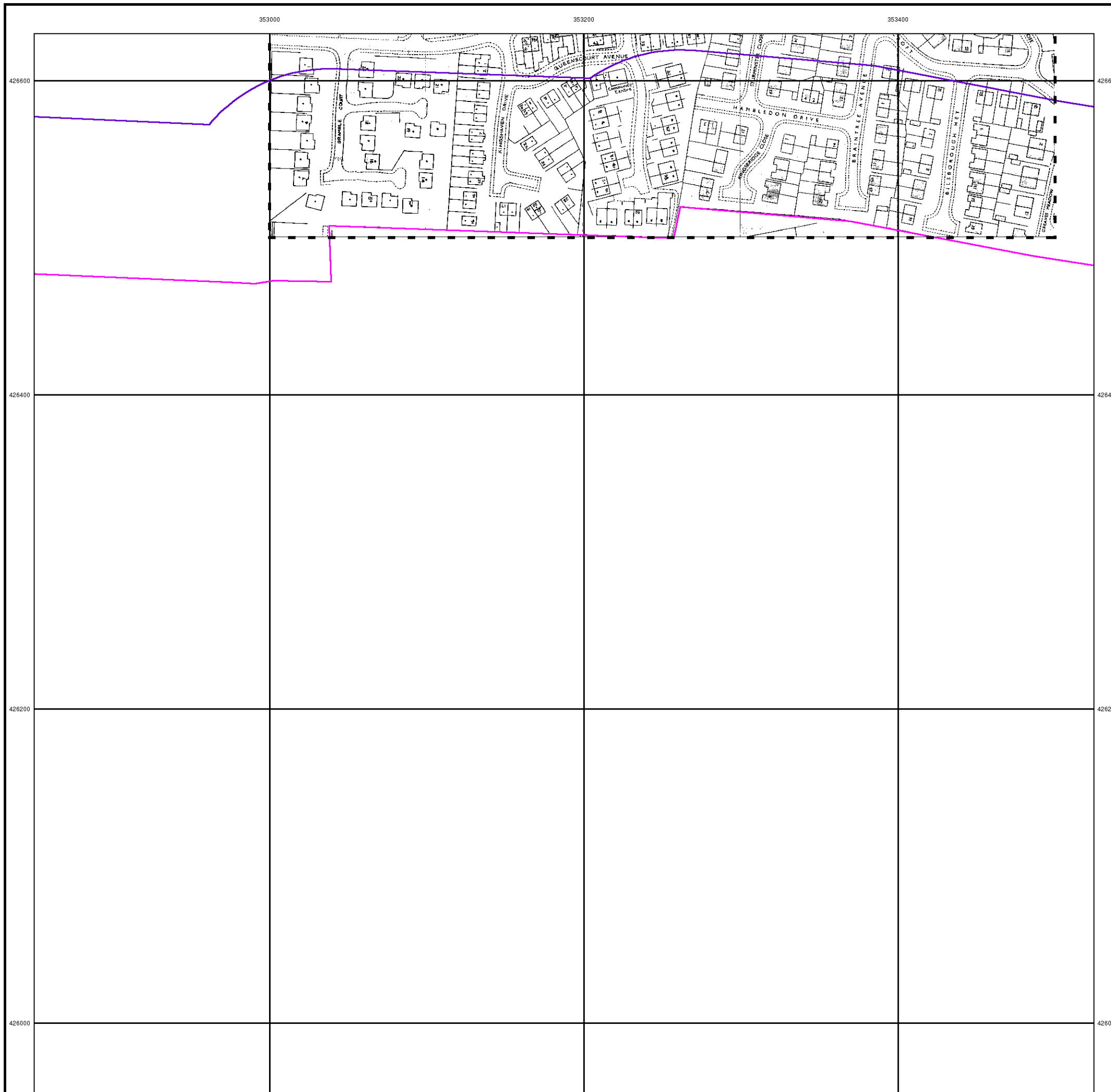
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
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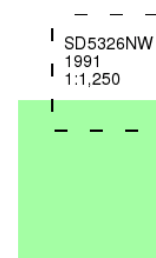
Ordnance Survey Plan

Published 1991

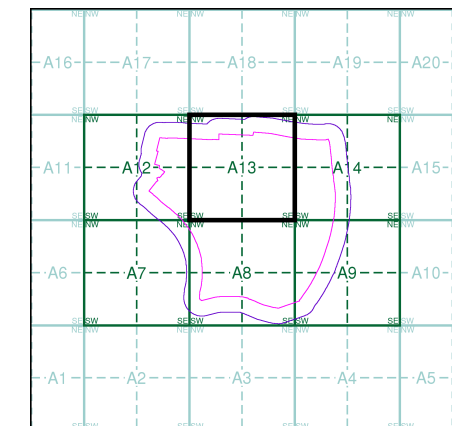
Source map scale - 1:1,250

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)



Historical Map - Segment A13



Order Details

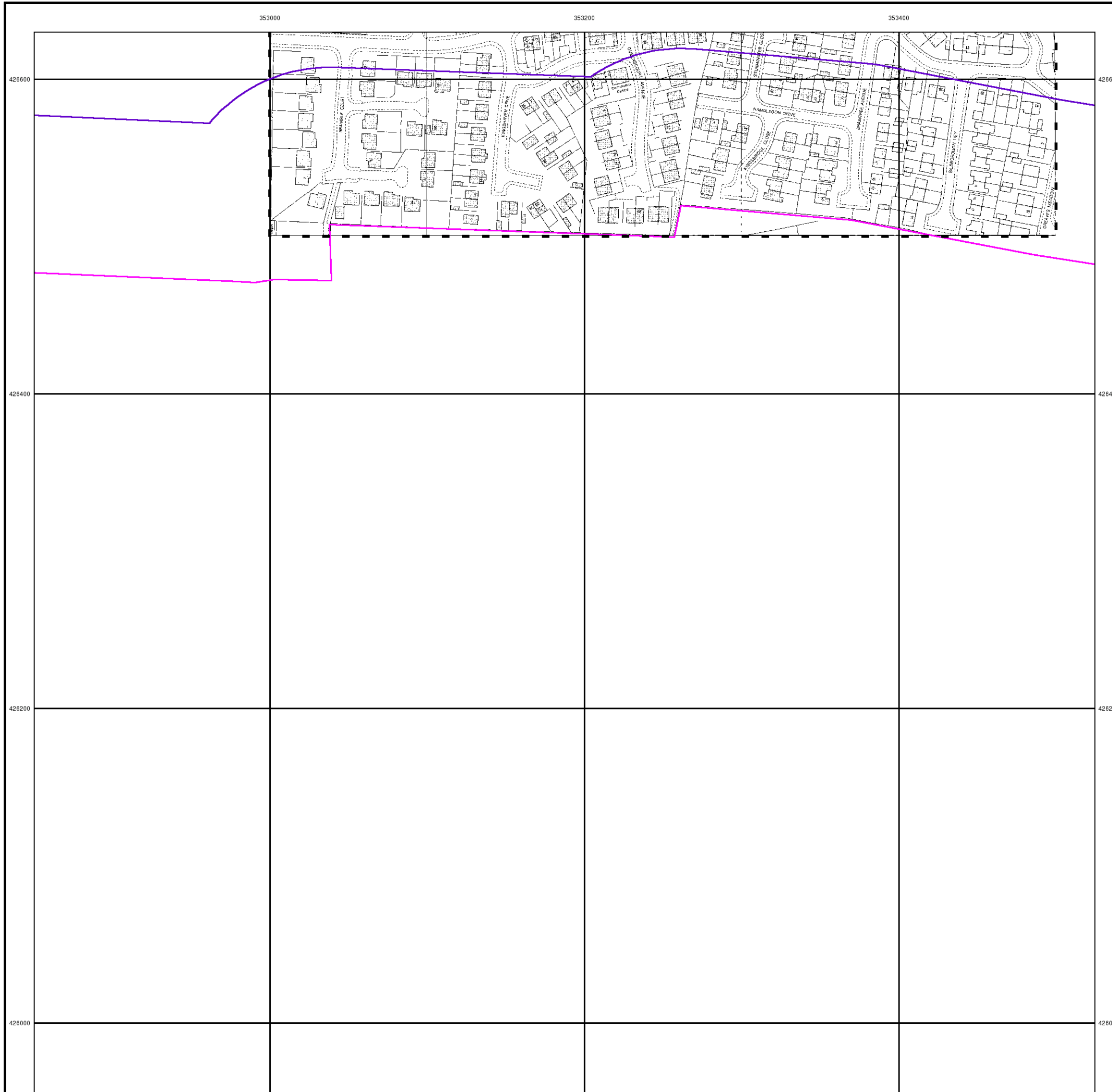
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

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Large-Scale National Grid Data

Published 1993

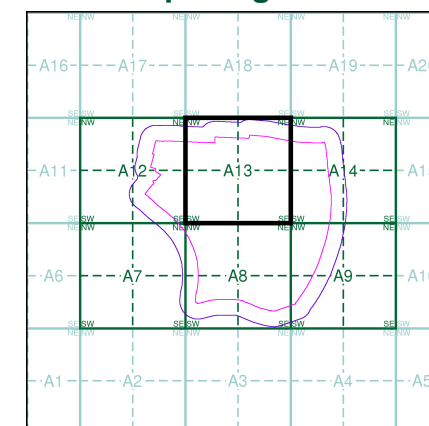
Source map scale - 1:1,250

'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)

SD5226NE	SD5326NW	SD5326NE
1993	1993	1993
1:1,250	1:1,250	1:1,250
SD5226SE	SD5326SW	SD5326SE
1993	1993	1993
1:1,250	1:1,250	1:1,250
SD5325NW	SD5325NE	
1993	1993	
1:1,250	1:1,250	

Historical Map - Segment A13



Order Details

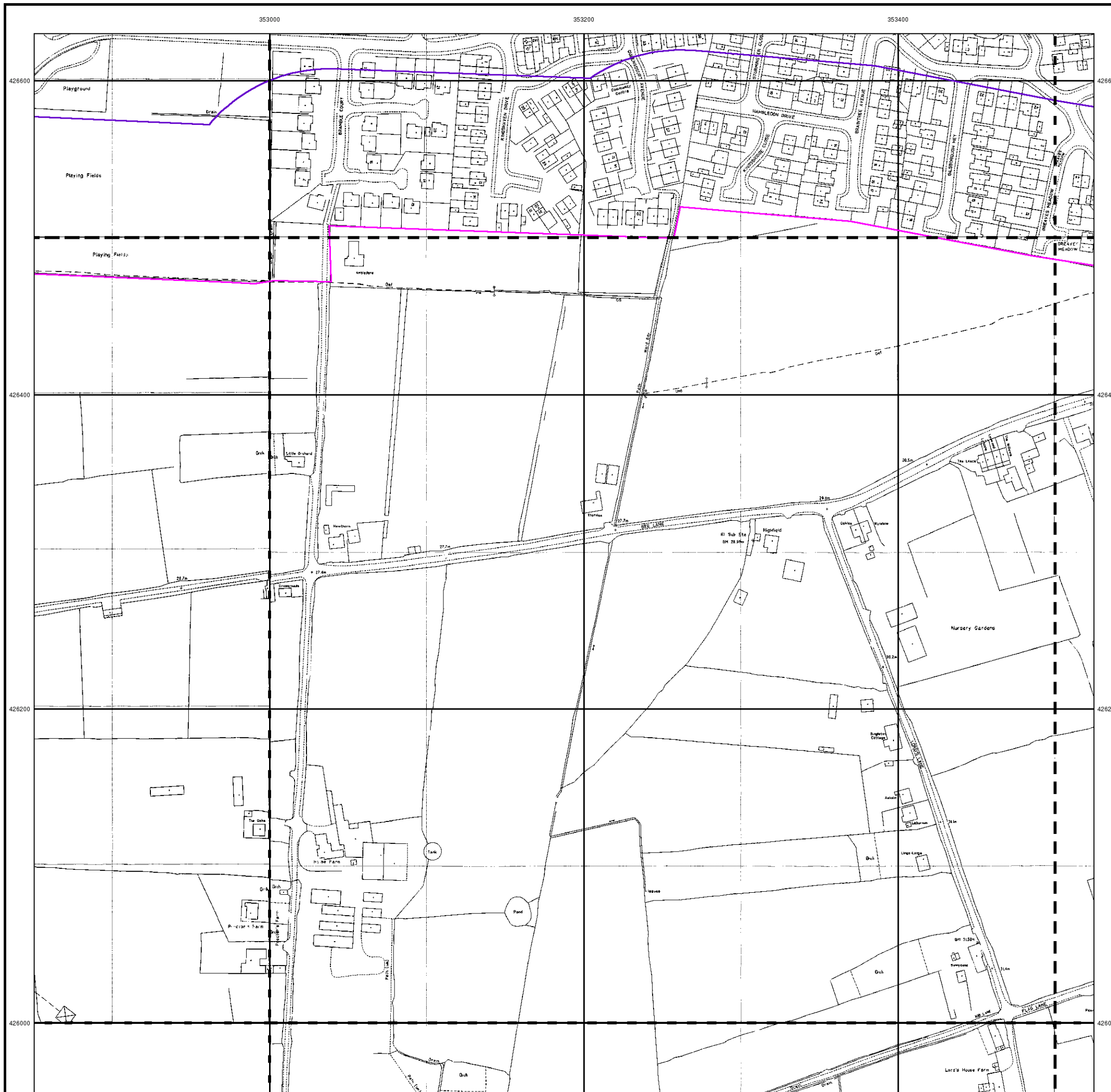
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

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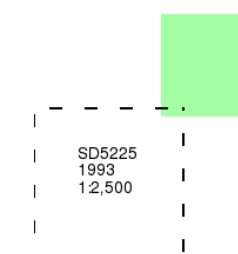
Large-Scale National Grid Data

Published 1993

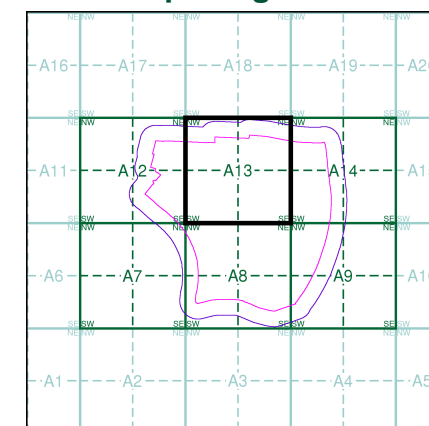
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

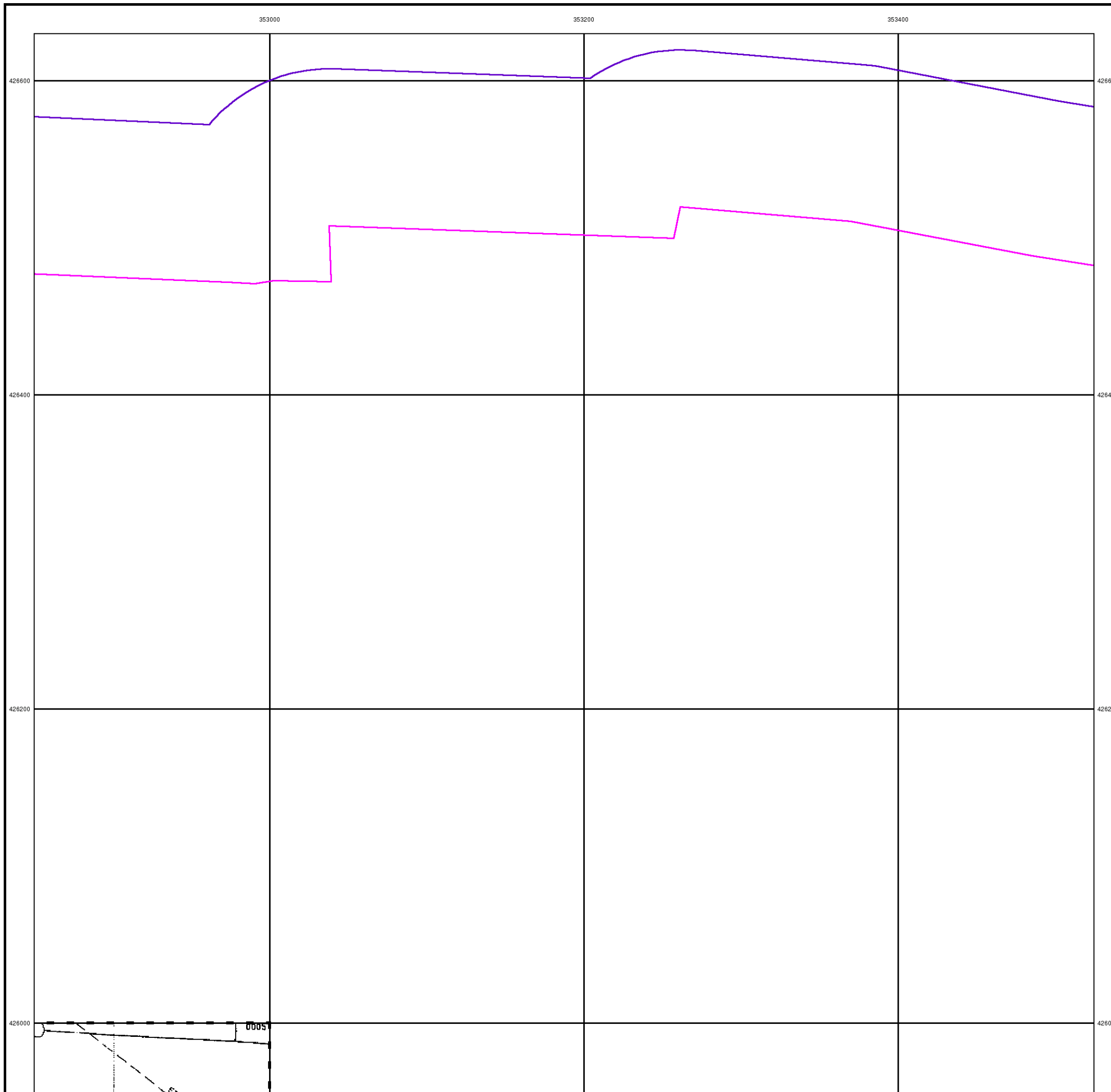
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

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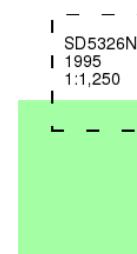
Large-Scale National Grid Data

