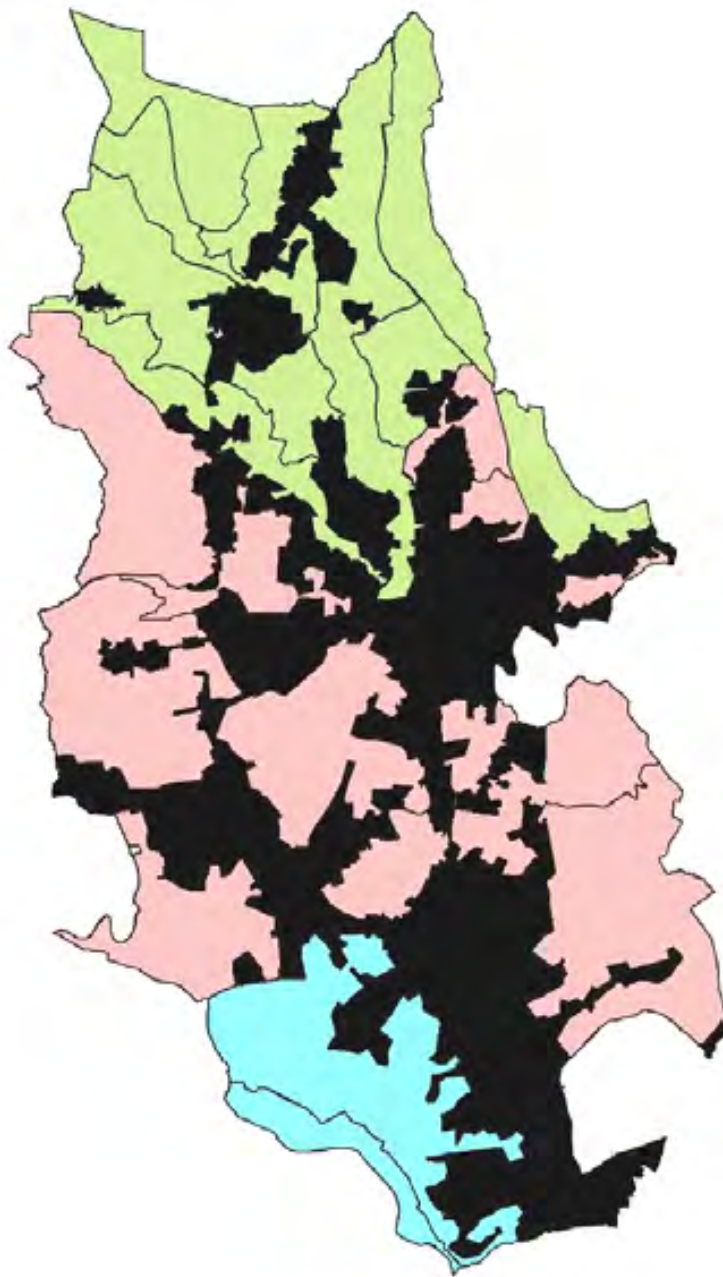


Landscape Character Assessment

2009



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1. INTRODUCTION

Background to the Assessment

The landscape character approach to spatial planning aims to improve the understanding of the opportunities and constraints of different places and acknowledges the values and characteristics that make one landscape unique from another. Approximately 60% of the Borough of Bury is countryside and open land. Within this area there is a rich diversity of landscape, natural, industrial and settlement features, many of which are influenced by the Irwell valley and numerous tributaries.

In January 2004, 2nd year post graduate planning students from the School of the Built Environment at Liverpool John Moores University were appointed by Bury Metropolitan Borough Council (Bury MBC). The purpose of this project was to continue the characterisation stage of a landscape character assessment undertaken by an earlier group of students during 2003. During 2006 and 2007 The Landscape Practice was engaged to complete the assessment using the latest GIS baseline data as well as formulate guiding principles for the different landscape groups found within the borough. This report presents the findings and conclusions of this work.

Defining landscape character

Landscape character can be considered as the distinct and recognisable pattern of elements that occur consistently in a certain type of landscape. It is created by particular combinations of: geology, landform, soils, vegetation, land use, field patterns and human settlement, which have combined over the millennia to create the landscapes we know today. Character is what makes landscapes distinctive and creates a particular sense of place in a locality. Everywhere has character and all landscapes are distinctive¹.

Landscape character assessments have developed over the last 10 years, with the emphasis on sustainability, local distinctiveness and a holistic approach to protecting and enhancing biodiversity². In 1996, The Countryside Agency and English Nature produced the Countryside Character Map of England, and the Natural Areas Map of England³. This describes 159 different countryside character areas in terms of characteristics such as altitude, landform, land capability, surface geology, farm types, settlement patterns, woodland cover, field density and pattern, visible archaeology, industrial history.

Based upon this work, the Countryside Agency has developed an approach to appraising the visual impact of proposed developments on these areas. Landscape Character Assessment (LCA) aims to identify and express the different elements of landscape, to help ensure that the right choices about development and land use are made for different landscapes. LCA can help planners to identify the factors that contribute to an area's distinctive character, and thus how to ensure that the developments that are given permission to

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¹ Swanwick, C. (2004) in *Countryside Planning: New Approaches to Management and Conservation*. Edited by Bishop, K. & Philips, A. Earthscan.

² As required by the UK Biodiversity Action Plan, 1994 & Biodiversity Strategy for England (2002)

³ There are 97 terrestrial Natural Areas, which are larger than character areas and based on biogeographic zones.

proceed in that area are suitable and do not unduly harm that distinctive character. The Countryside Agency has also produced a guidance document on the use of LCA⁴.

LCA revolves around two basic stages – characterisation, and making judgements. Characterisation is essentially a scoping exercise that groups areas of landscape into locales of common character, describing and mapping them. Making judgements is about bringing together stakeholders and assessing whether a proposed development is suitable based on the information the LCA has compiled. The Countryside Agency recommend that LCA be used as an integral part of the process for developing local and sub-regional planning policies, structure plans etc.

Landscape character is now widely recognised as an important integrating concept⁵ emphasising the relevance of landscape character assessment in development plans and development control. The Governments' support for the character approach to understanding countryside diversity and character and as a framework for positive action was reaffirmed in the Rural White Paper, 2000, PPS7 (2004) and draft PPS1 (2004). Further support is provided through policy ER2 of the Regional Spatial Strategy for the North West (2003), which now forms part of the Boroughs Local Development Framework as a result of the Planning and Compulsory Purchase Act 2004.⁶

During 2004 a number of indicators of countryside character and quality were developed based on an assessment of change during the period 1990-98⁷. This initial assessment concluded that there have been some changes inconsistent with the character of the Southern Pennine Character Areas (Area 36) and a number of marked inconsistent with the character of the Manchester Pennine Fringe (Area 54) and Manchester Conurbation (Area 55).

Landscape hierarchy

In 1998 central government reiterated the importance of protecting landscape character and local distinctiveness as a fundamental aspect of sustainable development⁸, however this was accompanied by a clear message that:

“The Countryside Character map is too broad in scale to be directly utilised in development control or local plans. Local authorities wishing to adopt the character approach should, however, re-assess their current pattern of local designations and landscape assessment. To see how far they are consistent with the emerging approach”.

A fundamental aspect to the national Countryside Character Initiative is that the approach is a valuable tool not only to assess the landscape for the whole of the countryside and provide a framework for more localised

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⁴ Swanwick (2002) Landscape Character Assessment: Guidance for England and Scotland, Countryside Agency & Scottish Natural Heritage.

⁵ Benson, J.F. & Roe, M.H. (2000) Landscape and Sustainability, Spon Books, London.

⁶ ODPM, (2004) Planning Policy Statement 12: Local Development Frameworks.

⁷ see http://www.countryside-quality-counts.org.uk/cap/northwest/index_nw.htm

⁸ DETR (1998) Planning for Sustainability: Towards Better Practice. HMSO.

and detailed assessments. Within the North West region of England there are twenty-three distinct landscape types⁹, as identified in figure 1. The next logical step is to provide a more localised assessment which fits within a wider hierarchy defined at the national and regional level.

Figure 1
LANDSCAPE CHARACTER TYPES



6	Solway Basin	33	Bowland Fringe and Pendle hill
7	West Cumbria Coastal Plain	34	Bowland Fells
8	Cumbria High Fells	35	Lancashire Valleys
9	Eden Valley	36	Southern Pennines
10	North Pennines	54	Manchester Pennine Fringe
17	Orton Fells	55	Manchester Conurbations
18	Howgill Fells	56	Lancashire Coal Measures
19	South Cumbria Low Fells	57	Sefton Coast
20	Morecambe Bay Limestones	58	Merseyside Conurbation
21	Yorkshire Dales	59	Wirral
31	Morecambe Coast and Lune Estuary	60	Mersey Valley
32	Lancashire and Amounderness Plain		

Source: The Countryside Agency Website, 2004

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⁹ See http://www.countryside.gov.uk/LivingLandscapes/countryside_character/north_west/index.asp

The three national character types that are present within Bury MBC are the Southern Pennines (Area 36), Manchester Pennine Fringe (Area 54) and Manchester Conurbations (Area 55). On the accepted base of these three, the more detailed district approach will be based.

The key distinctive characteristics of the **Southern Pennines** are:

- Exposed grit stone moors at an altitude of 450m, creating a large scale and open landform with views in all directions
- Mixed moor land, blanket bog, and pasture enclosed by dry stone walls
- Open moor land that supports valuable wildlife habitats
- Reservoirs throughout the area
- Densely populated valley bottoms and sides linked by road, rail and canal routes with historic packhorse trails crossing elevated moor land
- Grit stone towns incorporating industrial heritage features including textile mills
- Intrusive features including a number of mineral quarries, electricity pylons telecommunication masts and wind turbines
- Similar to the Bowland Fells (number 34 in figure 1) but modern human influences and intrusive features characterise it as less of an unspoilt wilderness

The key distinctive features of the **Manchester Pennine Fringe** are:

- Abrupt boundary between densely populated urban areas and open moor land
- Eighteenth and Nineteenth Century stone and brick buildings from the woollen and cotton industries that have heritage importance
- General altitude of 100-300 metres with steep valley sides and fast flowing rivers
- Improved pasture for stock rearing and rough grazing enclosed by dry grit stone walls and hedgerow boundaries at higher and lower elevations respectively
- High recreational demands and farm diversification activities including haulage and riding schools has resulted in an unkempt appearance
- Mineral quarrying has created prominent scars on the landscape
- Historic Trans-Pennine railway and canal communication routes
- Sparse woodland cover overall, mainly on steep-sided river valleys
- Intrusive features are predominantly high rise residential tower blocks
- Extensive views across Manchester conurbation from elevated positions

The key distinctive features of the **Manchester Conurbation** are:

- A network of countryside corridors formed by numerous rivers, and to a lesser extent, canals, railways, and roads
- River Valleys of the Mersey, Irwell, Irk, Medlock, Tame, and Goyt
- Suburban character created by high recreational demands, motorway and major road crossings, water treatment works, and an overall managed countryside
- Large areas of woodland and country parks along the river valley sides providing a buffer from the conurbation

- Some canal related derelict land along the river valleys and corridors
- Large areas of open grassland, semi-natural habitats, and horse related farm activities along the river valleys (The Countryside Agency, 2004).

Purpose and Aims

The purpose of this study is to provide an assessment of landscape character (the characterisation stage) within the Borough of Bury as an important element of the empirical evidence base and baseline information that will inform the development of Local Development Framework documents.

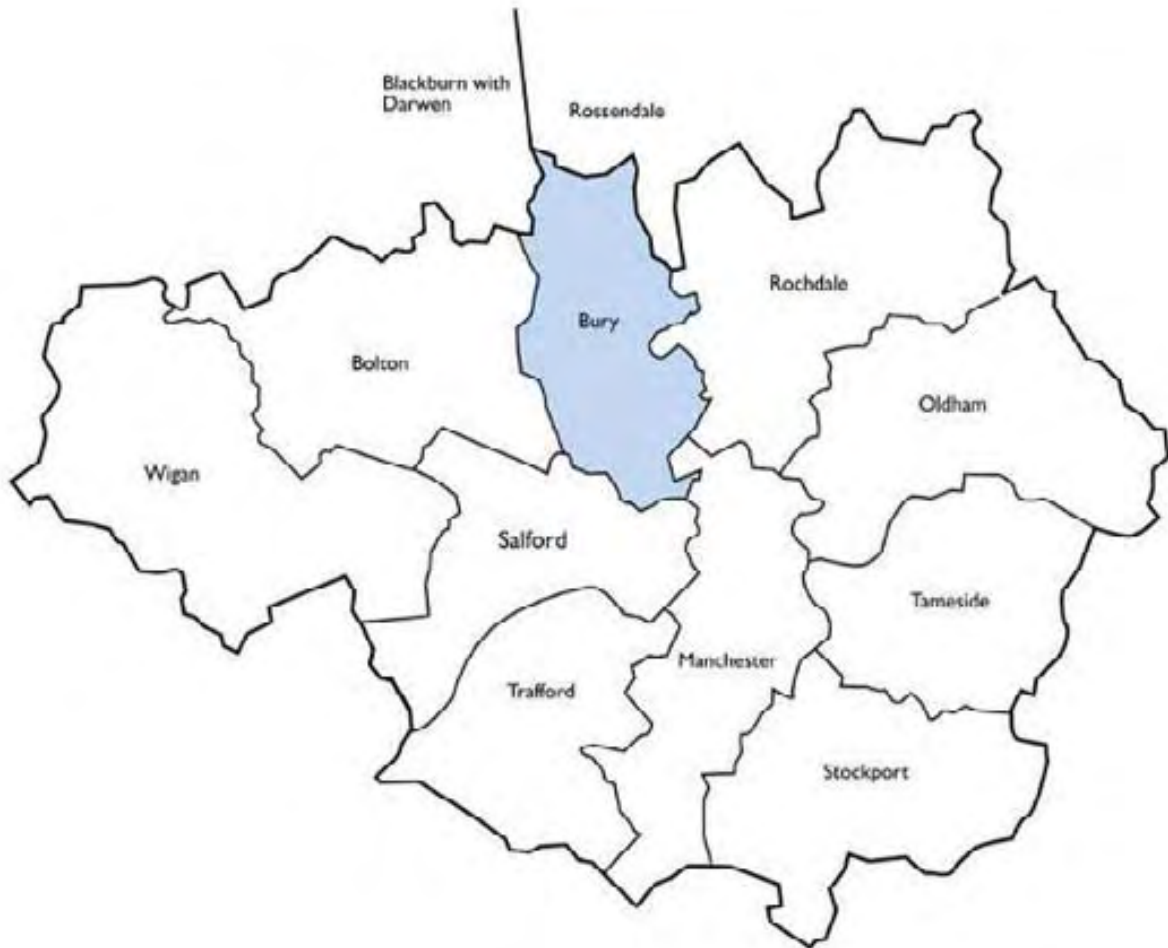
The specific objectives of the study as identified in the project brief 2003 are to:

- To break down national / regional character areas identified by the Countryside Agency (South Pennines, Manchester Pennine Fringe and Manchester Conurbation) into character types and areas at the district level;
- To classify the landscape of the Borough into distinct landscape types and areas (zones of homogenous character) at a scale of 1:25,000 scale;
- To describe the current appearance of the landscape, identifying the key characteristics and summarising the key cultural and natural features;
- To provide a baseline for monitoring future change.

Coverage

The landscape review focuses on the administrative area of Bury MBC (figure 2), one of ten districts within Greater Manchester, which covers approximately 9919 hectares. The Borough is dissected into 17 wards and bounded by (figure 4) Blackburn and Rossendale to the North, Rochdale and Bolton to the East and West respectively, and Salford and Manchester due South (Bury Group Project 2004). Urban fringe features that contribute positively to the landscape character form part of the assessment, but generally the main urban areas of Bury, Prestwich, Radcliffe, Ramsbottom, Tottington, and Whitefield are excluded.

Figure 2
LOCAL AUTHORITIES



Source: Bury MBC, Planning Division

2. METHODOLOGY

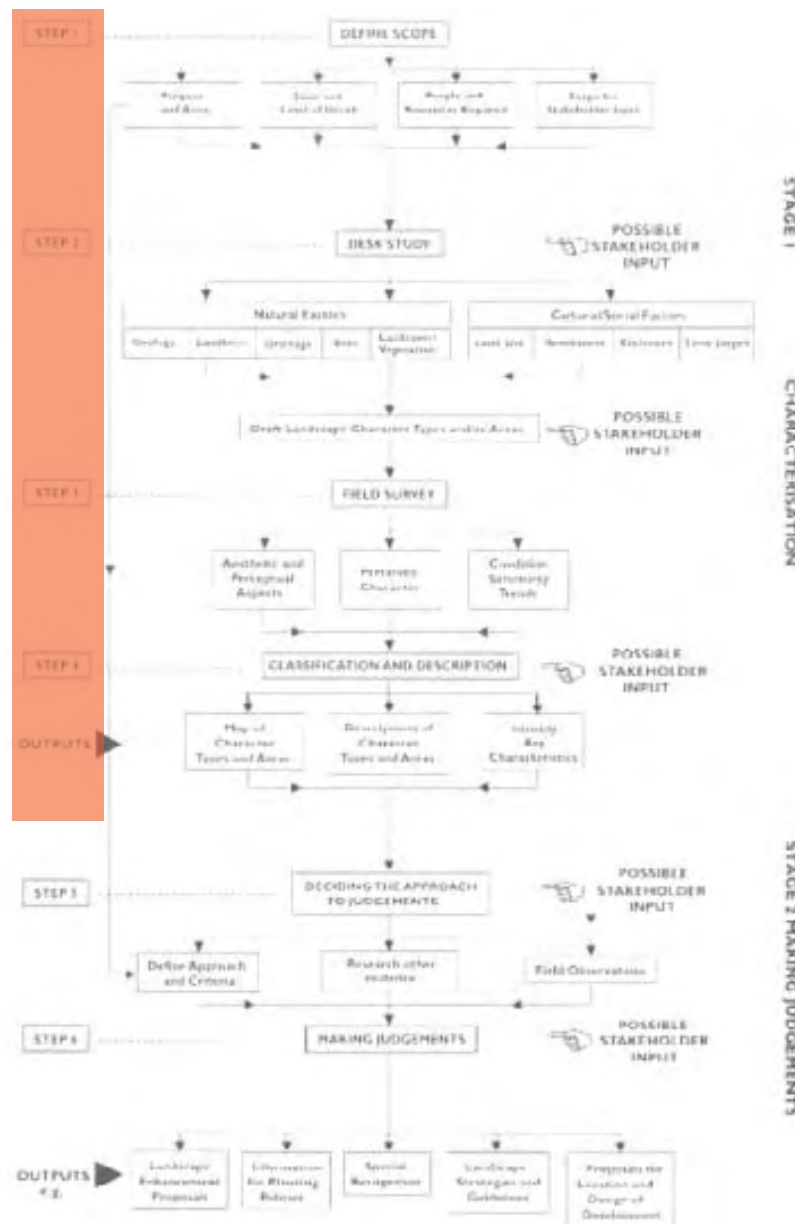
Introduction

As recommended by the current Countryside Agency guidance (2002) the landscape character assessment process is split into two distinct stages:

- Stage 1: **Characterisation** of the landscape
- Stage 2: **Judgements** based on knowledge of the landscape character

This report covers the first stage (shaded red in figure 3). The second stage will require a separate project and detail actions to conserve and enhance local character.

FIGURE 3
FLOW DIAGRAM OF LANDSCAPE CHARACTER ASSESSMENT METHODOLOGY



Characterisation stage

The guidance devised by the Countryside Agency in 2002 has been widely used by local authorities and other organisations to complete landscape character assessments and has become the accepted methodology. The methodology follows four practical steps to complete the Characterisation Stage.

Step 1: Defining the Scope

The scope and purpose was defined in December 2002 and provided the framework for the work undertaken by John Moores Students in 2003.

Step 2: Desk Study

This step involved consideration of the background material related to the history, geology, archaeology, and ecology of the area. Digital GIS map data of the topography, geology, soils, land cover, vegetation, rivers and tributaries, aerial photographs, and historic information to establish draft landscape character areas during 2003. The 2004 project group further reviewed this information, with the addition of the habitat survey data from the 2001 phase 1 habitat survey. Additional environmental information such as agricultural land quality and landscape typology was obtained through the magic environmental information web site.¹⁰

Step 3: Field Survey

The purpose of the field survey, undertaken during the spring of 2004 was to collect detailed field data to determine the accuracy of the draft types and areas and refine them as necessary.

Step 4: Classification and Description

The final step of the characterisation stage was to review the previous steps to provide a professional judgement, classify the landscape, and identify the individual areas. Digital mapping was used to display each area and type. The group identified the 'forces for change' that will affect the character, including intrusive features, development pressures, and land management issues.

¹⁰ <http://www.magic.gov.uk/>

Desktop study

Physical and human influences over the millennia have shaped the landscape of the Borough. Therefore it is essential to consider the past and current influences of the area to ensure that the most important character features can be managed and safeguarded from future land uses. This section focuses on the salient points that influence this area.

Early Industrial History

During the Industrial Revolution, many early cotton mills and associated works were built in the area, primarily in the river valleys. However, the 1950s and 1960s saw a decline in the cotton industry. The paper industry also grew during the 20th Century but has since steadily declined. Coal was also mined in the Borough, particularly at Outwood Colliery in the south of the Borough, which was used until the 1930s when the pithead was moved to Agecroft in Salford. Mineral working occurred principally in the north of the Borough where sand stone was extracted, and still continues at Fletcher Bank quarry¹¹. Some of these sites are now protected as Sites of Biological Importance through the Council's Unitary Development Plan (1997). Pilsworth quarry near to Hollins and Pilsworth is also active.

Geology

The underlying geology has had significant impact on the topography, soil structure and cover, habitats, flora and fauna. It is one of the dominant features that offers opportunities to, or restricts the human activities of the area and is therefore instrumental in determining the landscape character.

The main geology of the Borough comprises Upper Carboniferous rocks (created 325 to 286 million years ago), which can be subdivided into the Namurian (formerly Millstone Grit) series and the Westphalian (formerly coal measures) series. The Namurian rocks comprise coarse-grained, buff coloured sandstone and gritstones and form the high ground in the north of the Borough. In the south of the Borough younger Westphalian series of shales, siltstones and sandstones, which are generally softer and have been eroded, overlie these Namurian rocks. In the extreme south of the Borough younger Permo-Triassic (245 mya) Red Sandstones and Marls overlie the Westphalian and Namurian.

Much of the Borough is covered in drift deposits both glacial and more recent deposits, however, drift deposits are generally absent in the extreme northern upland margins of the Borough. The glacial deposits comprise mostly cohesive glacial drift (formerly boulder clay) although there are extensive glacial sand and gravel deposits in the Pilsworth, Whitefield and Prestwich areas. Recent river terrace and alluvial deposits occur along the courses of the Rivers Irwell and Roch.

Soil

The most common soil type found within the Borough is slowly permeable seasonally wet, acid, loamy and clayey soils. Although other soils types are also present, such as:

- Very acid, loamy upland soils with a wet peaty surface (Holcombe Moor)

- Freely draining very acid sandy and loamy soils (South eastern side of the Borough)
- Naturally wet, very acid sandy and loamy soils (south Prestwich) and]
- Loamy and clayey floodplain soils with naturally high ground water (adjacent to the River Roch).

Archaeology

A commissioned study jointly undertaken by the Greater Manchester Archaeological Unit and the University of Manchester Archaeological Unit, during the mid to late 1990's, has shown that the River Irwell was of significant importance in attracting early settlement to the area in the Mesolithic period (prior to 6800 BC). These settlers led a nomadic lifestyle that has left little archaeological record beyond a scattering of stone tools. During this time the borough would have had initially been an expansion of the tundra landscape, though this would have rapidly been invaded by trees, such as Birch, Pine and Hazel. Gradually towards the end of the Mesolithic period (circa 4000BC) these were supplanted in the river valleys by hardwoods such as Oak and Elm.

From 4000BC onwards the process of clearance for hunting and farming would have began, permanently altering the landscape. The River Irwell remained an important factor in attracting settlement, such as for medieval farming. The available evidence would indicate that the medieval period established the settlement pattern, which lasted until the nineteenth century, namely: parish; manor; and farmstead. The early industry in the area would also have been heavily reliant upon the river as a power supply.