Published 1995

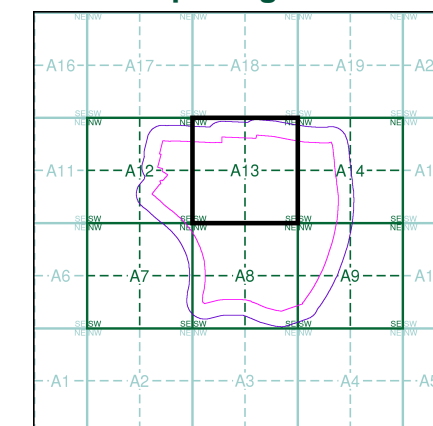
Source map scale - 1:1,250

'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

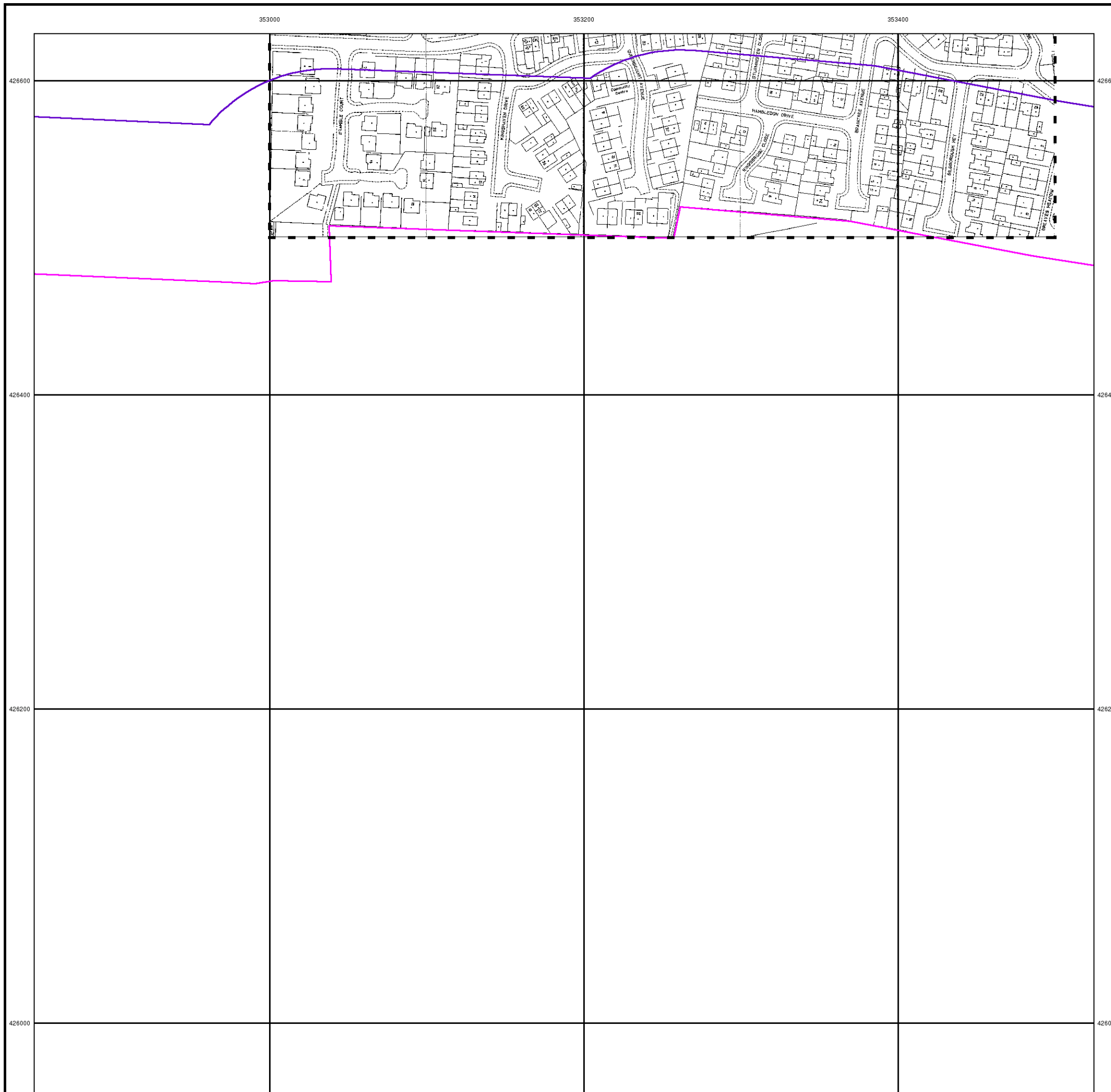
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

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Historical Mapping Legends

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

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
County Burgh Boundary (Scotland)
Co. Boro. Bdy.
Co. Burgh Bdy.
BP BS Boundary Post or Stone **P.C.B** Police Call Box
B.R. Bridle Road **P** Pump
E.P Electricity Pylon **S.P** Signal Post
F.B. Foot Bridge **Sl** Sluice
F.P. Foot Path **Sp.** Spring
G.P Guide Post or Board **T.C.B** Telephone Call Box
M.S Mile Stone **Tr.** Trough
M.P M.R Mooring Post or Ring **W** Well

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

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
BH Beer House **P** Pillar, Pole or Post
BP, BS Boundary Post or Stone **PO** Post Office
Cn, C Capstan, Crane **PC** Public Convenience
Chy Chimney **PH** Public House
D Fn Drinking Fountain **Pp** Pump
EI P Electricity Pillar or Post **SB, S Br** Signal Box or Bridge
FAP Fire Alarm Pillar **SP, SL** Signal Post or Light
FB Foot Bridge **Spr** Spring
GP Guide Post **Tk** Tank or Track
H Hydrant or Hydraulic **TCB** Telephone Call Box
LC Level Crossing **TCP** Telephone Call Post
MH Manhole **Tr** Trough
MP Mile Post or Mooring Post **Wr Pt, Wr T** Water Point, Water Tap
MS Mile Stone **W** Well
NTL Normal Tidal Limit **Wd Pp** Wind Pump

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

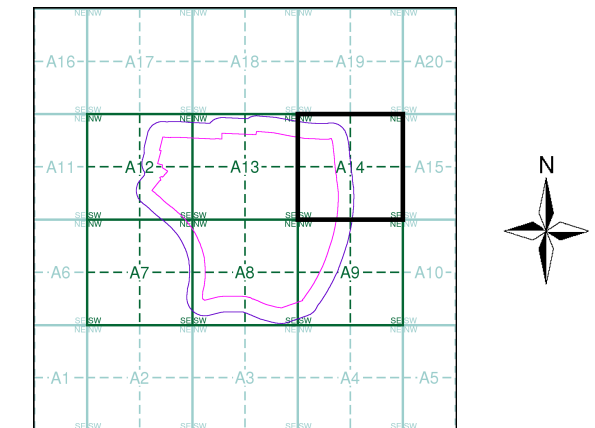
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 231.60m Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Bks Barracks **P** Pillar, Pole or Post
Bty Battery **PO** Post Office
Cemy Cemetery **PC** Public Convenience
Chy Chimney **Pp** Pump
Cis Cistern **Ppg Sta** Pumping Station
Dismtd Rly Dismantled Railway **PW** Place of Worship
EI Gen Sta Electricity Generating Station **Sewage Ppg Sta** Sewage Pumping Station
EI P Electricity Pole, Pillar **SB, S Br** Signal Box or Bridge
EI Sub Sta Electricity Sub Station **SP, SL** Signal Post or Light
FB Filter Bed **Spr** Spring
Fn / D Fn Fountain / Drinking Ftn. **Tk** Tank or Track
Gas Gov Gas Valve Compound **Tr** Trough
GVC Gas Governor **Wd Pp** Wind Pump
GP Guide Post **Wr Pt, Wr T** Water Point, Water Tap
MH Manhole **Wks** Works (building or area)
MP, MS Mile Post or Mile Stone **W** Well



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1911	3
Lancashire And Furness	1:2,500	1931	4
Lancashire And Furness	1:2,500	1938	5
Ordnance Survey Plan	1:1,250	1958 - 1964	6
Additional SIMs	1:1,250	1958 - 1981	7
Ordnance Survey Plan	1:2,500	1960 - 1965	8
Ordnance Survey Plan	1:1,250	1963 - 1973	9
Ordnance Survey Plan	1:2,500	1970	10
Ordnance Survey Plan	1:1,250	1971 - 1989	11
Additional SIMs	1:1,250	1982 - 1990	12
Additional SIMs	1:1,250	1987 - 1990	13
Large-Scale National Grid Data	1:1,250	1993	14

Historical Map - Segment A14



Order Details

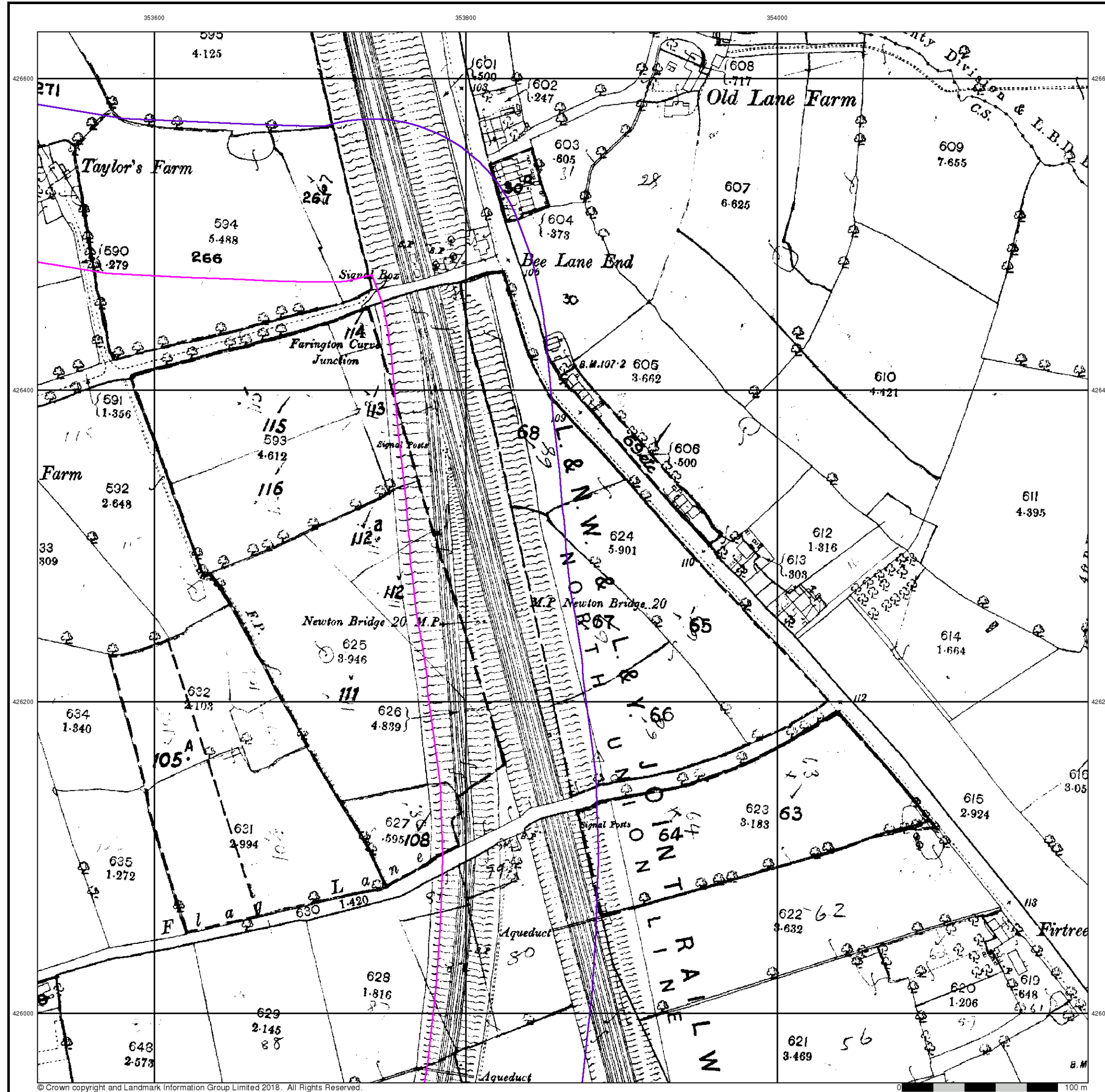
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



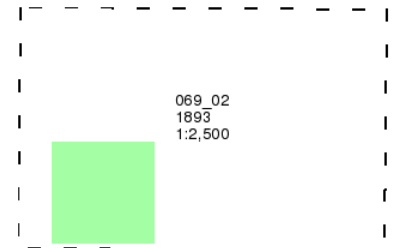
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



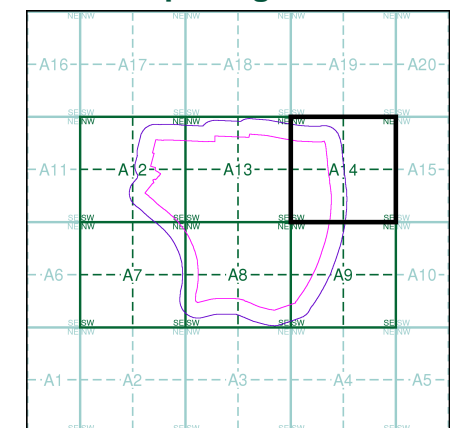
Lancashire And Furness
Published 1893
Source map scale - 1:2,500

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 A14



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
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 Site Area (Ha): 99.74
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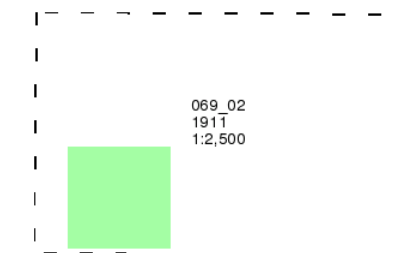
Lancashire And Furness

Published 1911

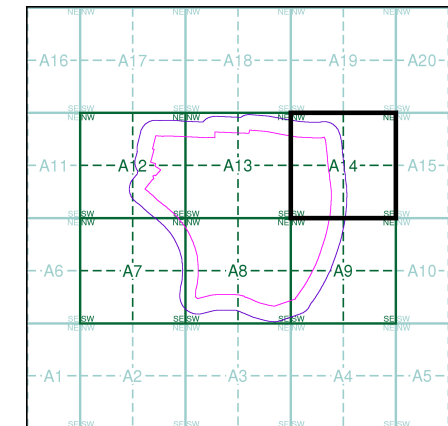
Source map scale - 1:2,500

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 A14



Order Details

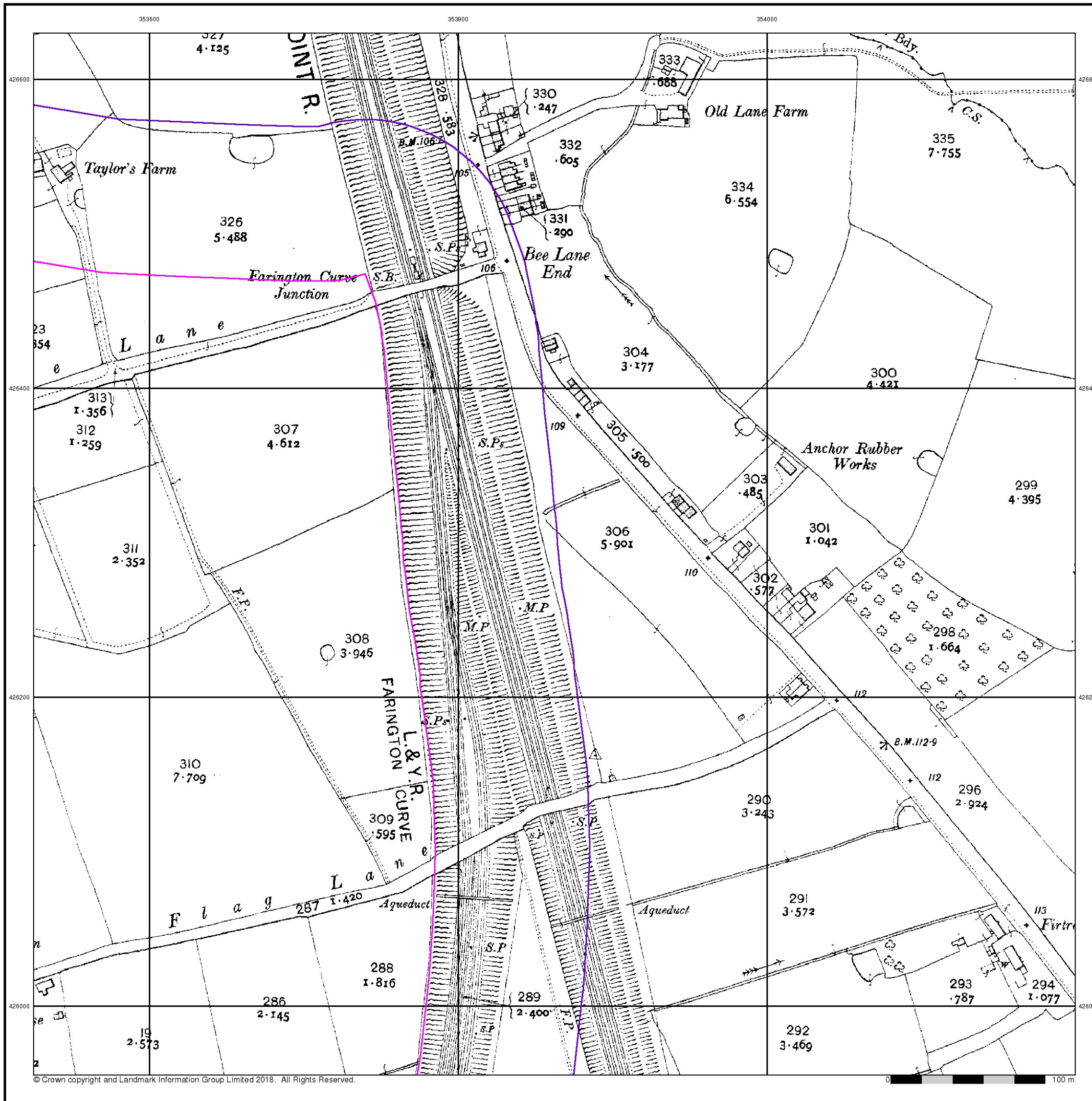
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Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
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Site Details

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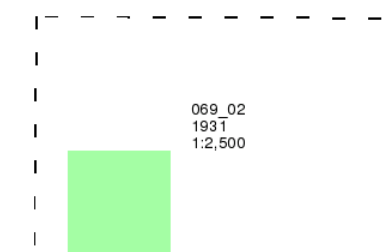
Lancashire And Furness