This varied history has ensured that Bury Borough has a diverse archaeological legacy resulting in a varied, extensive and impressive collection of remains. Significant archaeological findings include the numerous Roman artefacts discovered at sites including; Ainsworth, Radcliffe E'es, Affetside and Starling. The course of the Roman road from Manchester to Ribchester cuts across the borough in a south-east to north-west direction through Prestwich, Whitefield, Radcliffe, Ainsworth, Tottington and Affetside. This road was built at the end of the first century AD and survives above Tottington as a substantial earth work.

Anglo-Saxon findings are limited to three physical remains; a coin found at Whitelow, a pit near to Whitelow and a cross fragment in a wall at Prestwich Parish Church. Nevertheless Anglo-Saxon influence is evident from place names ending in suffixes such as 'ham' (as in Chesham) and 'tun' (as in Tottington) indicating places of importance.¹²

Ecology

The Borough retains significant proportions of key habitats and species that have importance at United Kingdom level as stated in the Greater Manchester Biodiversity Action Plan (Greater Manchester Ecology Unit, 2000). With the Irwell Valley providing a valuable ecological network through the Borough.

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¹² Nevell, M. & Redhead, N. (1999) Bury The Archaeology of a Pennine Valley. The University of Manchester and GMAU.

UK Key Habitats that are present in Bury

Blanket bog
Lowland dry acid grassland
Lowland hay meadow
Reedbeds
Springs and flushes
Swamps and tall herb fen
Upland heath including wet heath
Upland oak wood
Wet woodland

In addition the Action Plan (Greater Manchester Ecology Unit, 2000) identifies habitats that are important within Greater Manchester. Semi-natural broadleaved woodland covers 2.6% of Bury and represents 8% of the Greater Manchester total. The majority of this type of woodland is classified as ancient. The Borough has over 10% of the county's resource of dense scrub and a significant proportion of semi-improved neutral, unimproved acid, and neutral grasslands. The proportion of these habitats represent over 15%, 8% and 12% respectively. Areas of heath land, bogs, mires and flushes remain small, but significant habitat types. Important water bodies within the Borough consist of the Manchester, Bolton and Bury Canal, the Rivers Irwell and Roch, several reservoirs, a high concentration of ponds and nearly 17% of the county's swamp area.

These key habitats support a range of species that although are not the main focus of landscape character assessments, contribute to the overall quality and reflect the interrelationship between landscape and the borough's biodiversity.

UK Species of Conservation Concern that are present in Bury

(Mountain hare)
(Western gorse)
Badger
Bluebell
Brown long-eared bat
Bullhead
Common frog
Common shrew
Common toad
Daubenton's bat

UK Priority Species that are present in Bury

(Grasswack pondweed)
Brown hare
Bullfinch
Great crested newt

Grey partridge

Linnet

Pipistrelle

Reed bunting

Skylark

Song thrush

Spotted flycatcher

Tree Sparrow

Water vole

Field study

Field surveys were completed for each area identified by the 2003 project group in order to gather more detailed evidence in the form of a visual assessment. Following the advice of officers from Bury MBC the project team undertook a pilot field study at Drinkwater Country Park (Rainsough) in February 2004. The reasoning for this was threefold: to gain familiarity of the Countryside Agency field study procedure; to appreciate the level and types of information required; and to clarify whether the modified field sheets worked in practice and provided adequate information. A pilot area description was drafted and sent to Bury MBC to ensure that the project team had understood the content of the brief and the information required.

The months of March and April 2004 were identified as being the most beneficial period to gather adequate survey information. Due to the varied size of the different draft character areas, it was often necessary to visit several vantage points to determine the overall character and decide whether or not the existing characterisation was justified. The key character features of each area are identified through an extensive photographic survey. A copy of the completed field sheets and photographic record for each area were attached to the final report submitted by John Moore's Students in July 2004.

During 2006 – 2007 further field studies were carried out by Bury MBC Landscape Practice. The work submitted by John Moores was also re appraised by the practice alongside new GIS information. This process gave way to a revised Landscape Character map of the borough and a revised final report. Once the revision process was complete a series of guiding principles were identified for each character area.

3. IDENTIFICATION

Landscape Character Areas of Bury

The three landscape character types covering the Bury area have been subdivided into the following local landscape character areas:

Regional Landscape Character Type: 36 *South Pennines*

Moorland Hill	36 / 1	HOLCOMBE
Moorland Fringe	36 / 2a	RAMSBOTTOM
	36 / 2b	SHUTTLEWORTH
	36 / 2c	GORSEY BROW
River Valley	36 / 3a	IRWELL
	36 / 3b	ROCH
Pennine Industrial Brooks	36 / 4a	HOLCOMBE
	36 / 4b	KIRKLEES
Pennine Settled Valley Pasture	36 / 5a	HAWKSHAW
	36 / 5b	HIGHER SUMMERSEAT
	36 / 5c	WALMERSLEY

Regional Landscape Character Type: 54 *Manchester Pennine Fringe*

Fringe Industrial Brooks	54 / 1a	PIGS LEE
	54 / 1b	WALSHAW & ELTON
	54 / 1c	HOLLINS & PARR
Fringe Settled Valley Pasture	54 / 2	CASTLE, WHITTLE & BRIGHTLEY
West Pennine Foothills	54 / 3a	AFFETSID
	54 / 3b	AINSWORTH
Parkland Estate	54 / 4	CHESHAM
Canal and River Corridor	54 / 5a	ELTON
	54 / 5b	NORTH OUTWOOD
Encapsulated Flood Plains	54 / 6a	RADCLIFFE
	54 / 6b	GIGG
Post Industrial Landform	54 / 7	PILSWORTH

Regional Landscape Character Type: 55 *Manchester Conurbation*

Industrial Flood Plain	55 / 1	IRWELL
Woodland Cloughs	55 / 2	PRESTWICH

Local Landscape Character Data**36 / 1 Moorland Hill****Background**

<i>Context</i>	Edge of moor land overlooking Manchester plain
----------------	--

Natural factors

<i>Solid geology</i>	Sandstone (Upper Haslingen Flags) forming main plateau area
	Mudstone and siltstone along ridge of slope
	Pockets of sandstone and sedimentary rock in plateau depressions
<i>Drift geology</i>	Exposed rock with pockets of peat
	Low pockets dominated by glacial till (boulder clay)
<i>Landform</i>	An altitude between 300-360m with a central plateau at 310m high
	Glaciated rounded hill containing thin covering of peaty soil
	Area containing highest altitude within Borough
<i>Drainage</i>	No streams within central area
	Streams along moor land edge
<i>Ecological sites</i>	Bogs, acid grassland, dry heath and flushes springs
	Several Sites of Biological Interest (SBI) along moor land edge
<i>Woodland cover</i>	Absence of woodland cover
	Windswept treeless landscape
<i>Groundcover</i>	Central area characterised by dry modified bog
	Hollows and edges dominated by unimproved acid grassland

Cultural and social factors

<i>Agricultural land quality</i>	Grade 5 uncultivated land used for rough grazing and recreation
<i>Infrastructure</i>	Tracks and footpaths, no major infrastructure
<i>Settlement</i>	Predominately open landscape with very few buildings
<i>Heritage</i>	Sparse distribution of archaeological finds
	Area dominated by Peel Tower (listed building)
<i>Boundaries</i>	Predominately open moor land
	Concentrations of dry stone walls in southern and eastern corners
<i>Field patterns</i>	Predominately open exposed character
	Field pattern limited to southern and eastern corners
<i>Time depth 1848</i>	Several small operational sandstone quarries located around edge
<i>Time depth 1910</i>	Peel Monument built in 1852 from sandstone quarried locally
<i>Time depth 1953 / 1967</i>	Local sandstone quarries have become disused and overgrown

Landscape description

Holcombe Hill also known as Harcles Hill is a glaciated rounded hill composed of sandstone with pockets of Lower Coal Measure mudstone and siltstone. The sandstone rock is exposed in places with pockets of peat at higher altitudes and glacial tills including boulder clay in lower areas. The hill contains a thin covering of peaty soil and the groundcover is predominately acid grassland. The soil is uncultivated, of low agricultural value and primarily used for grazing sheep.

The character area has a topographical range between 250 to 330 metres and is the most visible topographical landmark throughout the borough. The main area is composed of moorland and is predominately open in nature with an absence of trees, settlements and watercourses. The edges around the moor contain fields which are enclosed by dry stone walls and contain some springs and the occasional stream feeding the brook and river below.

The hill contains the largest Grade A rated local nature conservation site (Site of Biological Interest) within the northern end of the borough. The groundcover is a mosaic of acid grassland, dry heath and flushes which support a wide range of moorland and moorland fringe bird species such as skylarks, meadow pipit, wheatear, stonechat, little owl and lapwings.

The peripheral areas of the hill contain several sandstone outcrops. These outcrops date back to the 1800s and once supplied the sandstone used to build local buildings within the area as well as the monument on the hill itself. Over the last century these small quarries closed and have over time been colonised by flush species including mosses, sedges, rushes and marsh violets and thistles. The hilltop itself consists of dry heath with the surrounding slopes dominated by bilberry, crowberry and pockets of dense bracken these areas are intersected by a series of desire lines and footpaths.

The main part of the hill belongs to the National Trust and is classified as open country and registered common land where public access is permitted. This is in stark contrast to the eastern half of the hill which is a designated military area and where no access is allowed.

The hill contains a few farm buildings around the perimeter with the hilltop itself dominated by Peel Monument. The monument is of great historic significance to Bury as it was built in memory of Sir Robert Peel in 1852 a famous resident of Bury who became Prime Minister. The monument is Grade 2 listed and has in recent years become an important local radio transmitter.

The altitude and exposed nature of the hill has allowed for impressive panoramic views over the South Pennines hills to the east as well the relatively flat and sprawling infra-landscapes of the Manchester conurbation area in the south. Several other landscape types can also be seen from the hill including the settled valley pastures along the valley floor, the bands of trees denoting the location of the River Irwell, Holcombe Brook and Kirklees Brook along the valley sides and the south Pennine foothills of Hawkshaw and Ainsworth to the west. A line of pylons crossing the west side of the borough from Manchester up into Lancashire can also be seen on a clear day.



Plate: 1
Location: Holcombe Hill
Characteristic: Peel Monument

Plate: 2
Location: Holcombe Hill
Characteristic: Sheep grazing

Plate: 3
Location: Holcombe Hill
Characteristic: Outcrop feature

Plate: 4
Location: Holcombe Hill
Characteristic: Tracks and recreational paths

Plate: 5
Location: Holcombe Hill
Characteristic: Views of Pennines

Plate: 6
Location: Holcombe Hill
Characteristic: Views of conurbation

Guiding principles

Ecological sites:

- Maintain heather moor land and upland habitats
- Prevent destruction and damage to moor land habitats
- Promote restoration of moor land landscapes
- Promote projects to enhance habitats

Woodland cover:

- Remove any areas of extensive scrub regeneration to maintain windswept treeless landscape

Land use:

- Manage and control recreational pressures
- Any proposed recreation infrastructure should not impinge on the exposed and wild landscape character of the area

Boundaries:

- Retain open moor land and limit dry stone walls to peripheral areas
- Repair and restore peripheral field pattern enclosed by stone walls

Urban development:

- Retain existing rural tracks and resist highway improvements except where they are required for essential safety reasons
- Limit the use of conventional road materials to prevent gradual urbanisation of area
- Little scope for any form of development for the area, any domestic scale buildings and car parks would damage the open character unless they are hidden in natural folds in the land

36 / 2 Moorland Fringe

Background

<i>Context</i>	Transitional landscape between moors and river valley
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Natural factors

<i>Solid geology</i>	Sandstone and millstone grit at Ramsbottom and Shuttleworth
	Undivided sedimentary rock and sandstone at Gorsey Brow
<i>Drift geology</i>	Glacial till throughout with exposed rock on higher points
	Glacial fluvial sediments on lower levels
<i>Landform</i>	Steeply sloping topography between 300 to 170m altitude
<i>Drainage</i>	Even distribution of small streams throughout
<i>Ecological sites</i>	Sparse and limited to specific areas
	Sites of Biological Importance at Shuttleworth and Ramsbottom
	Large area at Gorsey Brow covered by Great Crested Newt site
<i>Woodland cover</i>	Large open space with woodland blocks scattered throughout
	Wooded areas predominately plantation or broad leaved woodland
<i>Groundcover</i>	Predominately improved grassland
	Some upper areas contain semi improved neutral grassland
	Large area within Gorsey Brow area containing amenity grassland

Cultural and social factors

<i>Agricultural land quality</i>	grade 4 land used for sheep and horse grazing
<i>Infrastructure</i>	secondary roads following valley sides
<i>Settlement</i>	open exposed farmland with scattered isolated farmhouses
	concentrated distribution of settlements along main roads
<i>Heritage</i>	Ramsbottom area covered by Holcombe Conservation Area
	even distributed of historic buildings / archaeological sites throughout
	small conservation area located at Nangreaves near Shuttleworth
<i>Boundaries</i>	concentrated groups of stone walls dominate upper slope
	highest concentration of dry stone walls found around Shuttleworth
	hedgerows sparsely distributed along base of slope
<i>Field patterns</i>	large variation in field size and shape dating back to 1848
<i>Time depth 1848</i>	several small sandstone quarries scattered throughout
<i>Time depth 1910</i>	declining number of operational sandstone quarries within area
<i>Time depth 1953 / 1967</i>	only one operational quarry remains at Fletcher Bank, Shuttleworth

Landscape description

The three local landscape character areas of Ramsbottom, Shuttleworth and Gorsey Brow, which lend themselves to the Pennine Fringe landscape form the transitional area between the exposed moorland hills of the South Pennines and the Manchester Fringe landscapes in the valley below. Their key characteristics are the steep slopes, which are above 180 metres in altitude.