Published 1931

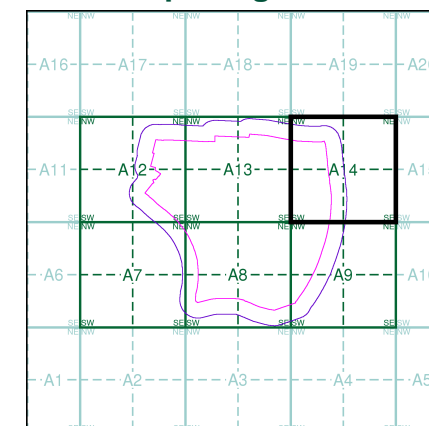
Source map scale - 1:2,500

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 A14



Order Details

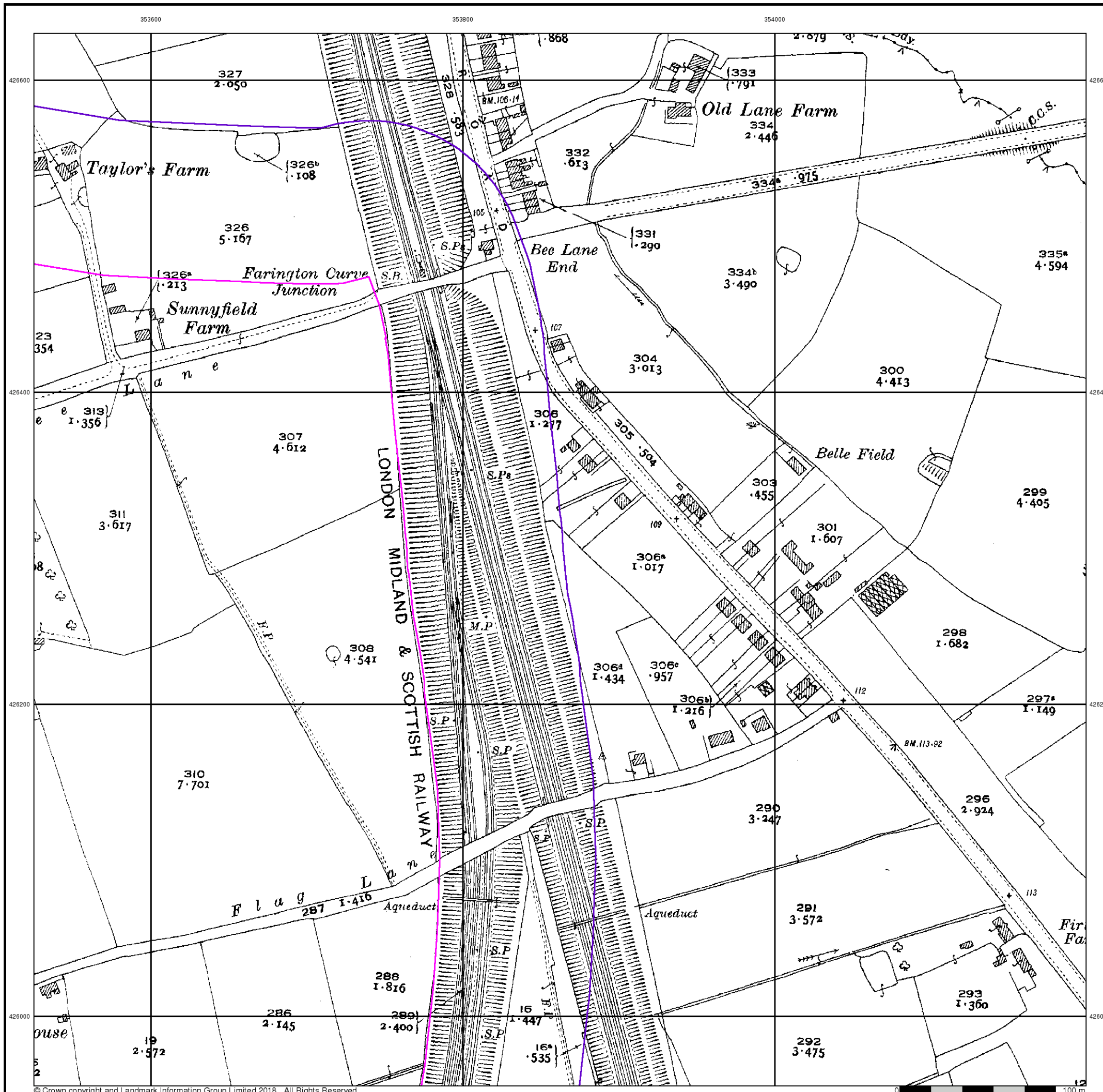
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Customer Ref: 3861
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Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

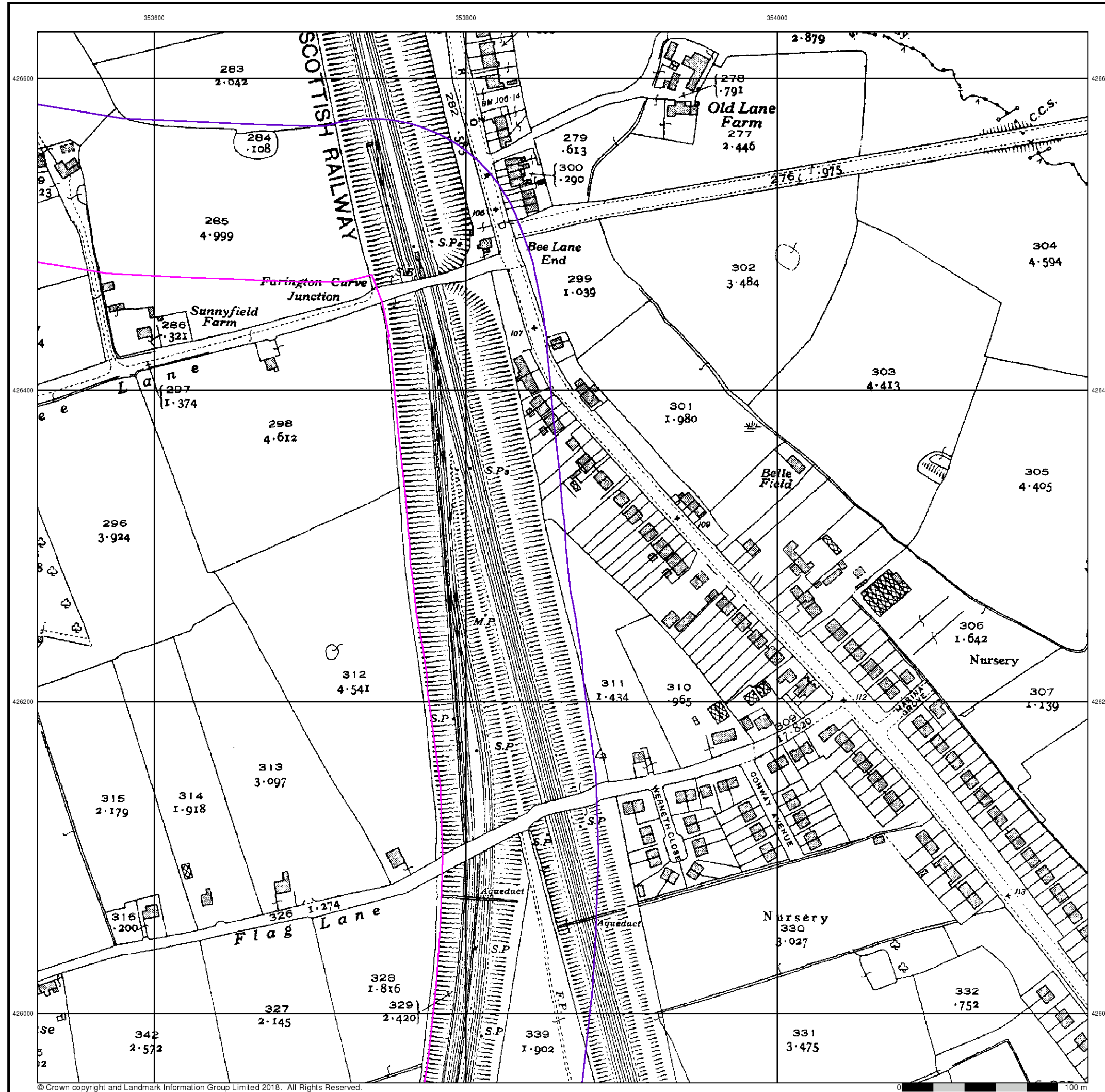
Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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

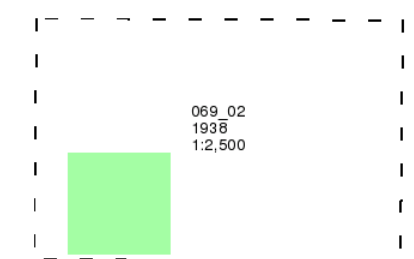




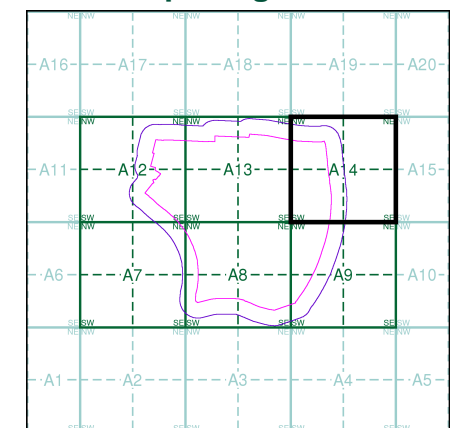
Lancashire And Furness
Published 1938
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A14



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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



Ordnance Survey Plan

Published 1958 - 1964

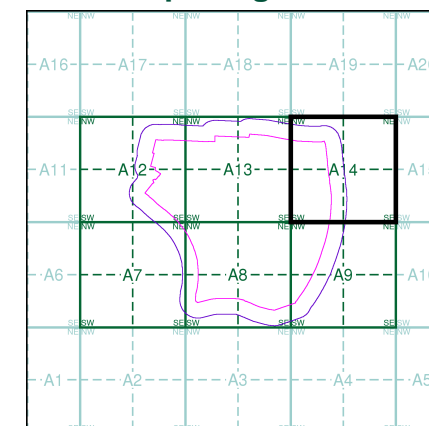
Source map scale - 1:1,250

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)

SD5326NE	SD5426NW
1958	1958
1:1,250	1:1,250
SD5326SE	SD5426SW
1958	1958
1:1,250	1:1,250
SD5325NE	SD5425NW
1963	1964
1:1,250	1:1,250

Historical Map - Segment A14



Order Details

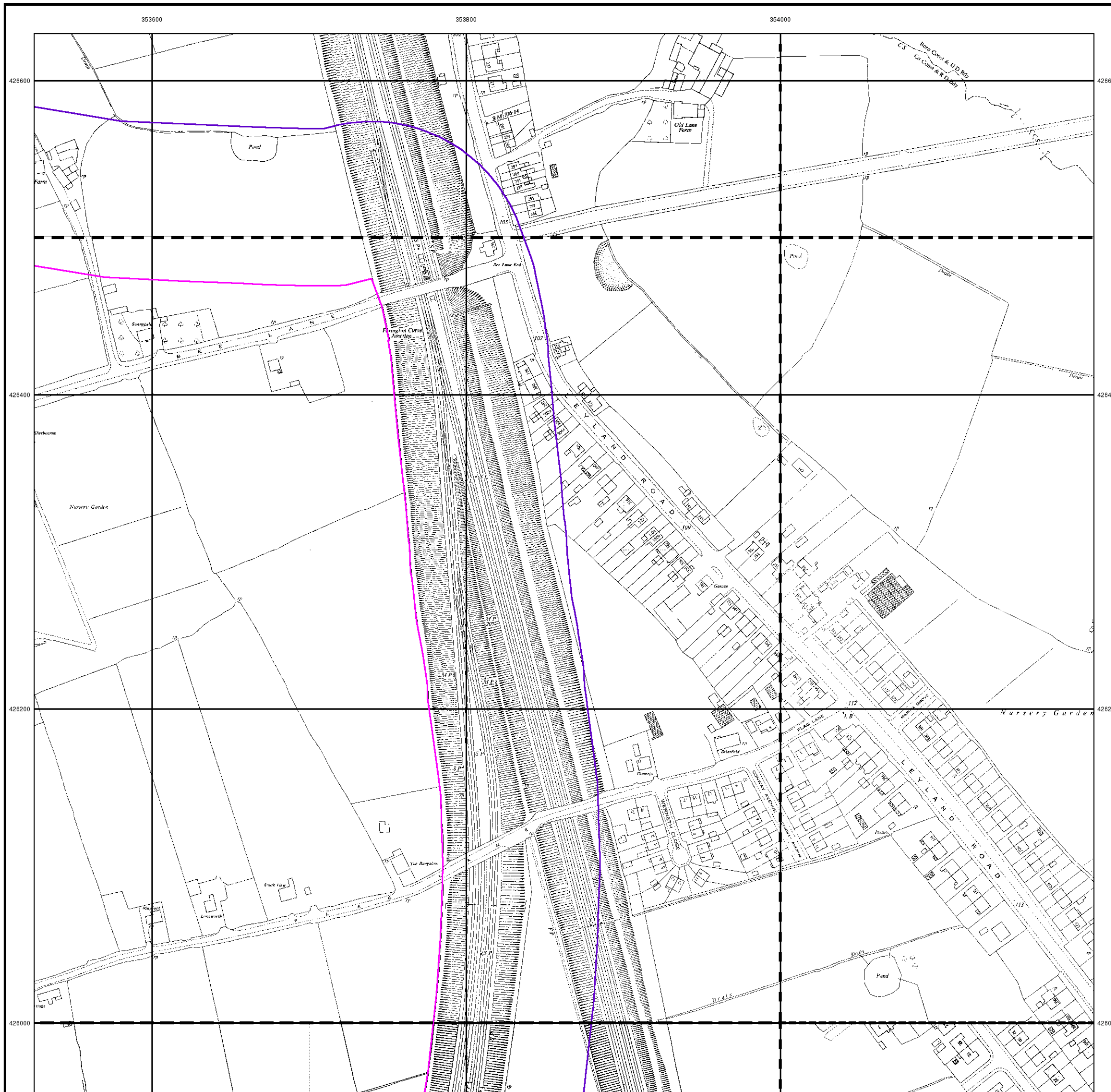
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 Slice: A
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 Search Buffer (m): 100

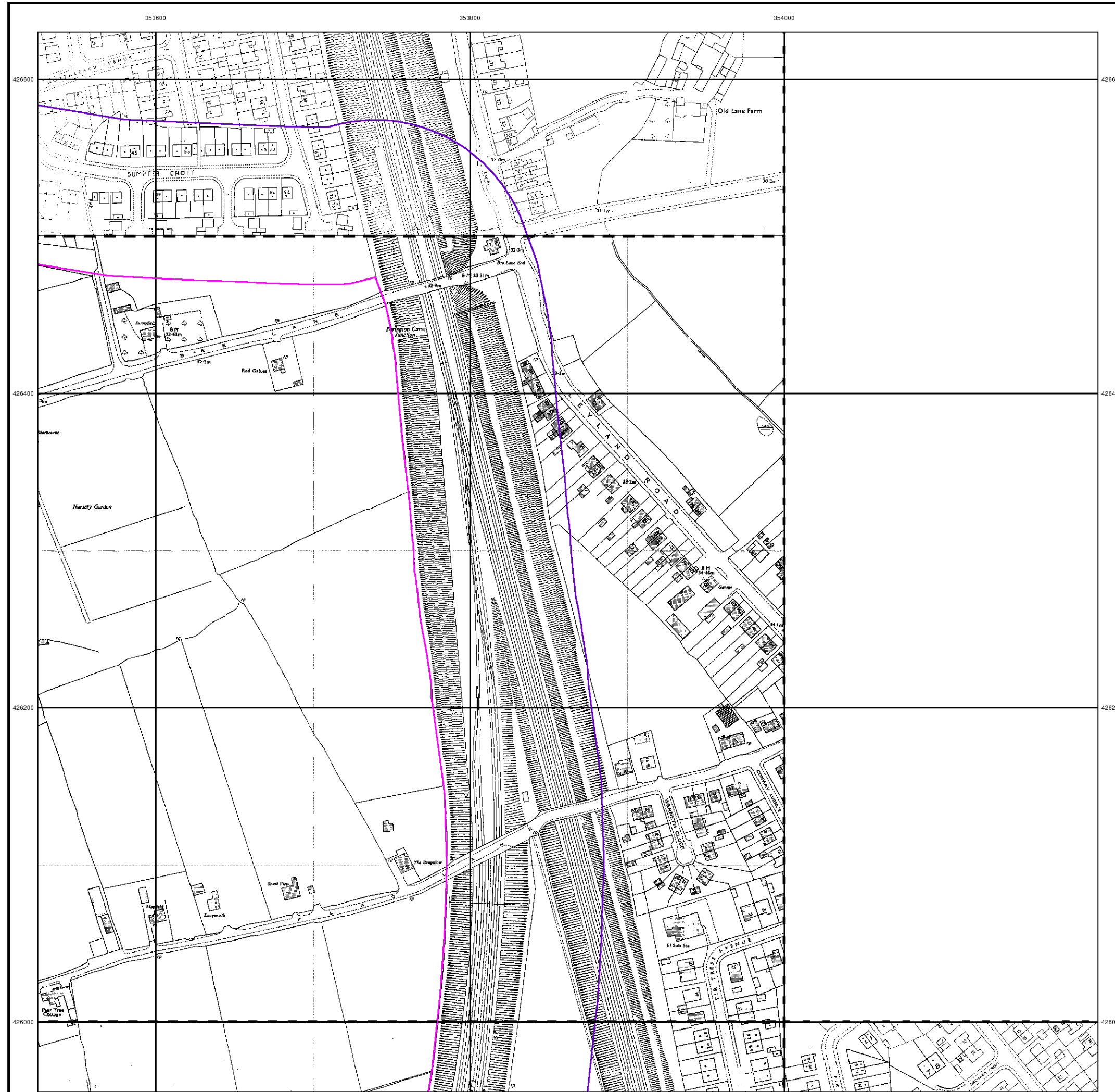
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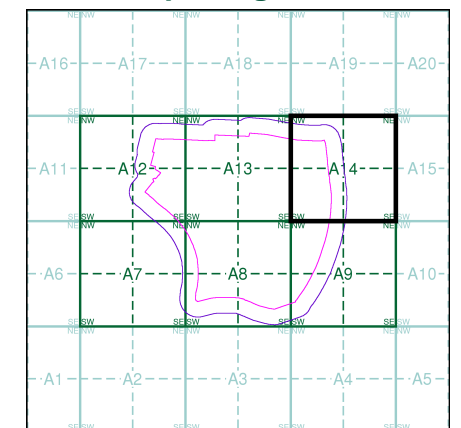
Additional SIMs
Published 1958 - 1981
Source map scale - 1:1,250

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)

BD5326NE	1981	1:1,250
BD5326SE	1958	1:1,250
BD5325NE	1979	1:1,250
BD5425NW	1978	1:1,250

Historical Map - Segment A14



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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



Ordnance Survey Plan

Published 1960 - 1965

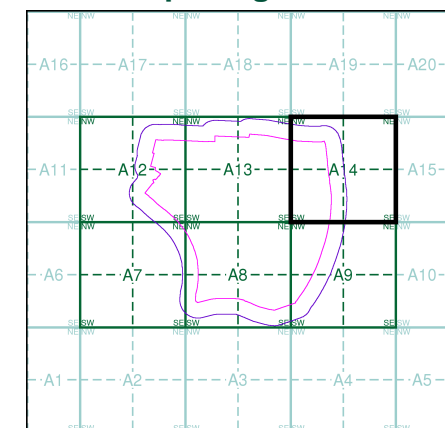
Source map scale - 1:2,500

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)

SD5326 1960 1:2,500	SD5426 1965 1:2,500
SD5325 1963 1:2,500	SD5425 1965 1:2,500

Historical Map - Segment A14



Order Details

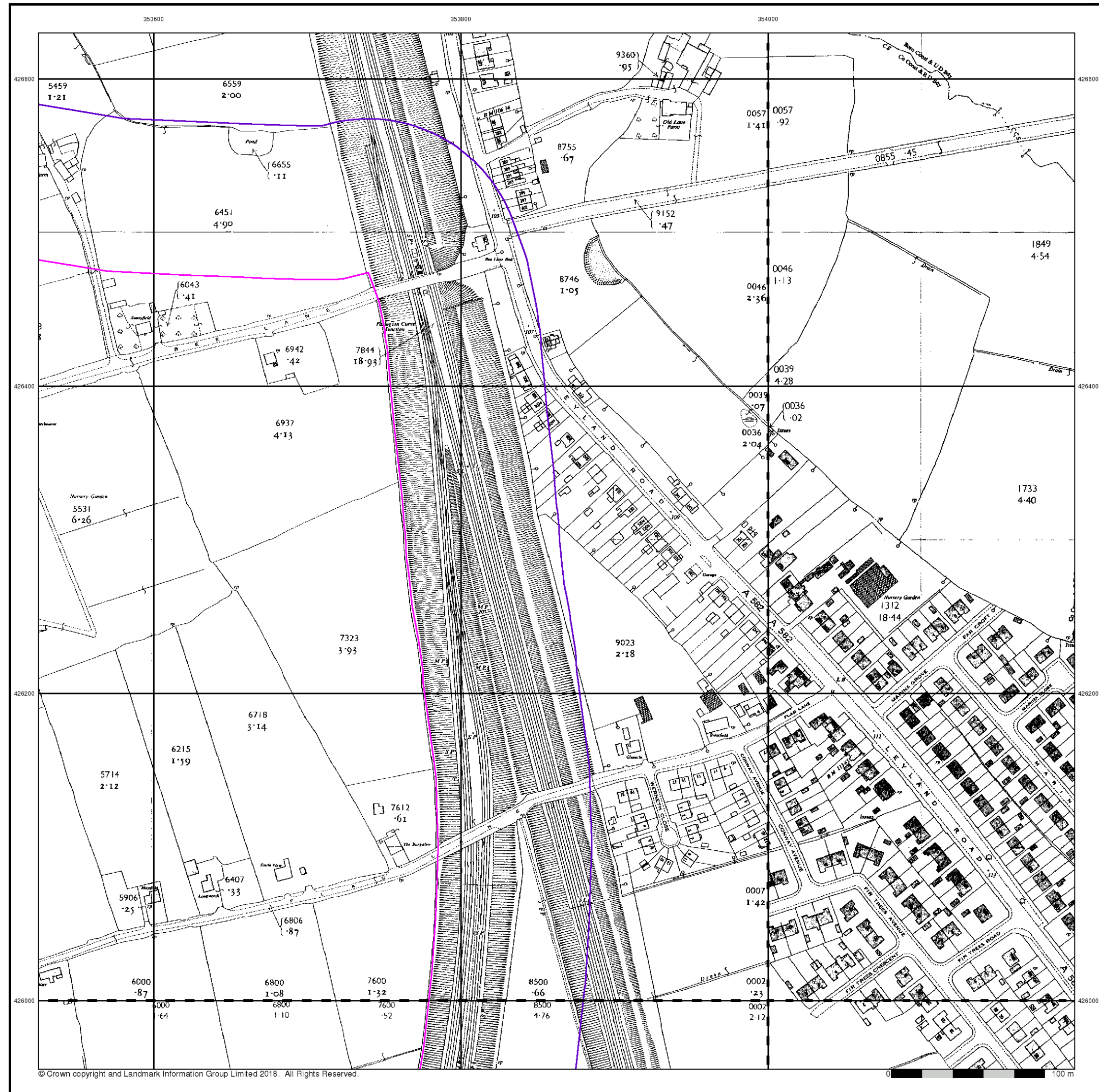
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1963 - 1973

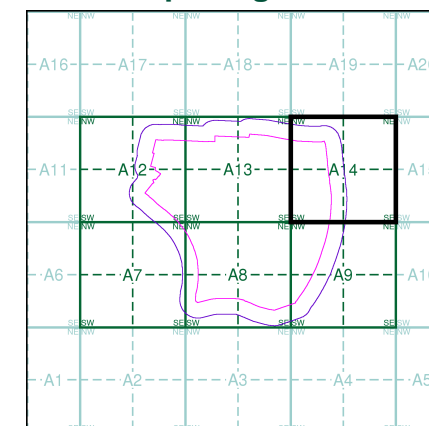
Source map scale - 1:1,250

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)

SD5326NE	SD5426NW
1964	1973
1:1,250	1:1,250
SD5426SW	
1963	
1:1,250	
SD5425NW	
1970	
1:1,250	

Historical Map - Segment A14



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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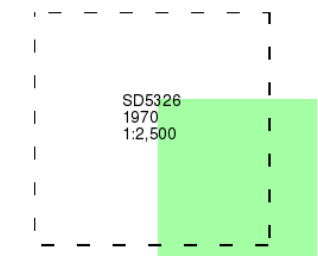
Ordnance Survey Plan

Published 1970

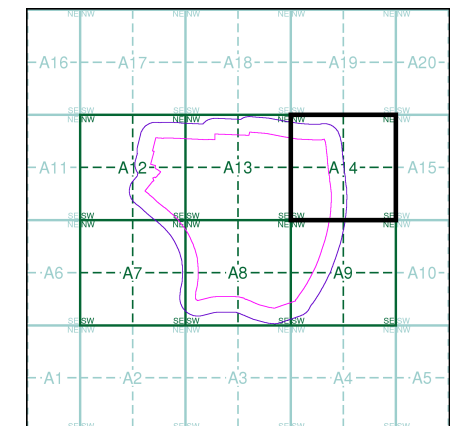
Source map scale - 1:2,500

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 A14



Order Details

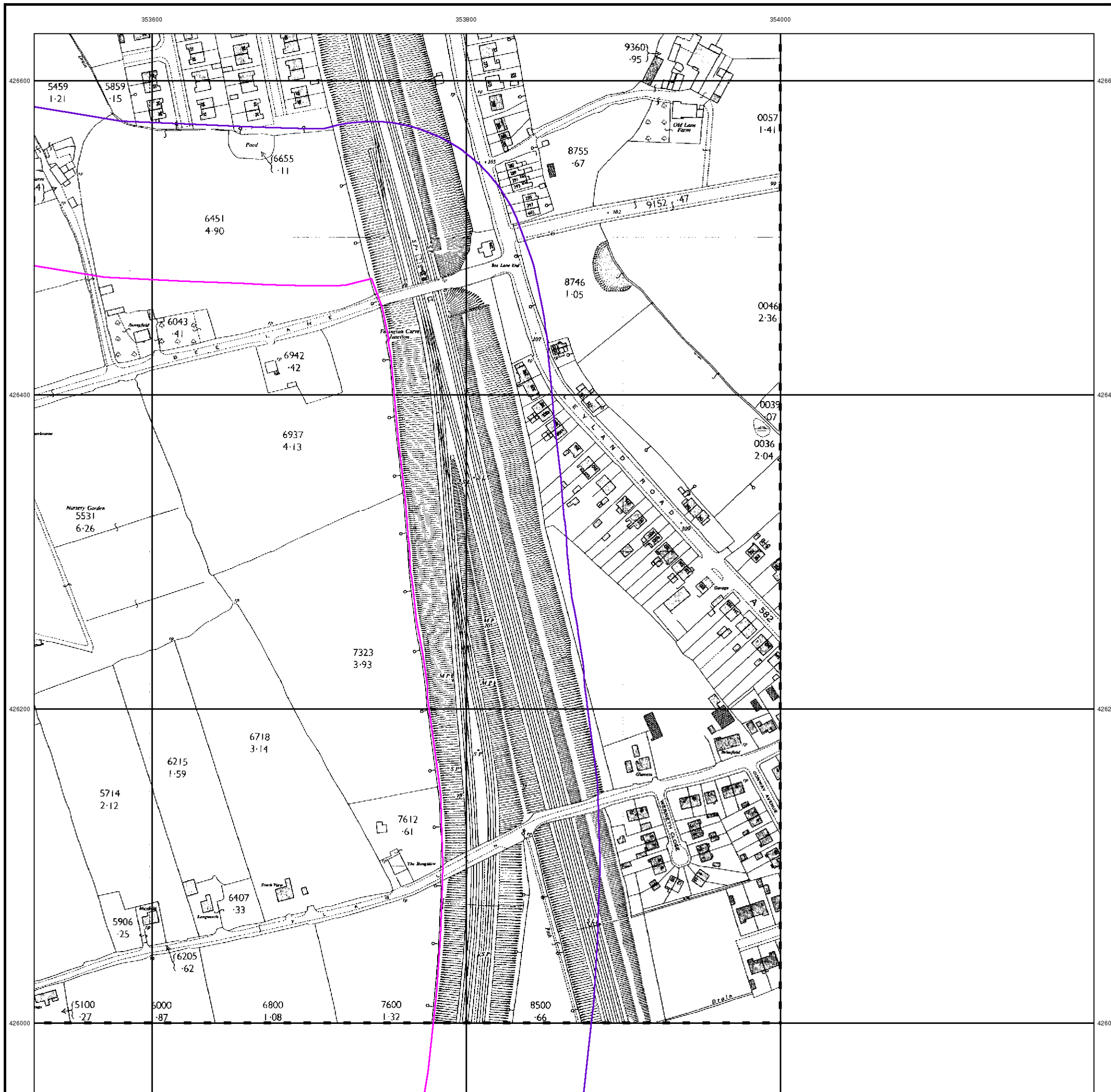
Order Number: 176066506_1_1
Customer Ref: 3861
National Grid Reference: 353230, 426020
Slice: A
Site Area (Ha): 99.74
Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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Ordnance Survey Plan

Published 1971 - 1989

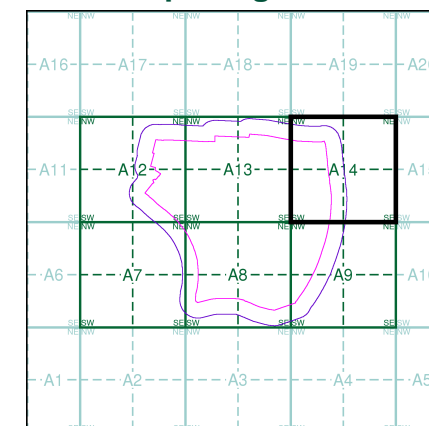
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SD5326NE	1974	1:1,250
SD5426SW	1971	1:1,250
SD5425NW	1989	1:1,250

Historical Map - Segment A14



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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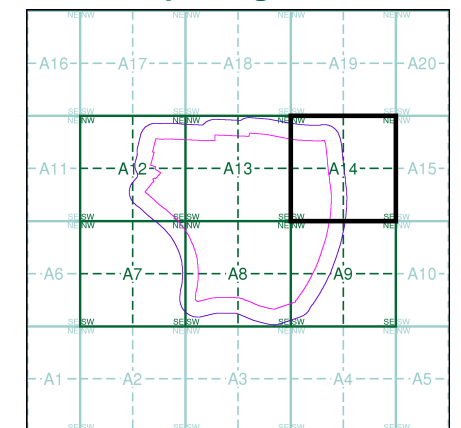
Additional SIMs
Published 1982 - 1990
Source map scale - 1:1,250

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)

BD5326NE	1990	1:1,250
BD5326SE	1982	1:1,250
BD5325NE	1985	1:1,250
BD5425NW	1986	1:1,250

Historical Map - Segment A14



Order Details
 Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details
 Pickering's Farm, Penwortham, PR1 9TQ



Additional SIMs

Published 1987 - 1990

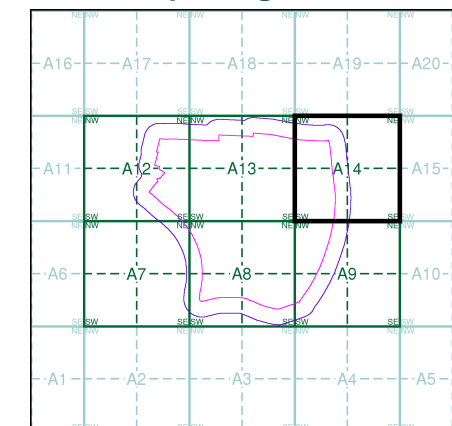
Source map scale - 1:1,250

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)

SD5326SE
1987
1:1,250
SD5325NE
1990
1:1,250

Historical Map - Segment A14



Order Details

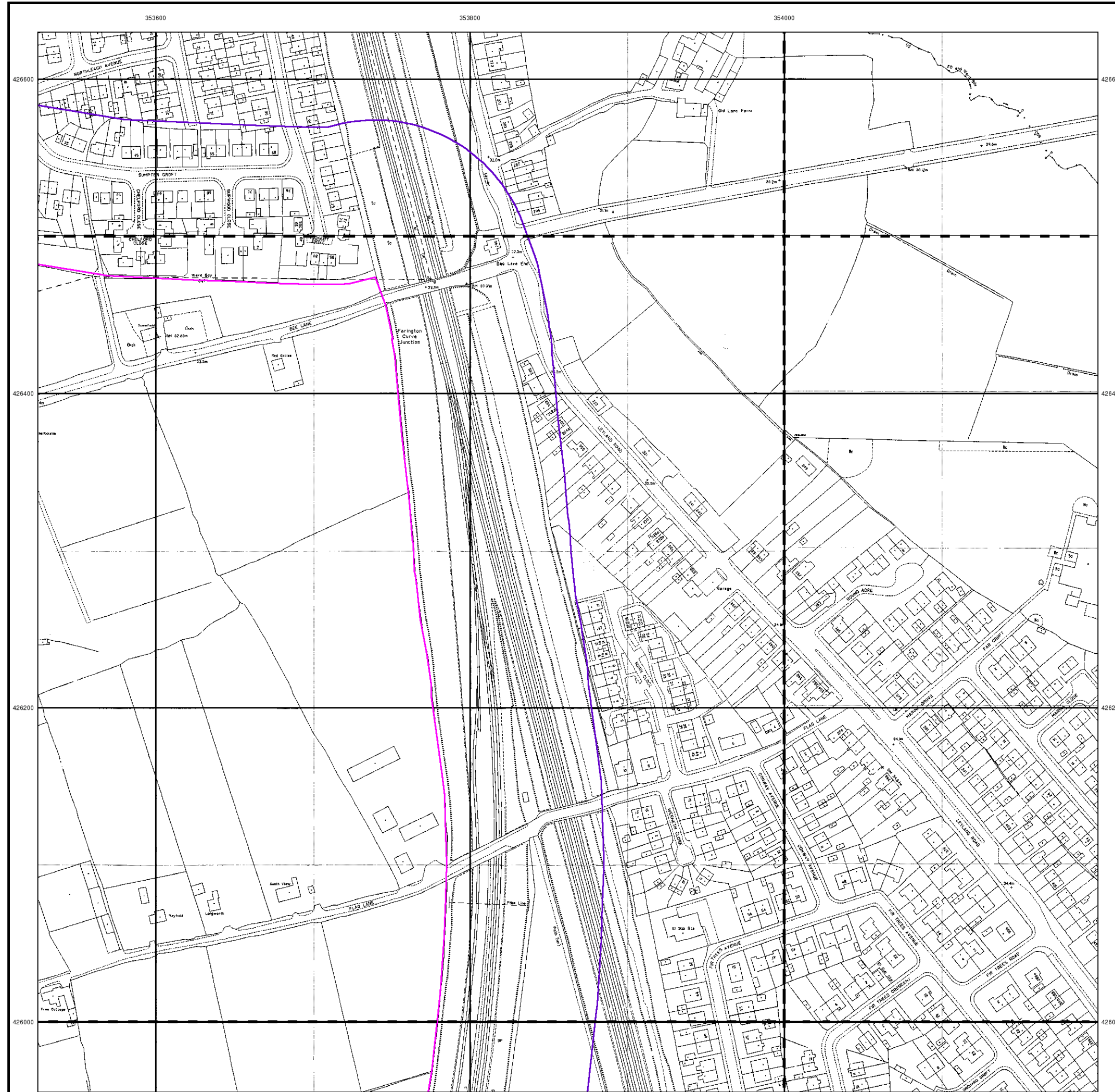
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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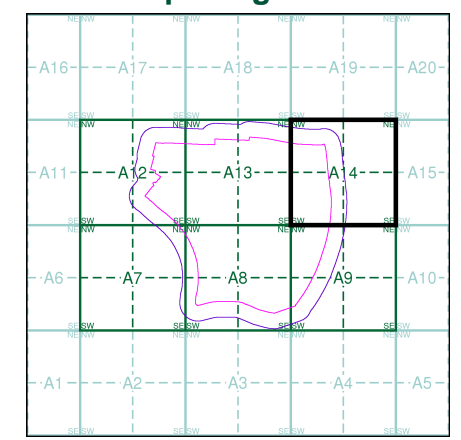
Large-Scale National Grid Data
Published 1993
Source map scale - 1:1,250

'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)

BD5326NE	BD5426NW
1993	1993
1:1,250	1:1,250
BD5326SE	BD5426SW
1993	1993
1:1,250	1:1,250
BD5325NE	BD5425NW
1993	1993
1:1,250	1:1,250

Historical Map - Segment A14



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 100

Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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



APPENDIX C - ENVIROCHECK REPORT & DATASHEETS

COMPLEX CHALLENGES ... MADE SIMPLE



Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

176066506_1_1

Customer Reference:

3861

National Grid Reference:

353230, 426020

Slice:

A

Site Area (Ha):

99.74

Search Buffer (m):

250

Site Details:

Pickering's Farm

Penwortham

PR1 9TQ

Client Details:

Miss M Newby

Roc Consulting

Commercial Wharf

6 Commercial Street

Manchester

M15 4PZ

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	20
Hazardous Substances	-
Geological	21
Industrial Land Use	22
Sensitive Land Use	24
Data Currency	25
Data Suppliers	29
Useful Contacts	30

Introduction

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

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Report Version v53.0

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Enforcement and Prohibition Notices			
Integrated Pollution Controls			
Integrated Pollution Prevention And Control			
Local Authority Integrated Pollution Prevention And Control			
Local Authority Pollution Prevention and Controls	pg 2	1	1
Local Authority Pollution Prevention and Control Enforcements			
Nearest Surface Water Feature		Yes	
Pollution Incidents to Controlled Waters	pg 2		11
Prosecutions Relating to Authorised Processes			
Registered Radioactive Substances			
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River Quality Biology Sampling Points			
River Quality Chemistry Sampling Points			
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Data Type	Page Number	On Site	0 to 250m (*up to 500m)
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Planning Hazardous Substance Enforcements			
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Data Type	Page Number	On Site	0 to 250m (*up to 500m)
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Nitrate Vulnerable Zones			
Ramsar Sites			
Sites of Special Scientific Interest			
Special Areas of Conservation			
Special Protection Areas			
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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SW)	0	1	352900 425850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8SW (SW)	0	1	352950 425500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (SE)	0	1	353231 426016
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (S)	0	1	353300 425700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (W)	0	1	353000 426050
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	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A9SW (SE)	45	1	353650 425500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SE (E)	52	1	353900 426200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A9SW (SE)	106	1	353750 425550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SE (SW)	114	1	352800 425450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A9SW (SE)	166	1	353650 425300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A9SW (SE)	198	1	353800 425450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A9NE (E)	206	1	353950 425800
1	Discharge Consents Operator: Mr Lee Michael Dodd Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Sibberings Cottage Nib Lane, Penwortham, Preston, Lancashire, Pr1 9tp Authority: Environment Agency, North West Region Catchment Area: Ribble Reference: 017190963 Permit Version: 1 Effective Date: 29th October 2007 Issued Date: 29th October 2007 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of Mill Brook Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A8NW (SW)	0	2	353130 425910