At Ramsbottom and Shuttleworth these slopes create an incised valley where the solid geology is primarily sandstone and millstone grit. The landscape area at Gorsey Brow is a south facing slope and composed of undivided sedimentary rock and sandstone. The drift geology is characterised by glacial tills with exposed rock on higher points and glacial fluvial sediments on lower levels.

An overview of the area has shown that there are a few ecological designations within the area with only a couple of small Sites of Biological Importance scattered within the Ramsbottom and Shuttleworth areas as well as a Great Crested Newt Site at Gorsey Brow.

The slopes contain a combination of open farmland intersected with woodland blocks, which align themselves to a series of small streams scattered throughout the area. These small streams drain down towards the River Irwell on the valley floor. The farmland has an agricultural land quality of 4 and consists of acid, neutral, marshy and improved grassland which is primarily used for the grazing of sheep and horses. The area is also characterised by isolated farmhouses scattered amongst the large rectangular fields, which have open exposed views. The remaining settlement can be found along the main road along either side of the Pennine valley. The field boundaries in the middle and upper parts of the slope contain most of the dry stone walls within the borough. The base of the slope contains a series of hedgerows lending themselves to the settled valley pastures on the valley floor below.

The area is littered with several small disused quarries which date back to the 1850s which have become important landscape features in the area today with several historic buildings and archaeological sites distributed throughout including the ruins of Grants Tower located above Park Congregational Chapel at Shuttleworth. The Tower which was erected in 1828 to commemorate William and Daniel Grant a local mill owner would have once dominated the windswept eastern slope of the valley overlooking the mouth of the Pennine Valley.

The area also contains Mount Pleasant Conservation Area on the west facing slope as well as Holcombe Village Conservation Area on the other side of the valley. Holcombe Village is predominately a pre industrial settlement composed of a series of small agricultural hamlets, distinctive stone buildings and several important listed buildings. In comparison Mount Pleasant Conservation Area on the opposing slope is located on the exposed shoulder of Snape Hill below Harden Moor. The settlement developed as a village around the old textile mill which has now been demolished. A concentration of several traditional archaeological sites can also be found within the area including several listed buildings.



Plate: 7
Location: Ramsbottom
Characteristic: Sheep grazing



Plate: 8
Location: Ramsbottom
Characteristic: View of stone terraces



Plate: 9
Location: Ramsbottom
Characteristic: Panoramic views across valley



Plate: 10
Location: Gorse Brow
Characteristic: Flooded quarry



Plate: 11
Location: Holcombe village
Characteristic: Dry stone walls



Plate: 12
Location: Shuttleworth
Characteristic: Underground reservoir and sloping land

Guiding principles

Woodland cover:

- Tree planting should be confined to shelter planting around farms and to woodland areas

Land-use:

- Repair and maintain farm buildings of historic interest
- Improve and encourage recreational access between moor land and urban areas
- Support the development of appropriate balanced grazing regimes
- Retain farmland for agricultural use
- Prevent progression of woodland into farmland areas
- Any quarry restoration within mineral extraction sites should respect local amenity and habitat needs

Boundaries:

- Repair and restore distinctive stone walls and field pattern

Urban development:

- Retain existing rural tracks and resist highway improvements except where they are required for essential safety reasons
- Limit the use of conventional road materials to prevent gradual urbanisation of area
- Only those buildings required for agriculture and recreation should be permitted and new housing is not considered appropriate
- Support for farm businesses by providing opportunities for diversification farm
- Diversification projects should not introduce new pressures on the area

36 / 3 River Valley

Background

<i>Context</i>	Area along River Irwell and River Roch north of Bury
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Natural factors

<i>Solid geology</i>	Sandstone in upper Irwell valley with Millstone Grit elsewhere
	Mudstone / siltstone with sandstone forming steep river banks at Roch
<i>Drift geology</i>	Post glacial alluvium deposits on upper Irwell valley floor
	River terrace deposits on lower Irwell valley floor
	Solid rock along banks to River Roch at Jericho
<i>Landform</i>	Open valley at Jericho with slope and cliff face
	Incised valley in northern part of Irwell with distinctive steeped profile
	A range between 170m altitude in the north to 85m in the south
	Open valley in southern part Irwell bound by two broad valleys
<i>Drainage</i>	Dominated either by River Roch / River Irwell
<i>Ecological sites</i>	Main wildlife corridor with Sites of Biological Importance throughout
<i>Woodland cover</i>	Large ancient woodland around Summerseat village
	Large blocks of plantation woodland leading into Summerseat
	Semi natural and plantation woodland along river Irwell
	Broad leaved, plantation and semi natural woods at Jericho
<i>Groundcover</i>	Predominately improved grassland
	Areas of amenity grassland around Ramsbottom and Bury

Cultural and social factors

<i>Agricultural land quality</i>	Grade 4 land used for stock rearing with dairy farming on flat plateaus
<i>Infrastructure</i>	Roads and bridges crossing river and site
	East Lancashire Railway follows course of river and valley
	Irwell Valley Sculpture Trail alongside river Irwell
<i>Settlement</i>	Ribbon developments merging separate settlements
	Industrial development on flat ground on the valley floor
	Loose cluster of dwellings along roads and lanes
<i>Heritage</i>	Scattered relicts exist relating to river's industrial past
	Contains Brooksbottom Conservation area
<i>Boundaries</i>	Presence of hawthorn hedgerows in peripheral areas
<i>Field patterns</i>	Pattern disrupted by ribbon development and industrial areas
<i>Time depth 1848</i>	Area littered with small cotton mills, reservoirs and sandstone quarries
<i>Time depth 1910</i>	Area now contains some disused mills and a large sewage works
<i>Time depth 1953 / 1967</i>	Map shows pylons and power line at Lower Summerseat

Landscape description

The river valley landscape consists of a long river valley on a north - west axis along the River Irwell and a smaller area along an east - west axis along the River Roch. The area around the River Irwell consists of an incised valley in the north and an open valley in the south. Both areas lie within an altitude range between 110 and 170 metres above sea level.

The alternating layers of gritstone and glacial deposits of sand and gravel have been cut by the swiftly flowing river Irwell to form a distinctive stepped valley profile. Ancient Clough woodlands are noticeable and defining features, reinforcing the enclosed and channelled nature of the valley. These woodlands patches are located within the steeper banks of fast flowing brooks and streams, which drain the moorland hills and descend from higher ground to the valley bottom. The river Irwell and its tributaries also provide an important ecological corridor linking higher moorland areas down to lower lying areas and then through riparian habitats along the course of the Irwell. The higher and more gently sloping or stepped elements of the valley sides are used for agriculture, linear development and transport routes whilst the majority of urban development is concentrated on the valley floor and lower slopes.

The more developed areas have a strong urban feel as a result of the merging of high density urban settlements, industrial development in the form of former textile mills, paper mills and the road and rail links. Urban areas are concentrated along the valley floors at key crossing points and areas of flat ground adjacent to the River Irwell. There is a strong historic feel to this area with the dominant vernacular style derived from the use of sandstone and gritstone with slate as a roofing material. Terraced properties located on the edge of this character area are principally set on a grid iron layout and reflects the rapid industrial development of this area during the 1800s. The undeveloped areas of the valley bottom are used for recreational activity, particularly on the flat floodplains adjacent to the River Irwell, for example at Nuttall Park. The close proximity to urban areas makes this area an ideal and easily accessible location for informal recreation.

The southern part of the river valley becomes more open as it approaches Bury from the north. It is formed by the Holcombe and Kirkless Brooks and is separated by a plateau of higher ground. Without the steep slopes and areas of clough woodland that appear in the upper Irwell Valley this area feels less enclosed overall, except where steep scarps have been created in places such as the plateau above Burrs. The river is responsible for the alluvial deposits, which provide thicker, more productive soils, on the valley floor. Woodland cover in this area is patchy and generally limited to the banks of the Irwell and other water bodies, with deciduous species such as oak, ash, hazel, sycamore, birch holly and hawthorn noted.

Historic human use of this area is evident in the form of numerous relicts ranging from the site of a late iron age/early Romano-British promontory fort at Castlesteads to more recent industrial structures such as canals, lodges and mill chimneys. Other more recent human influences on the area result in intrusive features; these include noise generated by the road networks and the presence of electricity pylons and power lines.



Plate: 13
Location: River Irwell at Burrs
Characteristic: Views of Holcombe Hill



Plate: 14
Location: River Irwell at Burrs
Characteristic: Weir



Plate: 15
Location: River Irwell
Characteristic: Footpath along river



Plate: 16
Location: Burrs Park
Characteristic: Fishing lodge / pond



Plate: 17
Location: Burrs Park
Characteristic: Irwell Sculpture Trail



Plate: 18
Location: Entrance to Burrs Park
Characteristic: Industrial relics

Guiding principles

Ecological sites:

- Protect ancient woodlands from grazing
- Consolidate and strengthen wildlife links and corridors with native riparian planting
- Any new development should retain all existing ecological and wildlife features and also contribute to the ecological and habitat value of the area through the proposed design, landscape arrangements, siting of development proposals and mitigation works
- Do not permit development which would adversely affect ecology and habitats within the area
- The development of redundant reservoirs as Sites of Biological Importance should be considered

Woodland cover:

- Support the retention of woods and hedgerows within the area and encourage natural regeneration
- Control invasive species especially Japanese knotweed and Himalayan balsam
- Encourage and promote woodland management schemes with farmers and landowners
- Promote the extension of broadleaved woodland on former ancient woodland sites
- Woodland planting should reflect the species composition of local native woodlands

Land use:

- Maintain and develop recreation routes to link nearby urban areas to countryside

Boundaries:

- Manage and improve existing hedgerows

Urban development:

- Any permitted new development should be assimilated where they would respect the linearity of the urban form and any existing gaps between settlements / towns
- The wooded backdrop of the valley towns should be maintained
- Views of the surrounding countryside from the Irwell Valley Sculpture Trail and other recreational routes should be retained

36 / 4 Pennine Industrial Brooks**Background**

<i>Context</i>	Valley floor between west Pennine foothills and Holcombe Hill
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Natural factors

<i>Solid geology</i>	Holcombe Brook dominated by mudstone and siltstone
	Sandstone and undivided sedimentary rock at Kirklees Brook
<i>Drift geology</i>	Glacial till throughout with exposed rock on high points
	Alluvium and fluvial sediment found along brook floor
<i>Landform</i>	A range between 290m altitude in the north to 100m in the south
<i>Drainage</i>	areas dominated by Holcombe and Kirklees Brooks
	Diversity of water features including ponds and reservoirs
<i>Ecological sites</i>	Wildlife corridors connected to River Irwell
	Large amounts of land covered by Sites of Biological Interest
	Large part of Kirklees Valley to be become Local Nature Reserve
<i>Woodland cover</i>	Holcombe Brook dominated by semi natural and Ancient Woodland
	Kirklees Brook dominated by semi natural woodland
<i>Groundcover</i>	Semi improved neutral grassland in upper parts of brook
	Improved grassland in central and lower parts of brook
	Some dry heath and acid grassland in northern part of Kirklees Brook

Cultural and social factors

<i>Agricultural land quality</i>	Predominately grade 4 with grade 5 in upper Holcombe Brook area
	Dairy and stock rearing limited to peripheral areas
<i>Infrastructure</i>	Watercourses crossed by several local roads and bridges
<i>Settlement</i>	Sparse distribution of farms and agricultural buildings throughout
	Very few buildings in upper parts of Holcombe Brook
<i>Heritage</i>	19 th century industrial heritage including mills and canals
	Industrial ponds and reservoirs alongside brook
	Large amount of archaeological sites at Kirklees and upper Holcombe
	Contains Summerseat Conservation Area at base of Holcombe Brook
<i>Boundaries</i>	Predominately post and wire fences
<i>Field patterns</i>	Fields tend to be smaller compared to settled pasture areas
<i>Time depth 1848</i>	Small sandstone quarries in northern part of both brooks
	Several small cotton mills scattered throughout Holcombe Brook
	Bleach works dominate Kirklees with some cotton mills and printworks
<i>Time depth 1910</i>	Sewage works and paper mill located along Kirklees Brook
	Printing, bleaching and dye works located around Holcombe Brook
<i>Time depth 1953 / 1967</i>	Landscape littered with disused mill buildings and old works

Landscape description

The river Irwell is adjoined by Holcombe Brook and Kirklees Brook in the north western part of the borough and which form the perimeter within the Two Brooks Valley located between the west Pennine foothills and the South Pennine moors. The area is also characterised by the intersection of several local roads which cross the brook.