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	<p>Discharge Consents</p> <p>Operator: Jonathan Simpson Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: New Residential Properties At Holme Farm Daries, Moss Lane, Penswortham, Preston, Pr1 Ptx Authority: Environment Agency, North West Region Catchment Area: Ribble Reference: 017190941 Permit Version: 1 Effective Date: 28th March 2007 Issued Date: 28th March 2007 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Of The River Ribble Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A13SW (W)	0	2	353083 426068
3	<p>Discharge Consents</p> <p>Operator: Mrs. Sheilagh Chester Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Bridgend Church Lane, Whitestake, Preston, Lancashire, Pr4 4lh Authority: Environment Agency, North West Region Catchment Area: Lostock Reference: Npswqd008384 Permit Version: 1 Effective Date: 9th November 2009 Issued Date: 9th November 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Of The River Lostock Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A3NE (S)	206	2	353499 425199
4	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: W Welch Location: Arden Dee, Chainhouse Lane, Whitestake, PRESTON, Lancashire, PR4 4LE Authority: South Ribble Borough Council, Environmental Health Department Permit Reference: PPC/9 Dated: 25th March 1993 Process Type: Local Authority Pollution Prevention and Control Description: PG3/1Blending, packing, loading and use of bulk cement Status: Permitted Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	0	3	353139 425488
5	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Fw Bamber Location: Chainhouse Lane, Whitestake, Preston, Lancashire, Pr4 4ld Authority: South Ribble Borough Council, Environmental Health Department Permit Reference: 24 Dated: 16th December 1993 Process Type: Local Authority Pollution Prevention and Control Description: PG6/24 Pet food manufacturing Status: Permitted Positional Accuracy: Located by supplier to within 10m</p>	A7SE (SW)	111	3	352804 425471
	<p>Nearest Surface Water Feature</p>	A13SE (N)	0	-	353240 426084
6	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Spillage; Accident In Transit Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Oils - Diesel (Including Agricultural) Note: Light Diesel Oil Incident Date: 11th July 1995 Incident Reference: 95320096 Catchment Area: Lune Receiving Water: Not Given Cause of Incident: Miscellaneous/Other Pollution Type Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m</p>	A13NE (NE)	14	2	353500 426500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Sewage Sludge Note: River Lostock Incident Date: 12th April 1995 Incident Reference: 95410053 Catchment Area: Lostock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	38	2	352700 426000
8	Pollution Incidents to Controlled Waters Property Type: Farm Drainage Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Animal Waste/Slurry Note: Tributary Mill Brook Incident Date: 7th January 1992 Incident Reference: 92410003 Catchment Area: Lostock Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8SW (S)	56	2	353000 425400
9	Pollution Incidents to Controlled Waters Property Type: Agriculture: Silos / Clamps / Towers Location: Brook, Rear of Chainhouse Lane, WHITESTAKE, Lancashire Authority: Environment Agency, North West Region Pollutant: Slurry Note: Not Supplied Incident Date: 28th August 1999 Incident Reference: 31879 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Containment Failure : Other Containment Failure Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8SE (S)	58	2	353200 425400
10	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Lancashire Authority: Environment Agency, North West Region Pollutant: Not Given Note: None Pollution Found Incident Date: 28th May 1992 Incident Reference: 92410124 Catchment Area: Lostock Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	62	2	352600 426500
11	Pollution Incidents to Controlled Waters Property Type: Domestic & Residential: Private Dwellings Location: Penwortham, PENWORTHAM, Lancashire Authority: Environment Agency, North West Region Pollutant: General Biodegradable : Household Domestic Waste Note: Not Supplied Incident Date: 1st July 1999 Incident Reference: 30996 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Deliberate Action Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (NW)	159	2	352500 426500
12	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Unknown Note: Farington Lodge Incident Date: 8th December 1993 Incident Reference: 93410226 Catchment Area: Lostock Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A3NE (S)	192	2	353400 425200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Lancashire Authority: Environment Agency, North West Region Pollutant: Not Given Note: None Pollution Found Incident Date: 9th March 1992 Incident Reference: 92410054 Catchment Area: Lostock Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A3NE (S)	197	2	353400 425195
13	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 13th September 1993 Incident Reference: 93410189 Catchment Area: Ribble - Tidal Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (NW)	198	2	352500 426600
14	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Natural Note: Farington Lodge; Algal Scum Incident Date: 11th April 1994 Incident Reference: 94410049 Catchment Area: Lostock Receiving Water: Not Given Cause of Incident: Algal Bloom Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A3NE (S)	206	2	353500 425200
15	Pollution Incidents to Controlled Waters Property Type: Horticultural Location: Mill Brook Authority: Environment Agency, North West Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 10th February 1998 Incident Reference: CE980222 Catchment Area: Ribble - Tidal Receiving Water: Freshwater Stream/River Cause of Incident: Poor Operational Practice Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	231	2	352700 425600
	Groundwater Vulnerability Soil Classification: Not classified Map Sheet: Sheet 10 Central Lancashire Scale: 1:100,000	A13SE (SE)	0	2	353231 426016
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - B	A13SE (SE)	0	1	353231 426016
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13SE (SE)	0	1	353231 426016
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flood Defences None				
16	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 44.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A13NW (N)	0	4	353084 426467
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A13NW (NW)	0	4	353039 426469
18	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 228.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (SE)	0	4	353534 425647
19	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	0	4	353408 425563
20	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 175.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (S)	0	4	353330 425721
21	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 90.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (S)	0	4	353290 425712
22	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 109.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (SE)	0	4	353529 425756
23	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 132.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (S)	0	4	353290 425712
24	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 40.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (S)	0	4	353302 425715

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (S)	0	4	353330 425721
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (S)	0	4	353341 425724
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 194.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (S)	0	4	353342 425723
28	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 72.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (S)	0	4	353318 425793
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (SE)	0	4	353530 425759
30	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 5.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (SE)	0	4	353530 425759
31	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 144.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (SE)	0	4	353270 425933
32	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 55.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (S)	0	4	353288 425791
33	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 47.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (SE)	0	4	353337 425805

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
34	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 34.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (SE)	0	4	353330 425839
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 231.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (SE)	0	4	353381 425864
36	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 113.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (SE)	0	4	353317 425950
37	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 103.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A13SE (E)	0	4	353363 425966
38	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (E)	0	4	353570 425886
39	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 85.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (S)	0	4	353260 425935
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 95.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (E)	0	4	353486 425927
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 45.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (SE)	0	4	353275 425934
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 160.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (SE)	0	4	353268 425938

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 48.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (SE)	0	4	353317 425950
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 85.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A13SE (E)	0	4	353363 425966
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 154.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (SE)	0	4	353527 425780
46	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 142.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (SE)	0	4	353534 425647
47	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 34.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (SE)	0	4	353572 425875
48	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 147.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (E)	0	4	353656 425930
49	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 77.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (E)	0	4	353657 425931
50	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (SE)	0	4	353680 425786
51	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 47.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (E)	0	4	353730 425955

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
52	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 31.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A8SW (S)	0	4	353046 425466
53	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 32.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SW (S)	0	4	353051 425464
54	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 39.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A8SW (S)	0	4	353062 425502
55	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 103.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SW (SW)	0	4	353000 425592
56	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 135.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A8NW (SW)	0	4	353000 425694
57	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 88.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NW (SW)	0	4	353088 425696
58	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NW (SW)	0	4	353000 425695
59	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 52.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NW (S)	0	4	353159 425698
60	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 18.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NW (S)	0	4	353106 425696

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
61	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 165.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A8SW (S)	0	4	353080 425583
62	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 101.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A8NW (SW)	0	4	353000 425694
63	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 213.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NW (SW)	0	4	353083 425814
64	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 88.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NW (S)	0	4	353155 425752
65	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 134.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (S)	0	4	353284 425790
66	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 35.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NW (SW)	0	4	353117 425805
67	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 57.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NW (SW)	0	4	353096 425870
68	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 105.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A13SW (W)	0	4	353109 425972
69	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 47.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NE (S)	0	4	353188 425910

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
70	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 41.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8NW (SW)	0	4	353148 425947
71	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 164.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A13SE (NW)	0	4	353206 426033
72	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 28.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A13SW (W)	0	4	353109 425974
73	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 619.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A13SE (N)	0	4	353240 426084
74	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 36.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A13NW (NW)	1	4	353003 426474
75	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 58.8 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (SE)	1	4	353677 425640
76	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	8	4	353259 425430
77	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 56.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	8	4	353206 425450
78	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 59.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	8	4	353307 425409

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
79	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	9	4	353275 425423
80	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	9	4	353264 425428
81	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	9	4	353200 425451
82	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 38.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	9	4	353364 425393
83	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	9	4	353280 425421
84	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 12.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	10	4	353188 425453
85	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 44.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SW (S)	10	4	353122 425455
86	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	11	4	353188 425453
87	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 39.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SW (S)	11	4	353178 425453

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
88	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SW (S)	11	4	353138 425454
89	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 73.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	11	4	353402 425382
90	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 58.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A8SW (S)	21	4	353026 425441
91	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 27.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A7NE (W)	34	4	352820 425878
92	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 66.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A13NW (NW)	35	4	353003 426510
93	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 408.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A13NW (NW)	37	4	352925 426578
94	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 50.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	44	4	353472 425362
95	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	48	4	353326 425362
96	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 218.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A12SE (W)	52	4	352569 426090

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
97	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1215.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A7NE (SW)	53	4	352778 425690
98	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 98.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A12SE (W)	53	4	352620 426008
99	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 34.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (SE)	56	4	353735 425635
100	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 262.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A8SW (S)	58	4	353130 425408
101	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A7NE (W)	60	4	352794 425870
102	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: Underground Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A8NW (SW)	63	4	352864 425687
103	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 38.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A7NE (W)	65	4	352789 425869
104	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 341.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SW (S)	66	4	352999 425389
105	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 241.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A8NW (SW)	69	4	352859 425687

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
106	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 187.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (SE)	71	4	353521 425350
107	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 85.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	76	4	353329 425332
108	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 77.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A13NW (N)	78	4	353002 426576
109	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A8SE (S)	81	4	353235 425362
110	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 202.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A7NE (W)	82	4	352748 425859
111	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 6.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9SW (SE)	83	4	353668 425455
112	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 100.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9SW (SE)	84	4	353668 425455
113	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (SE)	89	4	353769 425629
114	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 166.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9NW (E)	100	4	353836 425787

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
115	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A7NE (W)	102	4	352752 425857
116	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 78.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A9SW (SE)	113	4	353749 425533
117	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 44.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A12NE (NW)	131	4	352526 426491
118	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 55.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A12NW (NW)	146	4	352481 426407
119	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A14NE (NE)	149	4	353893 426486
120	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 75.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A14NE (NE)	150	4	353881 426521
121	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 43.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A14NE (NE)	151	4	353894 426485
122	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 98.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A3NE (S)	159	4	353286 425258
123	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 192.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A12NW (NW)	159	4	352464 426368

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
124	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 119.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A14NE (NE)	173	4	353922 426454
125	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 104.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A14NE (NE)	173	4	353922 426454
126	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 26.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A9SW (SE)	177	4	353788 425473
127	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 80.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A9SW (SE)	202	4	353807 425455
128	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 152.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Ribble Primacy: 1	A14NE (NE)	207	4	353913 426586
129	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 24.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A12SW (W)	208	4	352402 426231
130	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 28.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A3NE (S)	213	4	353494 425191
131	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 41.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A3NE (S)	213	4	353494 425191
132	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 84.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A4NW (SE)	216	4	353582 425215

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
133	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 32.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A4NW (S)	217	4	353543 425203
134	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 22.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A4NW (SE)	218	4	353568 425210
135	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 2	A4NW (SE)	218	4	353582 425215
136	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 327.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A4NW (SE)	221	4	353661 425242
137	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A4NW (SE)	221	4	353661 425242
138	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 27.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A4NW (S)	223	4	353563 425204
139	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A4NW (SE)	229	4	353586 425205
140	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 823.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Mill Brook Catchment Name: Ribble Primacy: 1	A12SW (W)	229	4	352387 426247
141	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 313.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A3NE (S)	233	4	353482 425166

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
142	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 7.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A3NE (S)	233	4	353482 425166
143	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A3NE (S)	240	4	353484 425160
144	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A3NE (S)	249	4	353478 425149
145	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 37.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Douglas Primacy: 1	A3NE (S)	250	4	353477 425147

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: South Ribble Borough Council - Has supplied landfill data		0	3	353231 426016
	Local Authority Landfill Coverage Name: Lancashire County Council - Had landfill data but passed it to the relevant environment agency		0	5	353231 426016

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A13SE (SE)	0	1	353231 426016
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	0	1	353231 426016
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	0	1	353231 426016
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	0	1	353231 426016
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	0	1	353231 426016
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	0	1	353231 426016
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	0	1	353231 426016
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	0	1	353231 426016
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	0	1	353231 426016

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
146	Contemporary Trade Directory Entries Name: M D L Fireworks Ltd Location: 84 Coote Lane, Whitestake, Preston, Lancashire, PR4 4LJ Classification: Firework Stockists Status: Active Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	0	-	353448 425410
146	Contemporary Trade Directory Entries Name: Dart Tapes Location: Rose Royal, Coote Lane, Whitestake, Preston, PR4 4LJ Classification: Packaging & Wrapping Equipment & Supplies Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	0	-	353457 425413
147	Contemporary Trade Directory Entries Name: Hambilton Engineering Ltd Location: Thornlea, Bee Lane, Penwortham, Preston, PR1 9TU Classification: Caravans - Servicing & Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (N)	0	-	353206 426332
148	Contemporary Trade Directory Entries Name: W Welch Fencing Location: Chain House Lane, Whitestake, Preston, Lancashire, PR4 4LE Classification: Fencing Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (S)	0	-	353127 425498
149	Contemporary Trade Directory Entries Name: Coote Lane Garage Location: Coote Lane, Whitestake, Preston, PR4 4LJ Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories Status: Active Positional Accuracy: Automatically positioned to the address	A8SE (S)	0	-	353333 425438
150	Contemporary Trade Directory Entries Name: Holme Farm Dairies Ltd Location: Holme Farm, Moss Lane, Penwortham, Preston, PR1 9TX Classification: Dairies Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (NW)	0	-	353035 426109
151	Contemporary Trade Directory Entries Name: Sharples Transport Ltd Location: 18, Chain House Lane, Whitestake, Preston, PR4 4LE Classification: Road Haulage Services Status: Active Positional Accuracy: Automatically positioned to the address	A8SW (S)	0	-	353186 425486
152	Contemporary Trade Directory Entries Name: Radmear Ltd Location: 32, Chain House Lane, Whitestake, Preston, Lancashire, PR4 4LE Classification: Joinery Manufacturers Status: Inactive Positional Accuracy: Manually positioned to an adjacent address or location	A8SW (S)	0	-	353038 425486
153	Contemporary Trade Directory Entries Name: Heritage Clocks Ltd Location: 10, Bramble Court, Penwortham, Preston, Lancashire, PR1 9EW Classification: Clocks & Watches - Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NW (N)	16	-	353066 426522
154	Contemporary Trade Directory Entries Name: F M Scentsational Perfume Location: Copper Beeches, Penwortham, Preston, Lancashire, PR1 9EG Classification: Perfume Suppliers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A12NE (NW)	45	-	352729 426527
155	Contemporary Trade Directory Entries Name: Bambers Frozen Meats Location: 60, Chain House Lane, Whitestake, Preston, PR4 4LD Classification: Pet Foods & Animal Feeds Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	109	-	352806 425463
156	Contemporary Trade Directory Entries Name: Frank Bamber Ltd Location: Mayfield, 61, Chain House Lane, Whitestake, Preston, PR4 4LD Classification: Pet Foods & Animal Feeds Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SW)	133	-	352798 425387

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
157	<p>Contemporary Trade Directory Entries</p> <p>Name: Penwortham Ironing Service Location: 8, Forshaw Road, Penwortham, Preston, PR1 9DX Classification: Ironing & Home Laundry Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A17SE (NW)	161	-	352659 426643
157	<p>Contemporary Trade Directory Entries</p> <p>Name: Johnson Cleaners (Uk) Ltd Location: 77 Forshaw Rd, Penwortham, Preston, Lancashire, PR1 9DX Classification: Dry Cleaners Status: Inactive Positional Accuracy: Manually positioned within the geographical locality</p>	A17SE (NW)	202	-	352639 426683
158	<p>Contemporary Trade Directory Entries</p> <p>Name: Ideal Car Supermarket Location: 330, Leyland Road, Penwortham, Preston, PR1 9SU Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SE (E)	174	-	353941 426277
158	<p>Contemporary Trade Directory Entries</p> <p>Name: The Lancashire Motor Co Ltd Location: 330, Leyland Road, Penwortham, Preston, Lancashire, PR1 9SU Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A14SE (E)	174	-	353941 426277
159	<p>Fuel Station Entries</p> <p>Name: Penwortham Service Station Location: 330, Leyland Road , Penwortham , Preston, Lancashire, PR1 9SU Brand: Obsolete Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address</p>	A14SE (E)	174	-	353941 426276

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
160	<p>Areas of Adopted Green Belt</p> <p>Authority: South Ribble Borough Council Plan Name: Site Allocations Status: Adopted Plan Date: 22nd July 2015</p>	A8NW (SW)	25	7	352859 425814

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices South Ribble Borough Council - Environmental Health Department	September 2014	Annual Rolling Update
Discharge Consents Environment Agency - North West Region	April 2018	Quarterly
Enforcement and Prohibition Notices Environment Agency - North West Region	March 2013	As notified
Integrated Pollution Controls Environment Agency - North West Region	October 2008	Variable
Integrated Pollution Prevention And Control Environment Agency - North West Region	April 2018	Quarterly
Local Authority Integrated Pollution Prevention And Control South Ribble Borough Council - Environmental Health Department	September 2014	Variable
Local Authority Pollution Prevention and Controls South Ribble Borough Council - Environmental Health Department	September 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements South Ribble Borough Council - Environmental Health Department	September 2014	Variable
Nearest Surface Water Feature Ordnance Survey	September 2017	
Pollution Incidents to Controlled Waters Environment Agency - North West Region	January 2000	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - North West Region	March 2013	As notified
Prosecutions Relating to Controlled Waters Environment Agency - North West Region	March 2013	As notified
Registered Radioactive Substances Environment Agency - North West Region	January 2015	
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Environment Agency - North West Region - Central Area Environment Agency - North West Region - North Area	April 2018 April 2018	Quarterly Quarterly
Water Abstractions Environment Agency - North West Region	April 2018	Quarterly
Water Industry Act Referrals Environment Agency - North West Region	October 2017	Quarterly
Groundwater Vulnerability Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations British Geological Survey - National Geoscience Information Service	August 2015	As notified
Superficial Aquifer Designations British Geological Survey - National Geoscience Information Service	August 2015	As notified
Source Protection Zones Environment Agency - Head Office	January 2018	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2018	Quarterly

Agency & Hydrological	Version	Update Cycle
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2018	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	May 2018	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	May 2018	Quarterly
Flood Defences Environment Agency - Head Office	May 2018	Quarterly
OS Water Network Lines Ordnance Survey	May 2018	Quarterly
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	As notified
Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Environment Agency - Head Office	April 2018	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - North West Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - North West Region - Central Area Environment Agency - North West Region - North Area	April 2018 April 2018	Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - North West Region - Central Area Environment Agency - North West Region - North Area	April 2018 April 2018	Quarterly Quarterly
Local Authority Landfill Coverage Lancashire County Council - Waste Management Group South Ribble Borough Council - Environmental Health Department	May 2000 May 2000	Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Lancashire County Council - Waste Management Group South Ribble Borough Council - Environmental Health Department	May 2000 May 2003	Not Applicable Not Applicable
Registered Landfill Sites Environment Agency - North West Region - Central Area Environment Agency - North West Region - North Area	March 2003 March 2003	Not Applicable Not Applicable
Registered Waste Transfer Sites Environment Agency - North West Region - Central Area Environment Agency - North West Region - North Area	March 2003 March 2003	Not Applicable Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency - North West Region - Central Area Environment Agency - North West Region - North Area	March 2003 March 2003	Not Applicable Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Variable
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements Lancashire County Council South Ribble Borough Council	February 2016 February 2016	Variable Variable
Planning Hazardous Substance Consents Lancashire County Council South Ribble Borough Council	February 2016 February 2016	Variable Variable
Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	May 2018	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	As notified
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	As notified
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	As notified
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	As notified

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	May 2018	Quarterly
Fuel Station Entries Catalist Ltd - Experian	August 2018	Quarterly
Gas Pipelines National Grid	July 2014	
Underground Electrical Cables National Grid	December 2015	
Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	August 2018	Bi-Annually
Areas of Adopted Green Belt South Ribble Borough Council	February 2018	As notified
Areas of Unadopted Green Belt South Ribble Borough Council	February 2018	As notified
Areas of Outstanding Natural Beauty Natural England	August 2018	Bi-Annually
Environmentally Sensitive Areas Natural England	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	February 2018	Bi-Annually
Marine Nature Reserves Natural England	January 2018	Bi-Annually
National Nature Reserves Natural England	February 2018	Bi-Annually
National Parks Natural England	April 2017	Bi-Annually
Nitrate Vulnerable Zones Environment Agency - Head Office Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	December 2017 October 2015	Bi-Annually
Ramsar Sites Natural England	February 2018	Bi-Annually
Sites of Special Scientific Interest Natural England	February 2018	Bi-Annually
Special Areas of Conservation Natural England	January 2018	Bi-Annually
Special Protection Areas Natural England	February 2018	Bi-Annually

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 British Geological Survey <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
Centre for Ecology and Hydrology	 Centre for Ecology & Hydrology <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	South Ribble Borough Council - Environmental Health Department Civic Centre, West Paddock, Leyland, Preston, Lancashire, PR5 1DH	Telephone: 01772 421491 Fax: 01772 625363 Website: www.south-ribblebc.gov.uk
4	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
5	Lancashire County Council - Waste Management Group Environment Directorate, Guild House, Cross Street, Preston, Lancashire, PR1 8RD	Website: www.lancashire.gov.uk
6	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
7	South Ribble Borough Council Civic Centre, West Paddock, Leyland, Preston, Lancashire, PR5 1DH	Telephone: 01772 421491 Fax: 01772 622287 Email: info@south-ribblebc.gov.uk Website: www.south-ribblebc.gov.uk
8	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

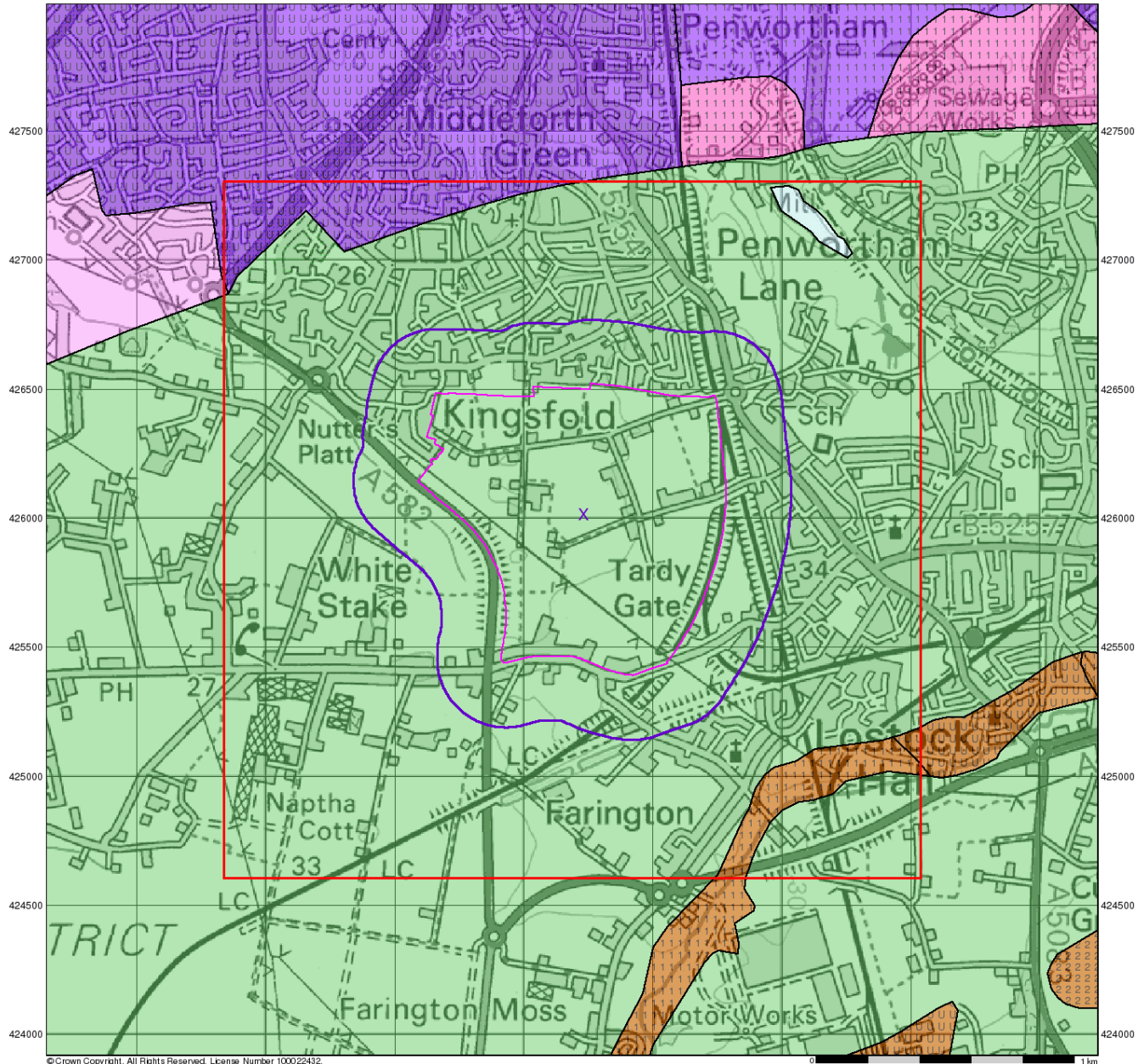


APPENDIX D - ENVIRONMENTAL & GEOLOGICAL MAPS

COMPLEX CHALLENGES ... MADE SIMPLE



351500 352000 352500 353000 353500 354000 354500 355000



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0 1 km



Groundwater Vulnerability

General

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

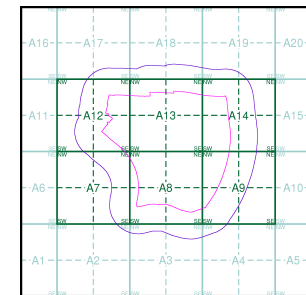
Agency and Hydrological

Geological Classes

- | | | |
|---|--|-----------------------|
| Major Aquifer
(Highly Permeable) | | High (H) 1, 2, 3, U |
| | | Intermediate (I) 1, 2 |
| | | Low |
| Minor Aquifer
(Variably Permeable) | | High (H) 1, 2, 3, U |
| | | Intermediate (I) 1, 2 |
| | | Low |
| Non Aquifer
(Negligibly Permeable) | | |
| Water or Sea | | |
| Drift Deposit | | |

Soil Classes

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 250

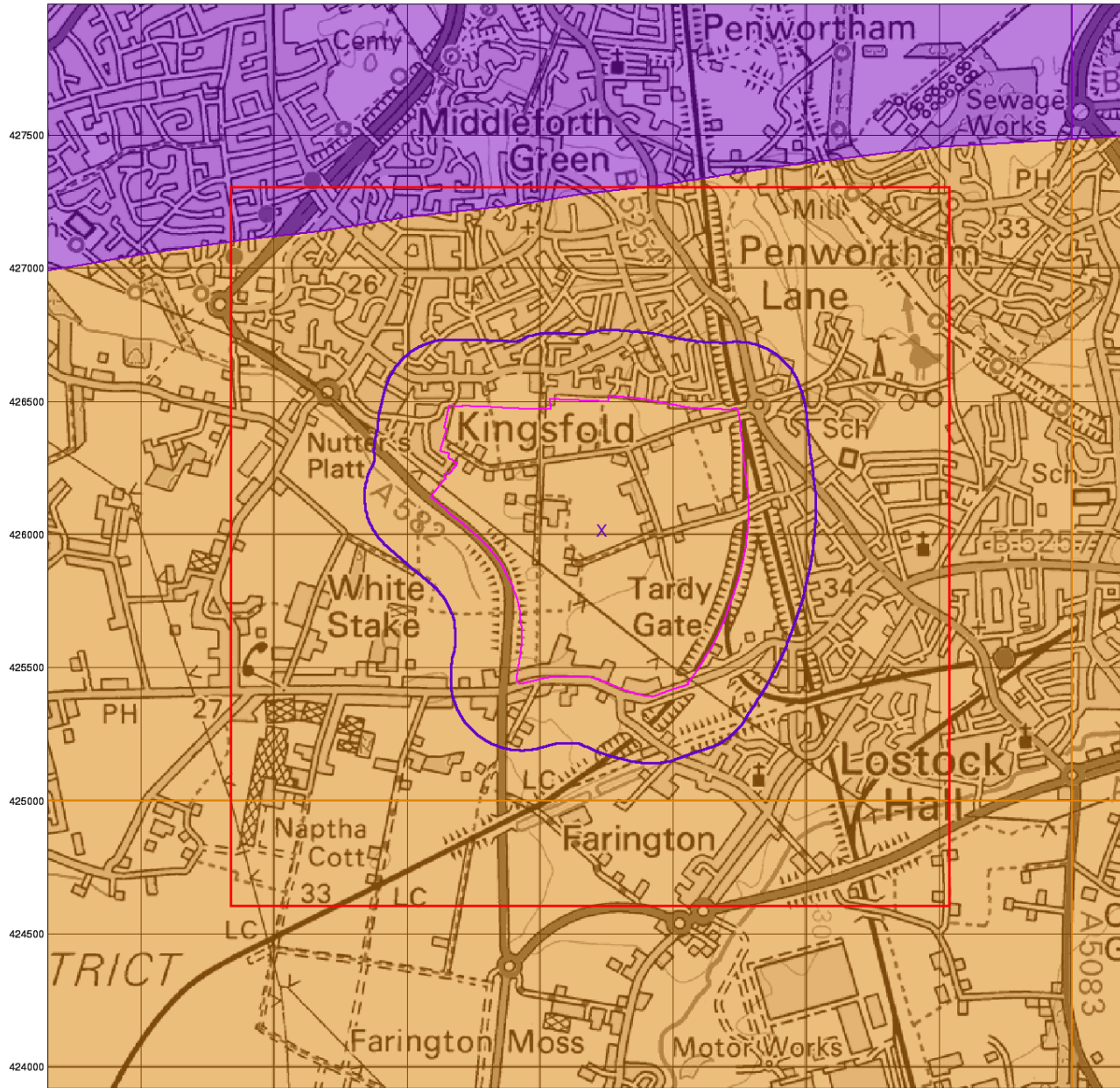
Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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

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0 1 km



Bedrock Aquifer Designation

General

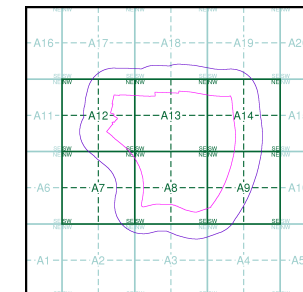
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 250

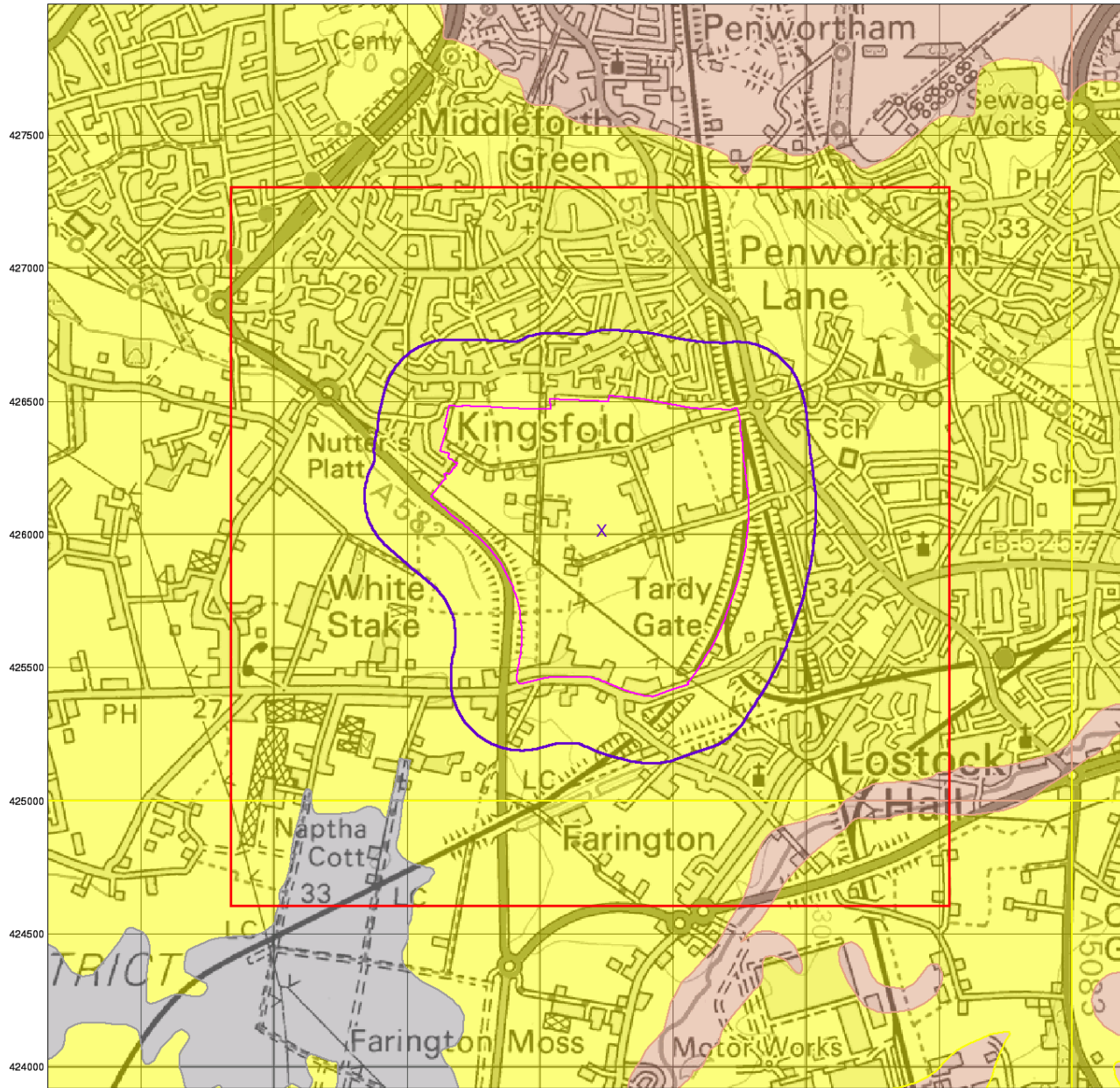
Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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

351500 352000 352500 353000 353500 354000 354500 355000



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0 1 km



Superficial Aquifer Designation

General

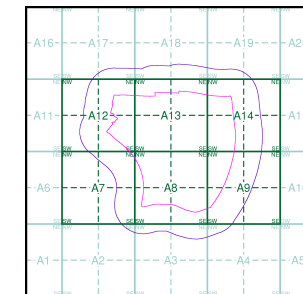
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 250

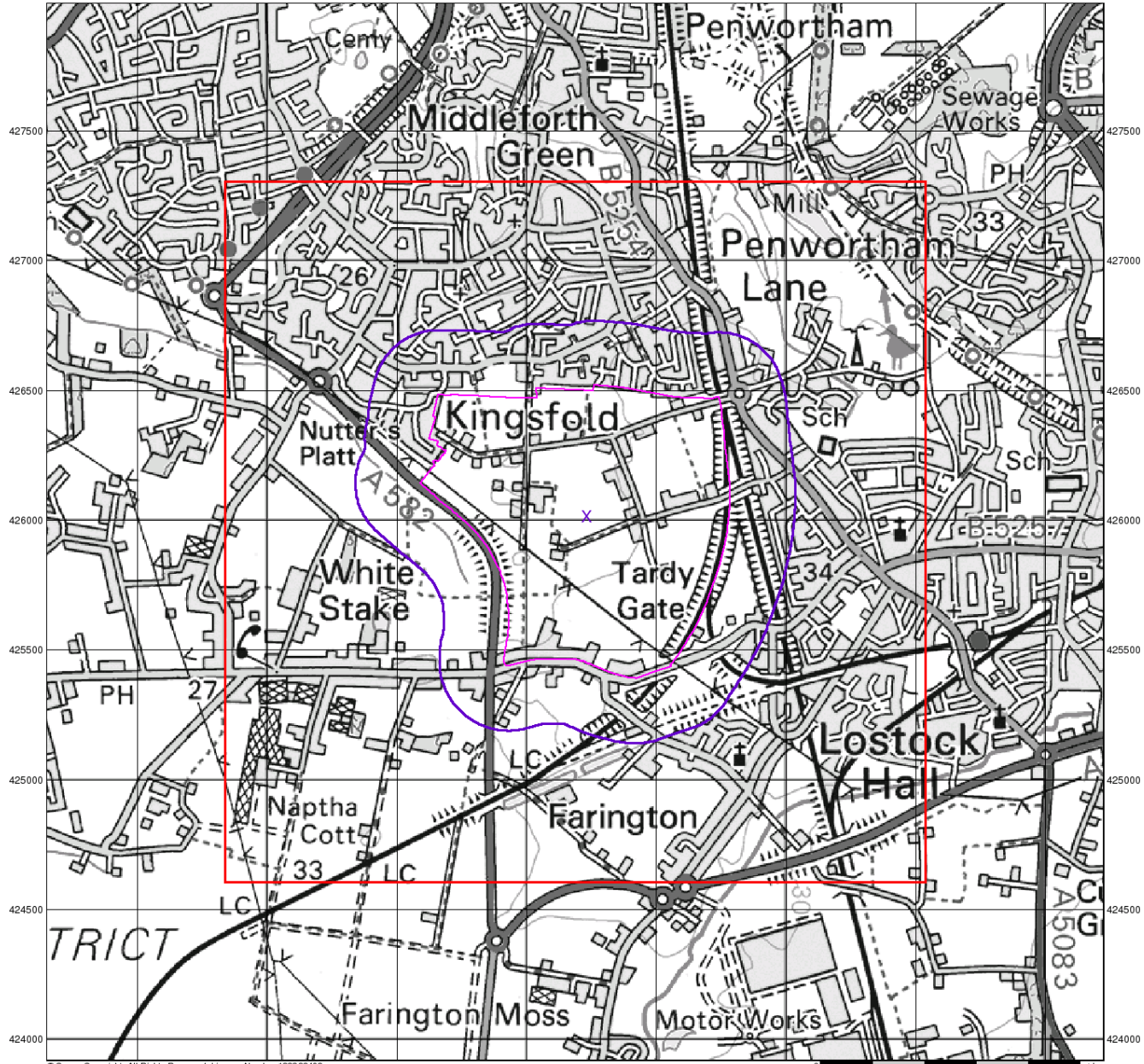
Site Details

Pickering's Farm, Penwortham, PR1 9TQ



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

351500 352000 352500 353000 353500 354000 354500 355000








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Source Protection Zones

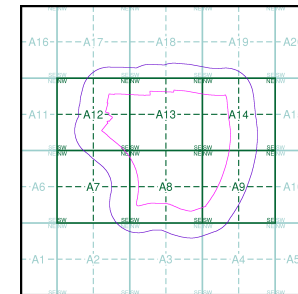
General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
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 Search Buffer (m): 250