The geology of the Holcombe Brook area contains mudstone and siltstone with the Kirklees Brook dominated by sandstone and undivided sedimentary rock. In the 1850s this geology was exploited to construct local mills, cottages and public buildings in the area. Some of these sandstone buildings are covered by Summerseat Conservation Area at the lower end of Holcombe Brook which includes a stone terrace, public houses and farm. As with other parts of the South Pennines the area was littered with small sandstone quarries the remains of which are still evident in the landscape today. The solid geology in the area is exposed in the upper areas of both brooks with the remaining areas dominated by drift geology especially glacial tills. These consist of slowly permeable, seasonally wet acid loamy and clay soil and alluvial and fluvial deposits on the lower levels along the brook floor. The drift geology composition corresponds with the varying altitude in both areas, from a height of 170 to 110 metres.

From a historical perspective several small cotton mills at Holcombe Brook area and a cluster of bleach works at Kirklees Brook dominated the 1850s landscape of the area. By 1910 the landscape at Kirklees evolved further with a sewage works and a large paper mill being added. By 1953 the landscape had changed again with most of the mills and works becoming disused. Today a strong industrial heritage still remains in the area with a diversity of water features including ponds and reservoirs accompanied by old mill buildings and canals. These features along with the surrounding woodland, habitat and open space have become extensively used as a recreational resource. The area also contains a high concentration of archaeological finds which align themselves to the course of both brooks.

Over the years the brooks have become important wildlife corridors between the growing towns of Tottington and Ramsbottom with large amounts of land covered by Sites of Biological Importance as well as a proposed Local Nature Reserve at Kirklees and the already established Redisher Local Nature Reserve at Holcombe Brook. The wildlife corridor also contains a high amount of woodland cover. The woodlands within these areas vary with Kirklees Brook dominated by semi natural woodland and Holcombe Brook containing a mix of both semi natural and Ancient Woodland.

The remaining land found within these areas are used for dairy farming and stock rearing and have an agricultural land classification of 4 with grade 5 in the upper Holcombe Brook area. The groundcover is dominated by semi improved neutral grassland in the upper parts with improved grassland in central and lower areas of both brooks. There are also some distinctive parcels of dry heath and acid grassland in the northern part of Kirklees Brook. The fields around the brooks tend to be smaller than those found in the open settled valley pasture areas nearby with boundaries being predominately post and wire as opposed to the high concentration of hedgerows in the surrounding areas. The fields are accompanied by a sparse distribution of farms and agricultural buildings especially in the upper parts of Holcombe Brook.



Plate: 19
Location: Kirklees Brook
Characteristic: Old reservoir



Plate: 20
Location: Kirklees Brook
Characteristic: Footpaths in woodland



Plate: 21
Location: Kirklees Brook
Characteristic: Old cobbled path



Plate: 22
Location: Kirklees Brook
Characteristic: Footbridge over wooded brook



Plate: 23
Location: Kirklees Brook
Characteristic: Views of Holcombe Hill



Plate: 24
Location: Kirklees Brook
Characteristic: Footpaths and housing

36 / 5 Pennine Settled Valley Pasture**Background**

<i>Context</i>	Valley floor between west Pennine foothills and Holcombe Hill
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Natural factors

<i>Solid geology</i>	Millstone grit dominating upper valley floor
	Sandstone and undivided sedimentary rock in lower valley
<i>Drift geology</i>	Dominated by glacial till
	Some small peripheral pockets of glacial fluvial sediment
<i>Landform</i>	Open valley with an altitude between 130 and 240m
	Undulating landform, sloping towards the south
<i>Drainage</i>	Ponds and streams distributed throughout
<i>Ecological sites</i>	Sites of Biological Interest located north of Hawkshaw
	Small water bodies distributed throughout
<i>Woodland cover</i>	Sparse tree cover
	Limited to isolated plantation woodland and hedgerows
<i>Groundcover</i>	Higher Summerseat / Walmersley dominated by improved grassland
	Hawshaw area predominately semi improved neutral grassland
	Pockets of dry heath / acid grassland around Hawkshaw

Cultural and social factors

<i>Agricultural land quality</i>	Grade 4 land used for dairy farming, cattle and sheep rearing
<i>Infrastructure</i>	Even distribution of country lanes throughout
	Area dominated by power lines and pylons
<i>Settlement</i>	Isolated farmsteads, occasional rural dwelling
	Majority of dwellings constructed of locally sourced grit stone
<i>Heritage</i>	Cluster of archaeological finds dominating Hawkshaw area
<i>Boundaries</i>	Exposed open character with little sense of enclosure
	Patchy hedgerows with post and wire fencing
	Limited number of dry stone walls at higher elevations
<i>Field patterns</i>	Contains medium and large sized field parcels
	Distinctive web shaped field pattern at Higher Summerseat pre-1848
<i>Time depth 1848</i>	Area is predominately agricultural with scattered isolated farms
<i>Time depth 1910</i>	Little change to landscape between 1848 and 1910
<i>Time depth 1953 / 1967</i>	Valley floor has become dominated by powerlines and pylons
	Summerseat and Hawkshaw areas have been cut off by urban growth

Landscape description

The settled valley pasture areas within the borough can be found along the valley floor between the West Pennine Foothills and Holcombe Hill. The solid geology of the area is composed of millstone in the upper valley floor and a combination of sandstone and undivided sedimentary rock in lower valley. The solid geology in both upper and lower parts is covered almost entirely by glacial till deposits although there are small peripheral pockets of glacial fluvial sediment throughout. The drift geology forms part of a landform which ranges from an altitude of 130m to 240m above sea level, the land is undulating and slopes southwards. The gentle slope is littered with some small ponds and streams which are of local ecological value with a Site of Biological Importance located north of Hawkshaw.

The landscape is generally open with sparse woodland cover where trees are limited to isolated plantations and hedgerows. The area has a grade 4 agricultural land classification where the land is predominately used for dairy farming, cattle and horse grazing as well as sheep rearing. The groundcover varies throughout the area with the Higher Summerseat and Walmersley area (on either side of the river) dominated by improved grassland. The Hawkshaw area is predominately semi improved neutral grassland with pockets of dry heath and acid grassland around the village of Hawkshaw.

The slopes of Holcombe Hill and that of Affetside form natural boundaries to the area in the west in contrast to the M66 motorway to the east. Within this area the infrastructure consists of local roads with an even distribution of country lanes throughout. The rural setting however is interrupted by a network of pylons which run from the north of the borough to the south as well as from the west to the east in effect dominating and linking all three settled valley pasture areas together.

At local level the area around Hawkshaw in the upper valley has a cluster of archaeological finds in contrast to the sparse distribution of finds in the rest of the area. The settlement distribution consists of isolated farmsteads and the occasional rural dwelling with the majority of dwellings constructed of locally sources grit stone.

In general the valley floor has an exposed open character with little sense of enclosure. The area contains sparse patches of hedgerows throughout with the remaining boundaries consisting of post and wire fences with a limited number of dry stone walls at higher elevations. Given the gently undulating nature of the land the fields tend to be larger than in other parts of the borough. At a more local level a distinctive webbed field pattern which pre dates 1848 exists in the Higher Summerseat area dominating a small raised plateau area around the junction between Brandlesholme Road and Longsight Road. The plateau gives a perfect vantage point towards Holcombe Hill towards the north.

The Pennine settled valley pasture areas which remain in the borough today have seen little change given that the area remains agricultural with scattered isolated farms. The only recorded change in the area is the gradual reduction in the size of the agricultural landscape between Ramsbottom and Bury which have gradually been cut off by ribbon development and by the urban growth of large residential areas at Greenmount.



Plate: 25
Location: Hawkshaw
Characteristic: Undulating landform



Plate: 26
Location: Hawkshaw
Characteristic: Hedgerows

Plate: 27
Location: Hawkshaw
Characteristic: Pylons

Plate: 28
Location: Walmersley
Characteristic: Open valley

Plate: 29
Location: Higher Summerseat
Characteristic: Views of Holcombe Hill

Plate: 30
Location: Hawkshaw
Characteristic: Dairy farming

54 / 1 Fringe Industrial Brooks**Background**

<i>Context</i>	Enclosed space located within/along the fringes of Bury urban area
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Natural factors

<i>Solid geology</i>	Pigs Lee Brook area predominately sandstone
	Walshaw & Elton Brooks sandstone/undivided sedimentary rock
	Hollins and Parr Brook mostly undivided sedimentary rock
<i>Drift geology</i>	Walshaw & Pigs Lee Brooks mostly till with solid rock highest point
	Hollins & Parr Brook composed of glacial fluvial deposits, some till
<i>Landform</i>	Altitude between 90 to 170 metres above sea level
<i>Drainage</i>	Small brooks draining into River Irwell / River Roch, small reservoirs
<i>Ecological sites</i>	Form important wildlife corridors within urban setting
	Upper reaches of Pigs Brook dominated by Great Crested Newt site
	Parts of Parr & Hollins area designated Local Nature Reserve/SBI
	Parts of Elton Brook designated Sites of Biological Importance
<i>Woodland cover</i>	Woodland cover less extensive than Pennine Industrial Brooks
	Blocks of broad leaved woodland located at Pigs Lee Brook
	Broad leaved and plantation woodland blocks at Elton Brook
	Walshaw Brook containing very little woodland
	Parr & Hollins Brook contain broad leaved woodland at brook level
	Extensive plantation planting around sand pit at Pilsworth
<i>Groundcover</i>	Lower parts of Walshaw & Hollins areas mostly amenity grassland
	Brooks (central) dominated by semi improved neutral grassland
	Upper parts of all brooks dominated by improved grassland
	Area around Pilsworth sandpit mostly unimproved neutral grassland

Cultural and social factors

<i>Agricultural land quality</i>	Urban soil located in peripheral lower parts of all brooks
	Grade 4 at Walshaw & Pigs Lee, Grade 3 at Hollins & Parr Brook
<i>Infrastructure</i>	M66 motorway forms boundary to Pigs Lee, crosses Hollins area
<i>Settlement</i>	Sparse distribution of settlement throughout all fringe brook areas
<i>Heritage</i>	Few archaeological sites when compared to surrounding areas
<i>Boundaries</i>	Hedgerows dominate both Walshaw and Pigs Lee Brook areas
<i>Field patterns</i>	Rectangular field patterns more defined in peripheral / upper areas
<i>Time depth 1848</i>	Sandstone quarries in upper parts of Pigs Lee and Hollins areas
	Cotton mills at Pigs Lee, printworks at Hollins, bleach works at Elton
<i>Time depth 1910</i>	Quarries and mills become disused, dye and bleach works remain
<i>Time depth 1953 / 1967</i>	Dominated by recreation e.g. golf courses at Pigs Lee & Hollins

Landscape description

The growth of Radcliffe, Bury and Whitefield over the last century has left several green areas throughout the central belt of the borough relatively undeveloped. These areas are dominated by a series of small brooks including Pigs Lee, Walshaw, Elton Brooks in the north and Hollins and Parr Brooks in the south. Although the brooks have not been fully urbanised they have been heavily influenced by the Industrial Revolution with remnants of mills and works scattered along the course of each brook.