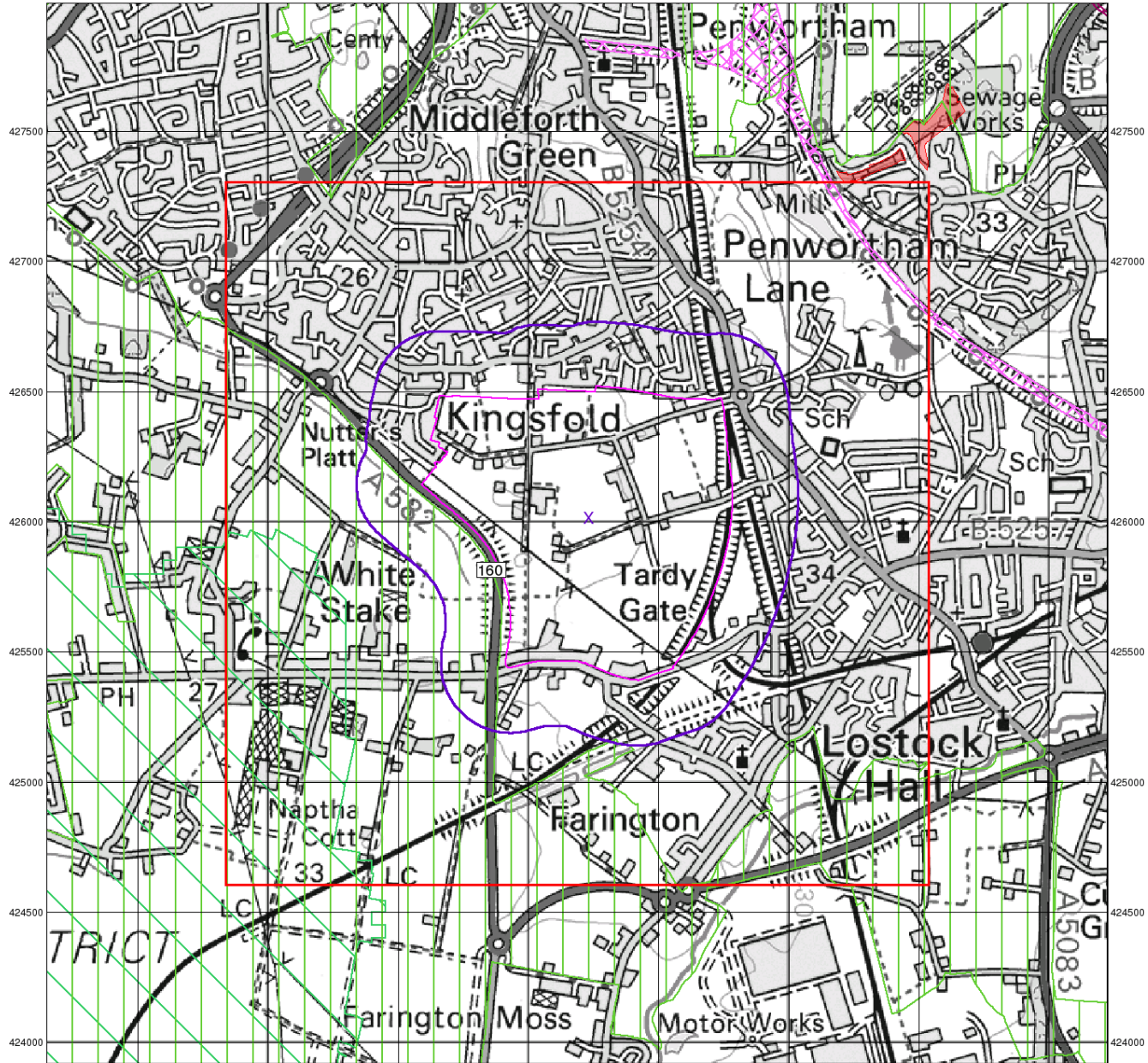
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Sensitive Land Uses

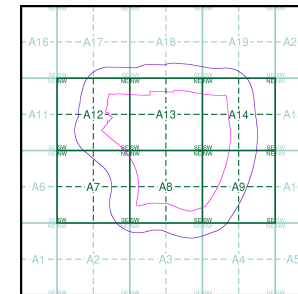
General

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

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
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 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 250

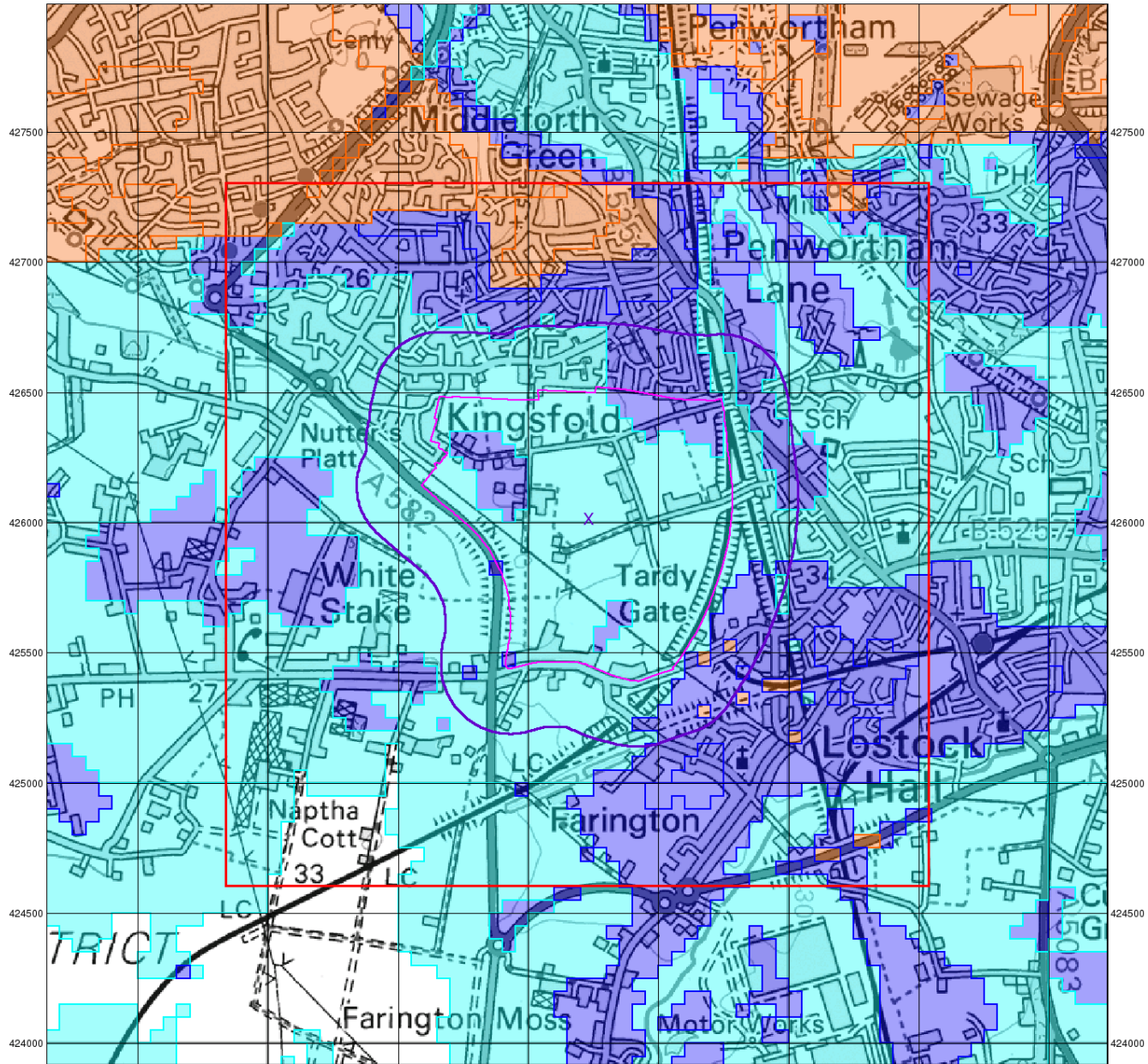
Site Details

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351500 352000 352500 353000 353500 354000 354500 355000



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0 1 km



BGS Flood GFS Data

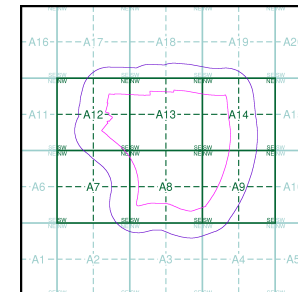
General

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

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

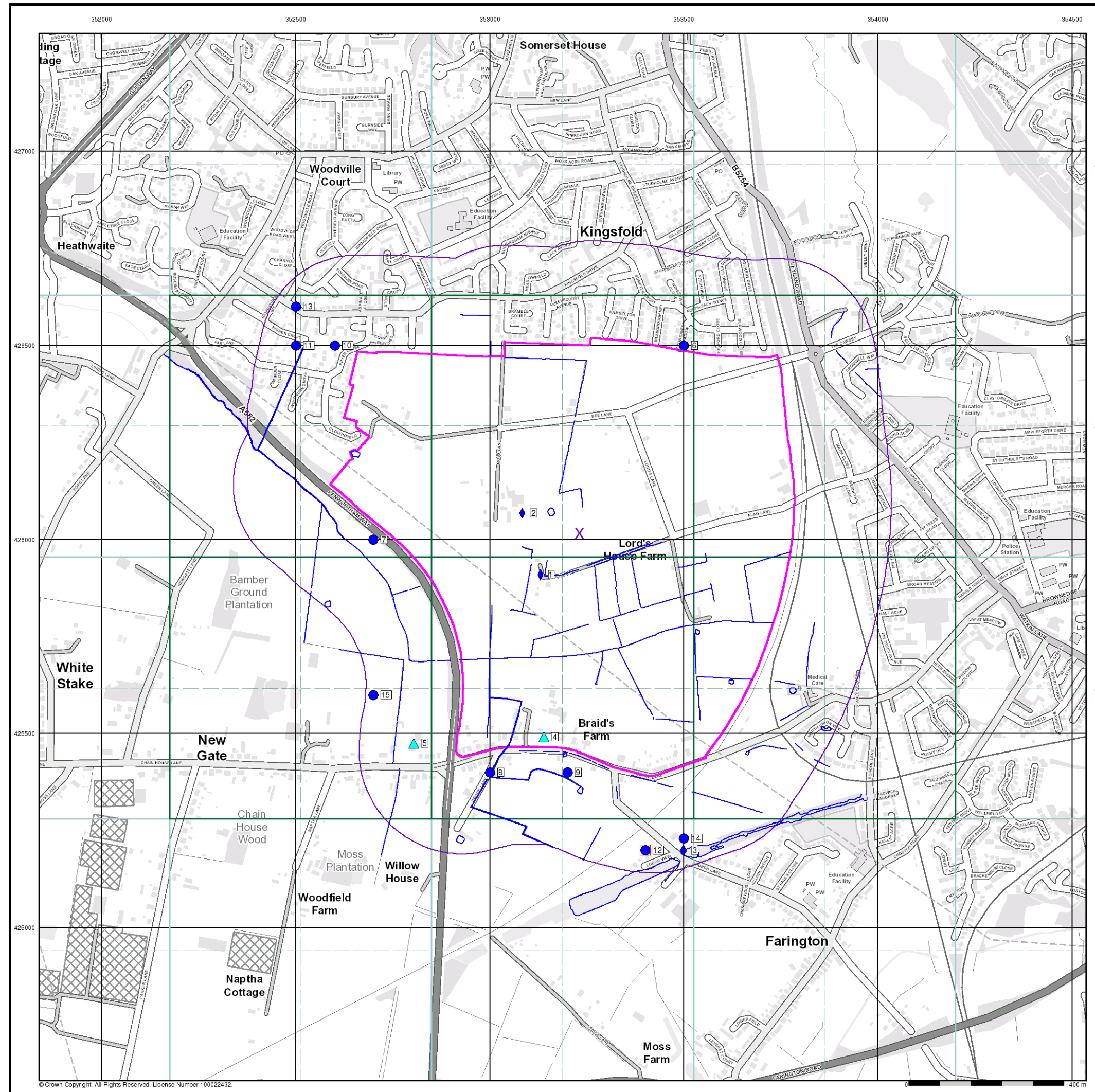
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
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Site Details

Pickering's Farm, Penwortham, PR1 9TQ

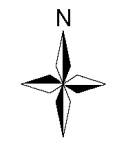
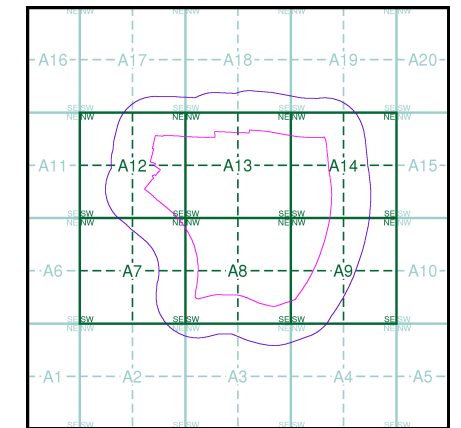


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- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
- BGS Recorded Mineral Site
- Industrial Land Use**
- Contemporary Trade Directory Entry
 - Fuel Station Entry

Site Sensitivity Map - Slice A



Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 250

Site Details
 Pickering's Farm, Penwortham, PR1 9TQ



Industrial Land Use Map

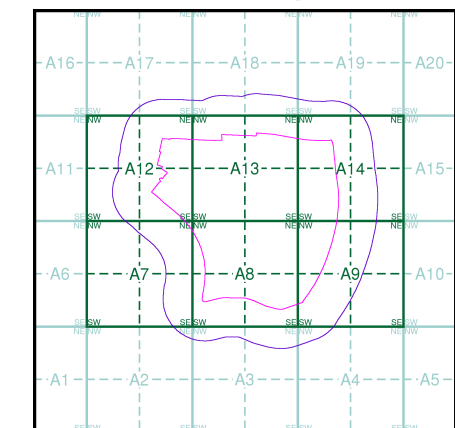
General

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

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

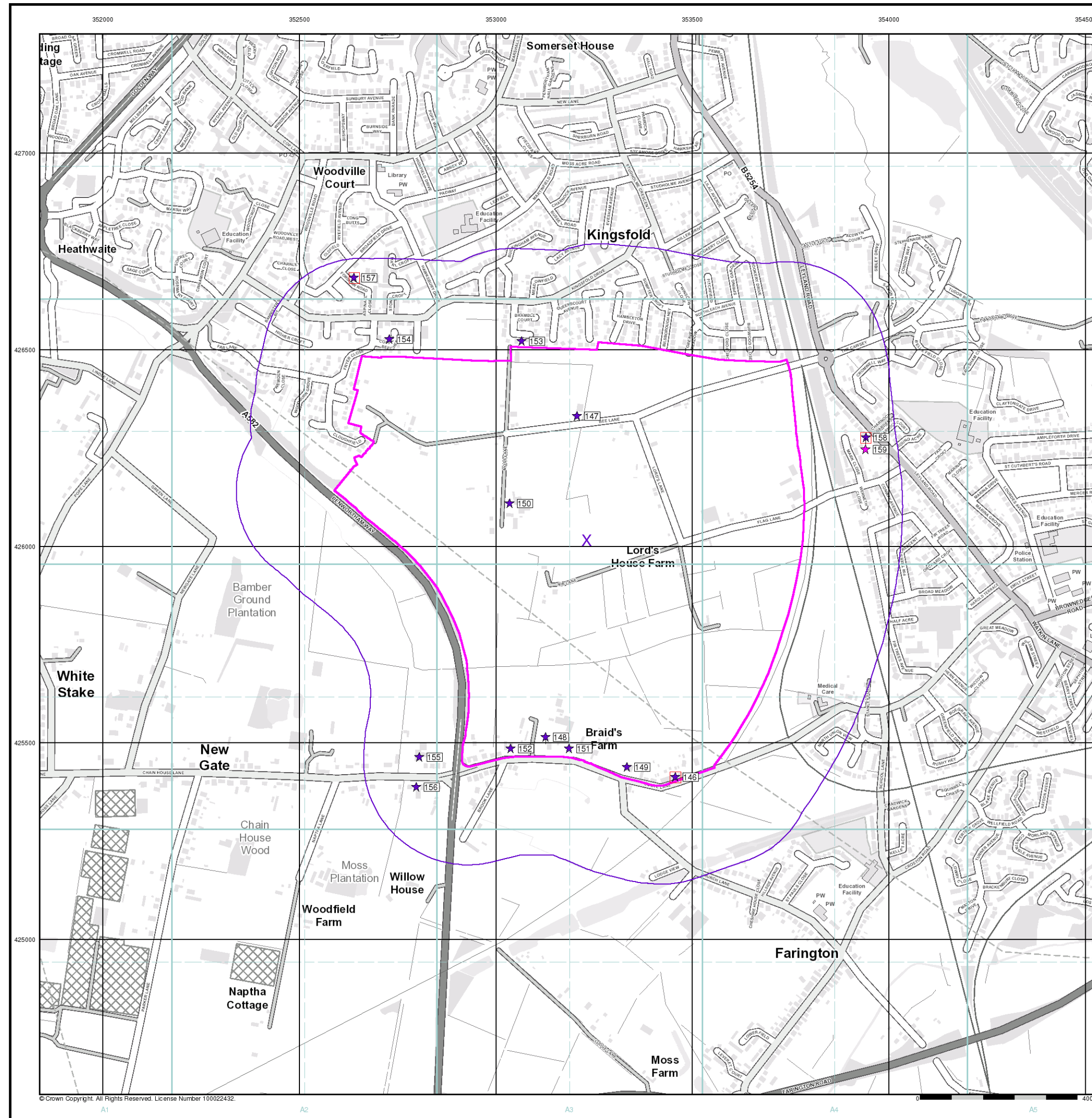
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 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 250

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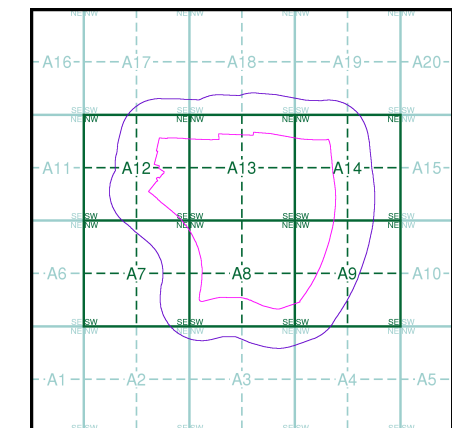
General

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

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



Order Details

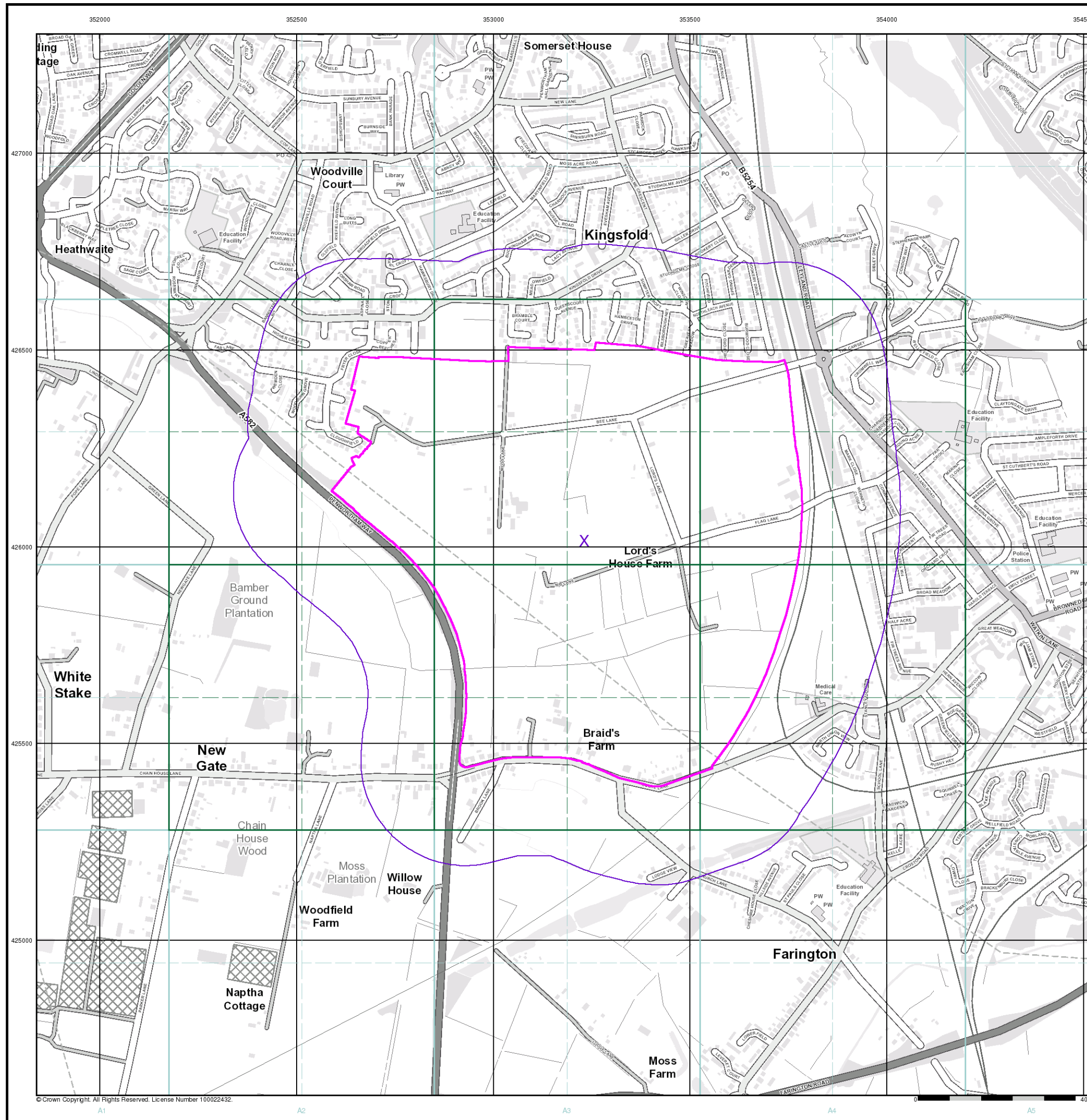
Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
 Search Buffer (m): 250

Site Details

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General

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

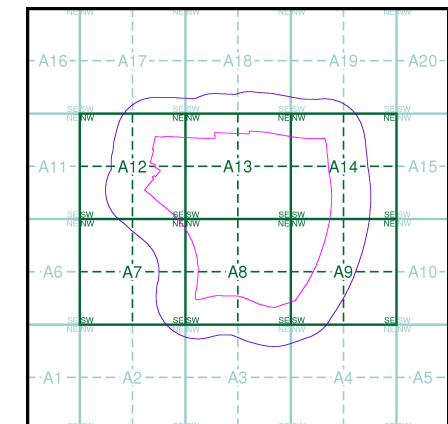
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



Order Details

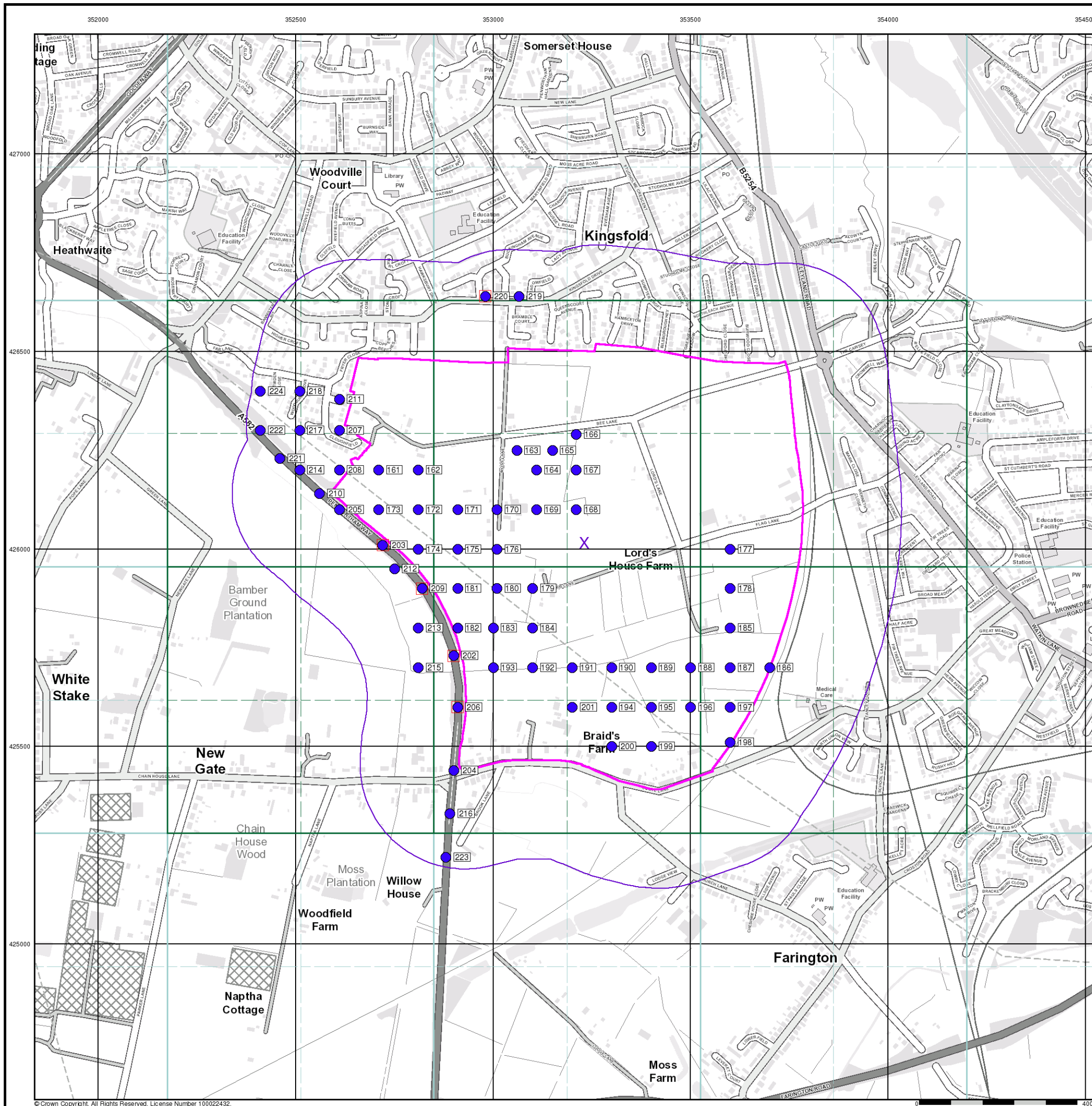
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 Customer Ref: 3861
 National Grid Reference: 353230, 426020
 Slice: A
 Site Area (Ha): 99.74
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Site Details

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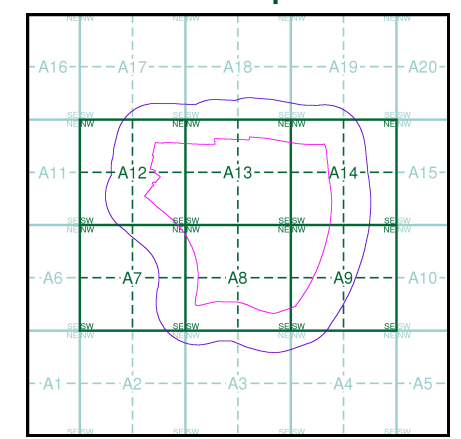
General

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

OS Water Network Data

- | | |
|--------------|-------------------------|
| Canal | Drain |
| Reservoir | Other |
| Foreshore | Lake |
| Marsh | Transfer |
| Tidal River | Lock Or Flight Of Locks |
| Inland River | Sea |

OS Water Network Map - Slice A



Order Details

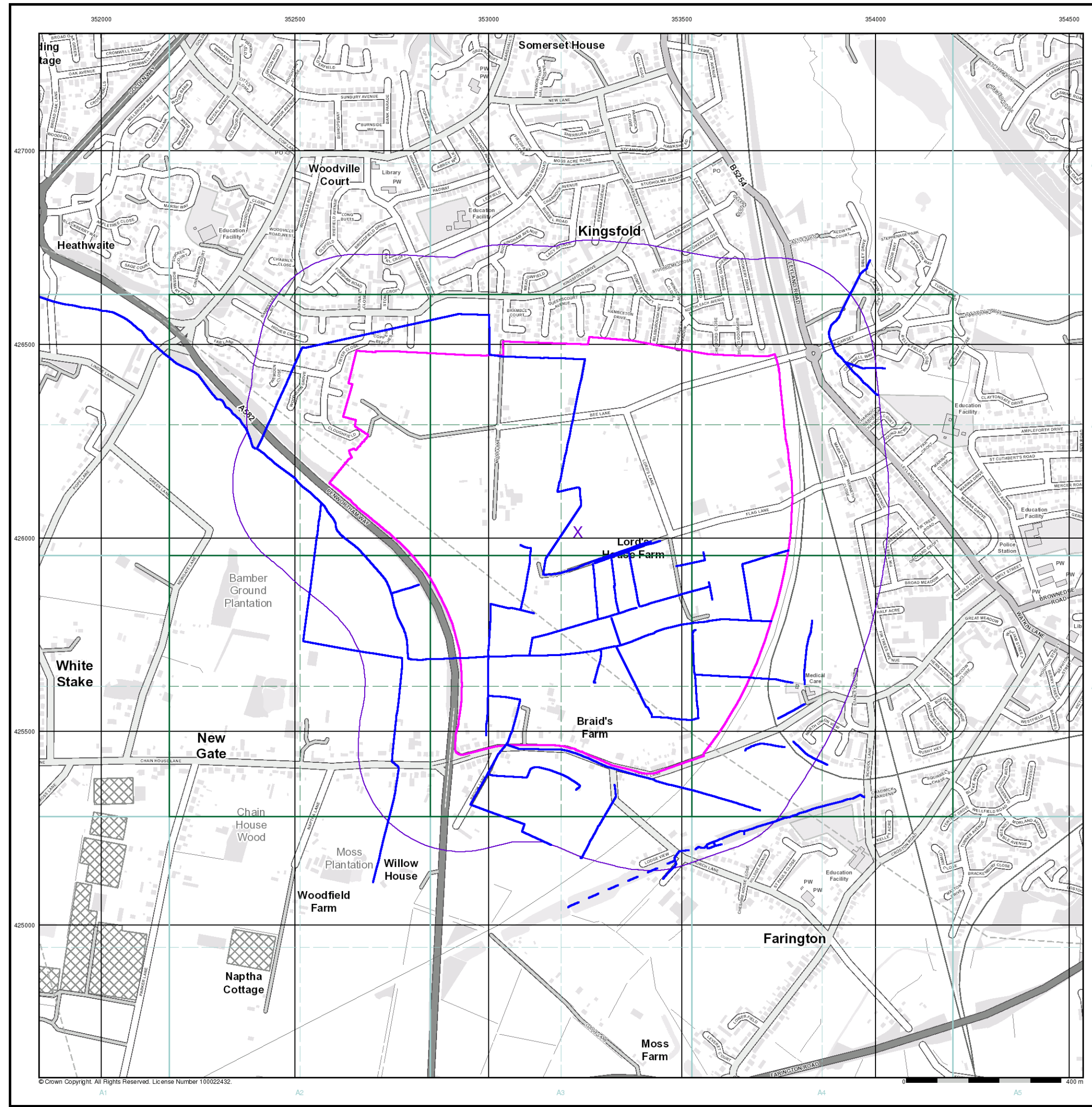
Order Number: 176066506_1_1
 Customer Ref: 3861
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Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice

Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment

A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant

A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:



Envirocheck reports are compiled from 136 different sources of data.

Client Details

Miss M Newby, Roc Consulting, Commercial Wharf, 6 Commercial Street, Manchester, M15 4PZ

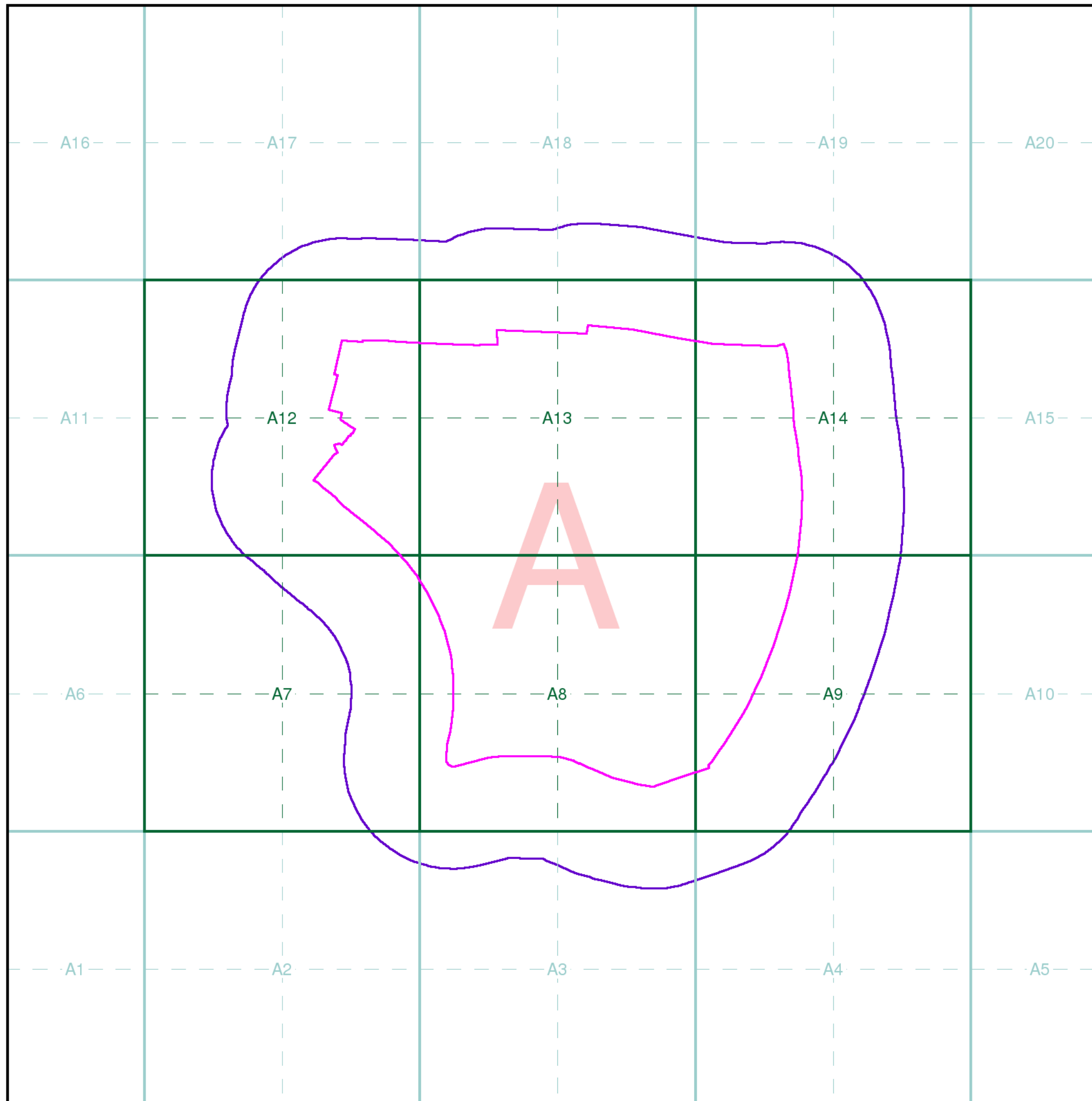
Order Details

Order Number: 176066506_1_1
 Customer Ref: 3861
 National Grid Reference: 353250, 426010
 Site Area (Ha): 99.74
 Search Buffer (m): 250

Site Details

Pickering's Farm, Penwortham, PR1 9TQ

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/Terms/Show/515>





PICKERING'S FARM, PENWORTHAM

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M15 4PZ

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Appendix 12.1

Transport Scoping Note



PROPOSED RESIDENTIAL DEVELOPMENT, PICKERING'S FARM, PENWORTHAM (0372) TRANSPORT ASSESSMENT SCOPING NOTE – JUNE 2018

Introduction

This note will set out a detailed scope for a forthcoming Transport Assessment for a proposed residential development on land at Pickering's Farm in Penwortham. The preparation of this scoping note has followed a preliminary discussion between Croft and Lancashire County Council (LCC), the local highway authority, with a view to formally progressing the transport and highways elements of the project through LCC's pre-application process.

Existing Site

The site is bordered to the east by the West Coast mainline railway, to the south roughly by Coote Lane, to the west by the A582 Penwortham Way and to the north by existing residential development to the south of Kingsfold Drive.

Development Proposals

The proposals will consist of around 1,350 residential units with a range of day to day amenities. Vehicular access will be taken from a number of new vehicular access points. The detail of these has yet to be finalised but these are likely to consist of new vehicular access points from the following locations:

- Penwortham Way.
- Coote Lane.
- Bee Lane.

Access by Sustainable Modes of Transport

The TA will consider in detail the accessibility of the site by sustainable modes of transport - walking, cycling and public transport.



Travel Plan

The proposals will be supported by a bespoke Travel Plan document. Croft will work extensively with LCC and local public transport operators to strengthen the strands of the Travel Plan going forward to ensure the most sustainable development possible at Pickering's Farm.

Assessment Network

The scope of the Transport Assessment will need to assess the impact of the proposals on the surrounding highway network. At this stage LCC have agreed, in principle, that the development impact at the following need assessing:

- A582 Golden Way / A59 Liverpool Road / B5254 Leyland Road
- Marshalls Brow / B5254 Leyland Road (3 arm roundabout)
- B5254 Leyland Road / Bee Lane / The Cawsey (4 arm roundabout)
- A59 Guild Way / A5072 Strand Way
- A582 Golden Way / Bank Top Road / Millbrook Way (4 arm roundabout)
- A582 Penwortham Lane / A582 Golden Way / Pope Lane
- A582 Penwortham Way / Chain House Lane
- Coote Lane / B5254 Leyland Road
- Penwortham Way / Flensburg Way A582(Tank Roundabout)
- A582 Flensburg Way /Croston Road / Centurion Way (Dual 4 arm roundabout)
- A582 Farrington Road/A5083 Stanifield Lane / B5254 Watkin Lane (4-arm signalised roundabout);
- A6 London Way / A582 Lostock Lane / A6 Lostock Lane (4 arm signalised Junction);
- A6 Lostock Way / B6256 Station Road / A49 Wigan Road
- M65 / M6 Preston Bypass

Traffic flow information will be undertaken through up to date traffic counts carried out in September 2018. LCC have advised that a similar range of traffic counts are being commissioned by LCC in relation to the Transport Assessment being prepared for proposed highway schemes in the area and there could be some synergy in ensuring that the same data is used for both TAs.

Years of Assessment

The year of completion for the proposed development has yet to be finalised but is anticipated to be around 2035, therefore, an assessment of 2018 and 2035 will be undertaken and potentially phases in between.

Trip Rates

Table 1 summarises the proposed residential trip rates and the resulting trips based on 1,350 dwellings. These are based on all sites within the TRICS database of over 250 units with no London or Ireland sites reflecting the large nature of the site and the potential for internal trips to shops and schools etc.

Peak Period	Trip Rate (per unit)		Number of Trips	
	Arr	Dep	Arr	Dep
AM Peak Hour	0.139	0.410	188	554
PM Peak Hour	0.355	0.169	479	228

Table 1 - Forecast Trip Generation of Proposed Residential Development

Trip Distribution

The proposed residential development trips will be assigned based on a gravity model based around the national census and journey to work data.



Committed Developments

LCC will advise on the committed developments and schemes that need to be considered within this TA.

Summary

This note has summarised the potential scope of the Transport Assessment that will accompany the planning application for a proposed residential development on land at Pickering's Farm in Penwortham.

Enclosures (TRICS Output)



Contact Details

Enquiries

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