The brooks found within the urban fringe tend to contain more open spaces and fewer tree cover and archaeological sites than their counterparts in the South Pennine landscape. The fringe brooks also fall within a lower altitude range of 170 to 90 metres above sea level and are almost entirely enclosed by urban areas along their middle and lower sections. According to the 1848 maps these brooks were located within an agricultural setting but by 1953 / 1967 they had become almost surrounded by an urban environment.

The drift geology data for these areas is subdivided into two groups. Till and exposed solid rock dominate Walshaw and Pigs Lee Brooks and glacial fluvial deposits can be found at Hollins and Parr Brooks in the south. All fringe brooks lie within a larger area dominated the Lower Coal Measure Formation. This formation dominates the central area of the Bury and also contains bands of sandstone and undivided sedimentary rock.

One of the strongest characteristics found within the area are the series of small reservoirs along the course of each brook. These reservoirs relate themselves to the bleach works, print works and cotton mills which once dominated the landscape. In recent years these areas have become important wildlife corridors and now contain several ecological designations throughout, including a Great Crested Newt site at Pigs Lee Brook, Sites of Biological Interest at Parr, Hollins and Elton Brooks and a Local Nature Reserve at Hollins Brook.

The woodland found within most of the Industrial Fringe Brook area generally comprise of bands of broadleaved trees. However there are also a number of plantation woodland scattered within the areas of Elton, Parr and Hollins Brook.

Groundcover data for these areas show that the vegetation varies according to the location along the brook. Central areas are dominated by semi improved neutral grassland, higher altitudes dominated by improved grassland with lower areas dominated by amenity grass. The lower areas are generally used for recreational use where the land is in close proximity to the main urban areas of Bury, Radcliffe and Whitefield. In contrast the open spaces in the upper parts of brook tend to have a stronger agricultural feel and are characterised by grazing cattle, post and rail fences and farm buildings.



Plate: 31
Location: Hollins
Characteristic: Grazing cattle



Plate: 32
Location: Hollins
Characteristic: Post and rail fence



Plate: 33
Location: Hollins
Characteristic: Tree screening



Plate: 34
Location: Hollins
Characteristic: Area overlooked by development



Plate: 35
Location: Hollins
Characteristic: Trees along brook



Plate: 36
Location: Hollins
Characteristic: Meadow

54 / 2 Fringe Settled Valley Pasture**Background**

<i>Context</i>	Open landscape along borough's eastern edge
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Natural factors

<i>Solid geology</i>	Predominately undivided sedimentary rock
<i>Drift geology</i>	Dominated by till
	Pockets of peat / glacial fluvial deposits
<i>Landform</i>	Altitude range between 90m to 140m above sea level
	Large flat area at Whittle at 100m above sea level
<i>Drainage</i>	Series of small streams and ponds
<i>Ecological sites</i>	Great Crested Newt site and protected species sites
	Forms part of Bury's wildlife corridor
<i>Woodland cover</i>	Plantation / semi natural woods limited to motorway edges
<i>Groundcover</i>	Predominately improved grassland
	Pockets of cultivated arable land
	Pockets of amenity grassland

Cultural and social factors

<i>Agricultural land quality</i>	Predominately grade 3 agricultural land
	Land used for grazing cattle
<i>Infrastructure</i>	Predominately tracks between fields
	Dominated by M66, M60 and major motorway junction
<i>Settlement</i>	Sparse settlement distribution
<i>Heritage</i>	Contains a cluster of archaeological sites
<i>Boundaries</i>	Area dominated by hedgerows except Castle (central plateau area)
<i>Field patterns</i>	Large field parcels interrupted by motorway
<i>Time depth 1848</i>	Littered with small sand pits and isolated barns
<i>Time depth 1910</i>	Disused sand pits at Castle, Whittle & Brightley
<i>Time depth 1953 / 1967</i>	Heaton Park reservoir created in south-west corner
	Minimal change to landscape between 1910 and 1953

Landscape description

The core landscapes character types which form the centre of the borough are primarily found around the river confluence where the River Roch meets that of the Irwell. These landscapes include flood plains and small industrial brooks and a river and canal corridor. The remaining Manchester Pennine Fringe areas are found on higher elevations with West Pennine Foothills in the west and Fringe Settled Valley Pasture and a sand extraction site in the east.

The eastern side of the Borough is dominated by Fringe Settled Valley Pasture and consists of a large relatively flat landscape along the M66 motorway. The solid geology for this area consists of undivided sedimentary rock which is covered by a layer of till. Small pockets of peat and glacial fluvial deposits can also be found and these lend themselves to a network of small ponds. The ponds are home to several Protected Species Sites and covered by a larger area used by Great Crested Newts. The landscape is dissected further by wildlife corridors, which follow the course of several small streams most notably Castle, Whittle and Brightley Brooks.

A patchwork of large field parcels dominates the field pattern of the area. These fields contain the best agricultural land within the borough, which is primarily used for grazing sheep and cattle, evidence of which can be seen from the motorway. The groundcover is mainly improved grassland with sizable pockets of amenity grassland and cultivated arable land. Most of the landscape is open with the exception of the M66 motorway, which dominates the area's western perimeter. The baseline data also show that the motorway is screened with plantation and semi-natural woodland with the fields dominated by hedgerows although an area around Castle Brook contain no hedgerows at all.

The Fringe Settled Valley Pasture can also be characterised by contrasts most notably that between the motorways and the small agricultural tracks. Although the area is found deep within the fringe landscape it has in recent decades been isolated by the construction of the M66 motorway, which has helped contain the rapid growth of the suburbs from the west. This rapid urban growth is in stark contrast to the sparse settlement distribution found within the area itself. The few buildings that do exist are isolated farmhouses and barns built of red brick. The baseline information also shows that archaeological sites are also sparsely distributed.

Historic maps dating back to 1848 show that the landscape contained several small marl pits, which became disused by 1910 and have over time become ponds and important ecological areas. Historic maps for the first half of the last century show that there was little change within the area. However after 1967 this changed with the area shrinking in size due to the growth of the suburbs in the west. Further dramatic change came with the creation of the M66, M62 and M60 motorways as well as the creation of Heaton Park, its reservoir and the transmission tower. The tower has become an important landmark along the motorway and along with the motorway is lit up at night transforming a once tranquil landscape into one increasingly dominated by noise and infrastructure.



Plate: 37
Location: Castle Brook
Characteristic: Hedgerows and farms



Plate: 38
Location: Bridge near Unsworth
Characteristic: M66 motorway bridge



Plate: 39
Location: Castle Brook
Characteristic: Grazing cattle



Plate: 40
Location: Junction 18
Characteristic: M66 motorway



Plate: 41
Location: Castle Brook
Characteristic: Flat landscape



Plate: 42
Location: Castle Brook
Characteristic: Isolated farms

54 / 3 West Pennine Foothills**Background**

<i>Context</i>	Small hills located between Bury and Bolton
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Natural factors

<i>Solid geology</i>	Distinctive bands of sandstone and undivided sedimentary rock
<i>Drift geology</i>	Predominately till with solid rock at higher altitudes
<i>Landform</i>	Glaciated rounded hills, lower in altitude than moor land plateau
	Affetside has an altitude range of 160 to 260m above sea level
	Ainsworth has an altitude range of 120 to 170m above sea level
<i>Drainage</i>	Both areas littered with small ponds
	Small streams at Affetside feeding into Walshaw and Elton Brooks
	Small streams at Ainsworth feeding into Elton & Withins Reservoir
<i>Ecological sites</i>	Large area at Affetside designated Great Crested Newt site
	Great Crested Newt/other protected species in south Ainsworth
	Wildlife link / Sites of Biological Importance in north Ainsworth area
<i>Woodland cover</i>	Sparse woodland cover with some coniferous woodland on hill tops
	Some peripheral plantation woodland at base of hill
<i>Groundcover</i>	Mostly improved grassland and semi improved neutral grassland
	Small peripheral pockets of amenity grassland

Cultural and social factors

<i>Agricultural land quality</i>	Both areas classified as Grade 4
<i>Infrastructure</i>	Affetside dominated by Watling Street which crosses highest point
	Ainsworth dominated by the B6196 which crosses highest point
	Powerlines cross both hills / both main roads
<i>Settlement</i>	Settlements distributed along local roads
<i>Heritage</i>	Important archaeological landscape with even distribution of sites
<i>Boundaries</i>	Dominated by hedgerows especially along lower levels
	Small cluster of dry stone walls on north facing slope at Affetside
<i>Field patterns</i>	Large well defined field boundaries throughout both areas
<i>Time depth 1848</i>	Both areas dominated by sandstone quarries, coal pits and farms
	Remains of Roman road at Affetside
	Several churches located on hill top at Ainsworth Village
	Bolton to Bury railway line forming southern boundary at Ainsworth
<i>Time depth 1910</i>	Both areas dominated by old sandstone quarries, no coal pits
	Increase in number of buildings on both hilltops since 1848
<i>Time depth 1953 / 1967</i>	Powerlines shown crossing both Affetside and Ainsworth
	Increase in number of residential properties in Ainsworth Village

Landscape description

The West Pennine Foothills at Ainsworth and Affetside form the western fringe of the borough between the towns of Bolton and Bury. The hills are composed of distinctive bands of sandstone and undivided sedimentary rock covered by a layer of till with exposed solid rock at higher altitudes. These glaciated rounded hills are lower in altitude than the moor land plateau areas in the northern part of the borough. The area around Affetside is the larger of the two hills with an altitude range between 160 to 260m above sea level. The area around Ainsworth is smaller with a height range between 120 to 170m above sea level. The hills have long distance views overlooking the town of Bury and Bolton and the height and exposure of the hill at Affetside creates an added sense of wilderness overlooking the Two Brooks Valley.

The hills contain small ponds throughout with small streams along the lower parts of the slope. These streams feed into Kirklees, Walshaw or Elton Brook at the base of the hill as well as Elton and Withins reservoir. The lower parts of the slope on both hills contain large areas designated Great Crested Newt sites. The area around Ainsworth is ecologically richer of the two hills with several protected species sites, a wildlife link and a local ecological designation.

The landscape is characterised by sparse woodland cover with some pockets of coniferous woods on the hill tops and peripheral plantation woodland located at the base of the hill. The hills contain a mosaic of improved and semi improved neutral grassland with the occasional pocket of amenity grassland in peripheral areas. Both areas have a grade 4 agricultural land quality rating in an area which suffers from over grazing on the lower slopes.

Both hills are dissected by main roads which cross over the crest of the hill making the area an accessible recreational resource for the surrounding urban areas with a number of recreational facilities and an extensive rights of way network. The origins of the road at Affetside are Roman forming part of the historic route between Lancashire and Manchester. The road at Ainsworth form one of the more direct routes between the towns of Bury and Bolton. Both roads are crossed by power lines which run through the two hills on a north-south axis. Although the area is squeezed between Bury and Bolton the area contains only pockets of settlement which are limited to the roadside and form part of the main villages of Affetside or Ainsworth. These settlements contain church spires which mark the centre of the village and which act as landmarks throughout the area. The surrounding hillside has an even distribution of archaeological sites throughout although their distribution is more sparsely distributed when compared to the brook landscapes in neighbouring areas.

The field pattern of the area is defined with hedgerows especially along the lower levels with a small cluster of dry stone walls on the north facing slope at Affetside overlooking the Two Brooks Valley. The area suffers from a loss of traditional field boundaries which have over recent years been replaced with post wire fencing. From an historical context these fields were disrupted by sandstone quarries and coal pits dating back to 1848. By 1910 these coal pits had closed and both areas saw an increase in dwellings on the hill top. By 1953 / 1967 the area saw the introduction of power lines and an increase in residential properties at Ainsworth Village.



Plate: 43
Location: Affetside
Characteristic: Views towards Holcombe



Plate: 44
Location: Ainsworth
Characteristic: Church spire on hill top

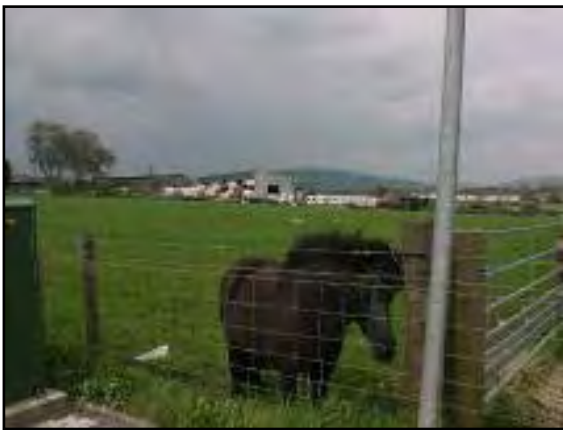


Plate: 45
Location: Affetside
Characteristic: Equine and caravan activities



Plate: 46
Location: Affetside
Characteristic: Open panoramic views

Plate: 47
Location: Affetside
Characteristic: Power lines

Plate: 48
Location: Affetside
Characteristic: Roman road

54 / 4 Parkland Estate**Background**

<i>Context</i>	Located along the eastern fringes of Bury
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Natural factors

<i>Solid geology</i>	Undivided sedimentary rock
<i>Drift geology</i>	Till throughout
<i>Landform</i>	South-west facing slope
	An altitude range between 115m to 170m above sea level
<i>Drainage</i>	Dominated by streams feeding into Gypsy Brook
<i>Ecological sites</i>	Large area designated local nature reserve
	Dry stone walls within area provide valuable wildlife habitat
<i>Woodland cover</i>	Blocks of plantation woodland throughout
	Some peripheral broad-leaved and semi-natural woodland
	Line of mature beech trees along Chesham Road dominate area
	Ornamental trees around former Chesham House area
<i>Groundcover</i>	Amenity grassland at bottom end of slope
	Semi-improved neutral grassland at top end of slope

Cultural and social factors

<i>Agricultural land quality</i>	Predominately grade 3 with urban soils at edges
<i>Infrastructure</i>	Chesham Road within centre of site with local roads forming edge
	Network of public rights of way around and within woodland blocks
	M66 motorway forms boundary at top end of slope
<i>Settlement</i>	Some buildings located in peripheral areas
<i>Heritage</i>	Sparse distribution of archaeological sites
<i>Boundaries</i>	Dry stone walls dominate the woodland area
	Scattered hedgerows occupy upper end of slope
<i>Field patterns</i>	Open recreational space at bottom end of slope
	Well-defined small field enclosures in upper parts of slope
<i>Time depth 1848</i>	Area predominately agricultural in rural landscape
	Group of six woodlands dominating upper parts of slope
	Woods on upper slope accessed via Chesham Road
	Upper slope opens up onto agricultural fields into neighbouring area
<i>Time depth 1910</i>	Clarence Park occupying lower end of slope
	Brick works in north-west corner
<i>Time depth 1953 / 1967</i>	Chesham enclosed by residential development
	1848 field and woodland pattern remain unchanged

Landscape description

The estate at Chesham is a small piece of land located between Pigs Lee Brook, the M66 motorway and the Freetown neighbourhood of north Bury. The area consists of a series of six woodland blocks with a number of small field parcels. Three of the woodland blocks are semi-natural and the remainder are predominately Victorian semi-ornamental woods around Chesham House which has since been demolished.

The parkland consists of a south-west facing slope ranging from 115m to 170m above sea level. The slope is composed of undivided sedimentary rock a layer of till with a series of small streams feeding into Gypsy Brook. Most of the area has Local Nature Reserve status and the area has a network of dry stone walls which provide a valuable wildlife habitat. The woodland blocks are predominately plantation woodland, with broad leaved and semi-natural woodland in peripheral areas. There are also a number of mature ornamental trees around the central part of the site. The remaining open spaces consist of amenity grassland along the bottom end of the slope and semi improved neutral grassland dominated by pastures at the top end. The land has a Grade 3 agricultural land classification which is the highest found in the borough.

The infrastructure within the area is dominated by a network of public rights of way around and within the woodland blocks. The area is also characterised by a series of roads around the perimeter and is overlooked on three sides by terraced properties with the M66 motorway forming the north east perimeter. Baseline data also show that there is a sparse distribution of buildings and archaeological sites in the area.

Field boundaries around the woodland area are dominated by dry stone walls with scattered hedgerows occupying the upper end of the slope. The open space is also divided on a similar basis with open recreational space at the bottom end and well defined small field enclosures above.

By the late 18th and early 19th century the farm settlement on site was further supplemented by a number of residences of wealthy local cotton manufacturers at Chesham House, Green Bank and Chesham Green. Time depth information shows that in 1848 the land lay within a rural landscape with the distinctive set of the six woodlands dominating the site with the upper part of the area opening up onto agricultural fields. By 1910 the creation of Clarence Park dominates the lower end of the site with a brick works occupying the north-west corner. The enclosure of the parkland continues into 1953 / 1967 when Chesham becomes almost entirely enclosed by residential development. In later years the landscape becomes enclosed from the north-east corner by the construction of the M66 motorway. All maps over this timescale show the 1848 field patterns and six woodland blocks.

The tree species within the woodland areas include the most common British natives i.e. birch, beech, sycamore, ash, lime, chestnut, hazel, rowan and a mature hornbeam. There is also a mature beech tree avenue in the centre of the site which once lead up to Chesham House as well as a beech hedge which has since been allowed to over-run.



Plate: 49
Location: Chesham
Characteristic: Meadow



Plate: 50
Location: Chesham
Characteristic: Ford over brook



Plate: 51
Location: Chesham
Characteristic: Woodland footpath



Plate: 52
Location: Chesham
Characteristic: Woodland with bluebells



Plate: 53
Location: Chesham
Characteristic: Remnants of dry stone wall



Plate: 54
Location: Chesham
Characteristic: Cottages

54 / 5 Canal and River Corridor**Background**

<i>Context</i>	Land adjoining River Irwell and Manchester, Bolton & Bury Canal
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Natural factors

<i>Solid geology</i>	Mostly undivided sedimentary relating to coal measure formation
	Isolated bands of different sandstone types found throughout
<i>Drift geology</i>	Upper parts of both areas dominated by till & glacial fluvial deposits
	Lower areas composed of river terrace deposits and alluvium
<i>Landform</i>	Low lying open valley located around River Irwell
	Altitude range between 120m and 70m above sea level
<i>Drainage</i>	A mix of small and large water bodies litter area
	R. Irwell and Manchester, Bolton & Bury Canal dominate lower end
	Canal fed by Elton and Withins Reservoir in north
<i>Ecological sites</i>	Upper areas almost entirely designated Great Crested Newt sites
	Even distribution of protected species sites on higher levels
	Lower altitudes dominated by wildlife corridor and SBI's
	Several large water bodies designated Sites of Biological Importance
	Part of Outwood designated Site of Special Scientific Interest
<i>Woodland cover</i>	Large variation in woodland cover between areas
	Predominately open landscape with scattered trees at Elton
	Cluster of broad-leaved woodland in north east corner of Elton
	Outwood area mostly woodland along river and disused railway line
	Plantation woodland dominate disused railway line area of Outwood
<i>Groundcover</i>	Semi-improved neutral and improved grassland in upper parts
	Unimproved neutral grassland around disused railway line area
	Several peripheral pockets of amenity grassland throughout

Cultural and social factors

<i>Agricultural land quality</i>	Predominately grade 4 with urban soils in peripheral areas
<i>Infrastructure</i>	Dominated by power lines, Metrolink tram line and local roads
<i>Settlement</i>	Sparse settlement distribution mostly around the canal and river
<i>Heritage</i>	Several buildings of historic interest distributed throughout
<i>Boundaries</i>	Hedgerows dominated upper levels
<i>Field patterns</i>	Large well-defined field patterns in upper areas of slope
<i>Time depth 1848</i>	Roman road at Elton, several coal and sand pits along canal
<i>Time depth 1910</i>	Landscape littered with disused coal and sand pits
	Railway sidings becoming dominating feature in both areas
<i>Time depth 1953 / 1967</i>	Area becomes enclosed by surrounding urban development

Landscape description

The canal and river corridor can be found in the south-west part of the borough around the northern perimeter between Radcliffe and Outwood. The land adjoins the River Irwell and the Manchester, Bolton and Bury Canal which run parallel to each other on a north-east to south-west axis.

The bedrock consists of undivided sedimentary rock with a number of different sandstone types found throughout. The upper part of the corridor is dominated by till and glacial fluvial deposits while those areas further down stream are composed of river terrace deposits and fine alluvium. The area is characterised by a low lying open valley located around the river with the canal elevated on a ridge on the northern side. The altitude ranges falls between 120m and 70m above sea level. The low lying land contain several water bodies scattered throughout, those located in the upper part of the corridor create an important habitat for newts. The upper area is also dominated by Elton and Withins Reservoirs which fed the water to the canal.

The immediate area around the river and canal form the wildlife corridor which connect the green links in Bury to those within Manchester. Parts of the wildlife corridor also contain local ecological designations located around several water bodies within the area. The area around Outwood also contains a Site of Special Scientific Interest where the steep river banks contain nationally important flora and fauna.

The baseline study information shows that there is a large variation in the type of woodland cover found in the corridor. At Elton the landscape is open with scattered trees and a cluster of broad leaved trees in the north east corner in contrast the Outwood area is predominately wooded. The Outwood area is also characterised by plantation woodland which follows the course of the old railway line and Irwell Sculpture Trail. Groundwork data show that semi-improved neutral and improved grassland dominate the upper parts of the corridor while unimproved neutral grassland are located around the disused railway line area in the south. There are also several peripheral pockets of amenity grassland throughout which lend themselves to recreational green spaces.

Most of the corridor has a grade 4 agricultural land classification although there are also some areas of urban soils bordering the edges. As with other areas along Bury's western boundary the landscape here is dominated by pylons and intersecting roads. The area around Elton is also intersected by the Metrolink line which runs parallel to the canal for most of the stretch. The landscape at Elton and Outwood both have a sparse distribution of buildings although further data does show that these buildings tend to be of historic interest located along the canal and river. The remaining peripheral areas contain field patterns which tend to be defined by hedgerows although over recent years these have been replaced by post and wire fences. Historic maps of Elton show a strong correlation between the location of the old Roman road which once crossed this landscape and existing field boundaries and hedges. The historic maps also show several coal and sand pits located along the canal where the excavated coal was transported from the collieries. By 1910 these coal and sand pits became disused and the network of railway lines and railway sidings become dominate features in the landscape. As with the coal pits most of the rail links were closed and incorporated into wildlife corridors and sculpture trails. Over the years the size of this river corridor has been reduced and has become enclosed by urban development turning the area it an important local recreational resource.



Plate: 55
Location: Elton
Characteristic: Reservoir



Plate: 56
Location: Outwood
Characteristic: Woodland track



Plate: 57
Location: Elton
Characteristic: Flat landscape with pylons



Plate: 58
Location: Outwood
Characteristic: Sculpture Trial



Plate: 59
Location: Near School Street, Radcliffe
Characteristic: Towpath along canal



Plate: 60
Location: Water Street, Radcliffe
Characteristic: Canal with old factory chimney

54 / 6 Encapsulated Flood Plains**Background**

<i>Context</i>	Enclosed green space between Bury and River Irwell
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Natural factors

<i>Solid geology</i>	Variation in solid geology between areas
	Gigg area predominately sandstone
	Radcliffe area composed of undivided sedimentary rock
<i>Drift geology</i>	Mostly alluvium in centre with river terrace deposits along edges
	Peripheral river banks composed of till and glacial deposits
<i>Landform</i>	Flat flood plain at around 80m above sea level
	Peripheral river banks range between 80m to 100m above sea level
<i>Drainage</i>	River Roch dominates Gigg flood plain area
	A river confluence dominates the Radcliffe flood plain area
<i>Ecological sites</i>	Both sites form strategic heart to wildlife corridor within borough
	Slopes at Radcliffe designated Site of Biological Importance
<i>Woodland cover</i>	Large difference in woodland cover between areas
	Limited plantation woodland around Bury Cemetery in Gigg area
	Large areas of plantation woodland in Radcliffe area along river
	Small pockets of broad-leaved woodland throughout
<i>Groundcover</i>	Both areas dominated by amenity grassland
	Pockets of unimproved neutral grassland distributed throughout

Cultural and social factors

<i>Agricultural land quality</i>	Gigg area contains a wide variation in soil quality i.e. urban / grade 3
	Radcliffe area classified as entirely urban soil
<i>Infrastructure</i>	Area contains several roads and bridges in peripheral areas
	Pedestrian and cycle paths located along river bank
<i>Settlement</i>	Settlement distribution limited to peripheral areas
<i>Heritage</i>	Cluster of archaeological sites within Radcliffe site
<i>Boundaries</i>	Isolated hedgerows in peripheral areas
<i>Field patterns</i>	No field pattern found
<i>Time depth 1848</i>	Area predominately agricultural and containing strong field pattern
	Architectural features along river including weir and bridges
	Several print works located along river
<i>Time depth 1910</i>	New land uses include cemetery, sewage and bleach works
<i>Time depth 1953 / 1967</i>	Radcliffe area now containing sludge lagoons, gravel pits and park
	Buildings related to bleach works still dominate river edge

Landscape description

The central landscapes found in the heart of the borough can be found around the area dominated by the river confluence where the River Roch joins the River Irwell. The landscape contains large pockets of green space located on a flood plain near to the towns of Bury, Whitefield and Radcliffe.

The flood plain contains two separate areas which contain different solid geology data. The data shows sandstone rock dominating the Gigg area and undivided sedimentary rock mix around Radcliffe which is exposed in places along the river's course. It is these Red Cliffs which give Radcliffe its name. Drift geology data also show that the main part of the flood plain is composed of alluvium with coarser river terrace deposits located along the river. The land at Gigg and Radcliffe are the flattest parts of the borough and are approximately 80m above sea level with the banks of the river ranging from 80m to 100m. The meandering river is the most dominant landscape feature found within the area although a lot of the banks have been colonised by invasive plants.

Although the flood plain does not contain many ecological designations the area is ecologically important given that it forms the strategic heart to the wildlife corridor within the borough connecting wildlife areas in the north to those in the south.

Although the two pockets of land have the same basic characteristics they do differ when woodland data is compared. Tree coverage in the Gigg area consists of limited plantation woodland around Bury Cemetery in contrast to the large areas dominated by plantation woodland at Radcliffe. However both areas contain pockets of broad leaved woodland throughout. The groundcover for the entire area is more uniform with most of the area dominated by amenity grassland with some pockets of unimproved neutral grassland scattered along the river's course.

Agricultural land quality grades vary within the two sites with a mix of urban, grade 3 and grade 4 soils found throughout. Given that the land is low lying the infrastructure found in the area is limited to peripheral areas and these include several roads and bridges over the river. The area is also has few buildings although the Radcliffe flood plain does contain a cluster of archaeological sites which include a tithe barn and the ruins of the old manor house of Radcliffe Tower (grade 1 listed Ancient Monument) which is the oldest building in the area and dates back to the late eleventh / early twelve century.

The landscape boundaries within the area are far and few between with little if no field pattern. Historic data for the area dating back to 1848 show the flood plain within a predominately agricultural landscape. By 1910 the strong field pattern is disrupted by new land uses introduced to the area, these include a cemetery, sewage works and bleach works. The bleach works once located along the river also included a series of goits and dykes which maintained an abundant supply of water for the bleaching process. One of the goits still remains but given the closure and demolition of the works the watercourse no longer functions. As the years progressed these land uses were further extended with sludge lagoons, gravel pits and a park. In recent decades the areas around Radcliffe Tower also contained a former gravel extraction site, which had since been unsympathetically used as a landfill site.



Plate: 61
Location: Radcliffe
Characteristic: Radcliffe Tower

Plate: 62
Location: Radcliffe
Characteristic: Man-made landform



Plate: 63
Location: Springwater Park
Characteristic: Flood plain



Plate: 64
Location: Bury Cemetery
Characteristic: Cemetery defined by trees

Plate: 65
Location: Radcliffe
Characteristic: Exposed rock along river bank

Plate: 66
Location: Radcliffe
Characteristic: Sewage works

54 / 7 Post Industrial Landform**Background**

<i>Context</i>	Sand pits and landfill site along motorway
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Natural factors

<i>Solid geology</i>	Undivided sedimentary rock
<i>Drift geology</i>	Glacial fluvial deposits i.e. sand
<i>Landform</i>	Landfill site composed of man-made hill
	Large hollows in areas dominated by sand extraction operations
<i>Drainage</i>	Series of small man-made ponds
	No natural streams or brooks
<i>Ecological sites</i>	No designated ecological sites
<i>Woodland cover</i>	Plantation woodland along motorway
	Blocks of plantation woodland on landfill site
<i>Groundcover</i>	Northern area dominated by unimproved grassland
	Southern corner dominated by improved grassland

Cultural and social factors

<i>Agricultural land quality</i>	Grade 3 highest within Borough
<i>Infrastructure</i>	Western border dominated by M66 and Pilsworth motorway junction
	Central area dominated by secondary road on west / east axis
	Remaining areas throughout area dominated by tracks
<i>Settlement</i>	Sparse distribution of farm buildings
<i>Heritage</i>	Area contains non listed buildings of historic interest
	Several traditional archaeological sites in the south
<i>Boundaries</i>	Predominately hedgerows (species poor)
<i>Field patterns</i>	Field pattern strong in south-east corner
	Field pattern disrupted in north by pits and landfill operations
<i>Time depth 1848</i>	Area set within agricultural setting
	Well defined field patterns throughout
<i>Time depth 1910</i>	No change in landscape
<i>Time depth 1953 / 1967</i>	Well defined road to Heywood through central area

Landscape description

All of the landscape character designations found within the borough have been characterised along natural topographical lines with one exception, an area between Pilsworth and Heywood Distribution Park where the land consists of a large scale man made landform. This landscape consists of a sand extraction and landfill sites located along the M66 motorway. On the landscape character map the area has been classified as a Post Industrial Landform given that the old topography and landscape no longer exists.

The solid geology for the area is composed of undivided sedimentary rock. The northern end is dominated by a man made hill formed by years of land filling. A series of large hollows dominate the southern end of the landscape formed by large scale sand excavation. The two halves are divided by a secondary road which connects the area to the M66 motorway and Heywood. The road is used as one of the main distribution road from Heywood Distribution Park which borders the area from the east. The abundance of sand, the close proximity of the motorway as well as the isolated nature of the site has made it an attractive location to both excavate sand and use the pits for landfill.

Given the man made nature of the site there are no natural streams or brooks. There are also no designated ecological sites but there are several small man made ponds with local wildlife. The ponds and landform are also complimented by plantation woodland along the motorway as well as plantation woodland in the northern part of the site. The groundcover can be delineated along a north-south divide with unimproved natural grassland in the north and improved grassland in the south-east.

The area boasts 'grade 3' agricultural land classification which is the highest found within the borough. The area also contains a series of farmhouses which are sparsely distributed and are served by rough tracks. Most of these farm buildings are of historic interest but are not listed. The area contains some archaeological sites in the south which were uncovered when sand extraction first began on site.

The tracks in the area contain hedgerows which are classified as species poor however the field system is only strong in the south west given that the field pattern has been disrupted in the north by pits and landfill.

Time depth information shows that the site saw little change between 1848 and 1910. However since 1967 large scale changes have occurred including the construction of the M66, Junction 3 on the M66, the establishment of the sand pits and the introduction of landfill operations on site. Over recent years further changes include extensive tree planting along the main road, road improvements, new cycle ways and the creation of ponds for local wildlife.



Plate: 67
Location: Pilsworth
Characteristic: Junction 2



Plate: 68
Location: Pilsworth
Characteristic: Woodland along road



Plate: 69
Location: Pilsworth
Characteristic: Man-made landform



Plate: 70
Location: Pilsworth
Characteristic: Sand extraction



Plate: 71
Location: Pilsworth
Characteristic: Cycle route



Plate: 72
Location: Pilsworth
Characteristic: Man-made ponds

55 / 1 Industrial Flood Plain**Background**

<i>Context</i>	Located along river valley floor between Prestwich and Clifton
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Natural factors

<i>Solid geology</i>	Sandstone along river bed with mudstone along edge with cloughs
<i>Drift geology</i>	Area composed of river terrace deposits
<i>Landform</i>	Flat river valley floor with an altitude of 70m to 60m above sea level
	Area containing lowest altitude within borough
<i>Drainage</i>	Several water bodies relating to sewage works throughout
	Several brooks running through area from cloughs above
<i>Ecological sites</i>	Strategically important wildlife corridor within Manchester conurbation
	Upper part contains Great Crested Newt site, Nature Reserve and SBI
<i>Woodland cover</i>	Lower part of site and around M60 predominately plantation woodland
	Small blocks of broad-leaved woodland distributed throughout
<i>Groundcover</i>	Swamp in upper area above M60 motorway
	Unimproved neutral grassland dominating central area of site
	Amenity grassland in lowest area

Cultural and social factors

<i>Agricultural land quality</i>	Classified as grade 4
<i>Infrastructure</i>	M60 motorway crosses flood plain at elevated level in northern corner
	Contains recreational paths along river bank
	Pylons and overhead power lines located along Bradley Brook Clough
<i>Settlement</i>	No settlement found within area
<i>Heritage</i>	Several archaeological sites in central and southern areas
<i>Boundaries</i>	No boundary features found within area
<i>Field patterns</i>	No distinctive pattern found within area
<i>Time depth 1848</i>	Dye works and bleach mill dominate peripheral edge
	Canal, tow path and railway line occupy north west corner of site
	Architectural features includes locks, pumping stations and bridges
<i>Time depth 1910</i>	Bleach works within area now becoming disused
	New land uses include sewage works and smallpox hospital
<i>Time depth 1953 / 1967</i>	Large sludge beds and filter beds dominating upper flood plain area
	Canal and isolation hospital classified as disused
	Area now containing allotment gardens and overhead power lines

Landscape description

The flood plains with the borough of Bury can be found in two main areas, those around the confluence area between the river Irwell and Roach and the area found along the river Irwell along the valley floor between the towns of Prestwich and Clifton.

The bedrock beneath the flood plain at Prestwich is composed primarily of sandstone with mudstone along the edges near the base of the cloughs. The drift geology is predominately composed of river terrace deposits (sand) in contrast to the upper flood plains around Radcliffe which contain alluvium. The landform consists of a wide, flat valley floor which has an altitude between 70m to 60m above sea level which is the lowest range within the borough. The area is also characterised by several water bodies which relate to the sewage works found within the area. There are also several brooks which run through the area from the cloughs above feeding the River Irwell and canal below.

With water as a main feature the area has become an important part of the wildlife corridor connecting Manchester to Bury and the Pennines. The northern end of the flood plain has a richer diversity of wildlife with a Great Crested Newt site, Local Nature Reserve at Philips Park as well as a local ecological designation. The southern end and the area around the M60 motorway contain plantation woodland although there are also small blocks of broadleaved woodland. Most of the groundcover around the M60 is classified as swamp but there is also a sizeable area of unimproved neutral grassland dominating the centre of the site as well as some amenity grassland in lower areas. The flood plain also has a Grade 4 agricultural land classification.

Although the flood plain is strategically found within the heart of the Manchester Conurbation the area is isolated by the river as well as the wooded slopes and the raised M60 motorway which intersects the flood plain. The full stretch of the site is served by recreational paths which have views over the river. The site is further intersected by pylons and overhead power lines around the Bradley Brook area.

Settlement data for the area also show a sparse distribution of buildings which add to the sense of isolationism within the site. The central and southern areas contain sites of archaeological importance but these tend to be sparsely distributed when compared to other parts of the borough. The data showing hedgerows and dry stone walls within the borough show no results for the flood plain area.

Time depth information shows that the area has a rich industrial history. The 1848 map shows dye works and a bleach mill dominating the peripheral edge of the area. Canal, tow paths and railway lines occupy the north-west corner. The 1848 map also shows the location of architectural features within the landscape including locks, pumping stations and bridges. By the 1910's the bleach works became disused and new land uses were introduced making the most of the areas isolation. The 1910 map shows sewage works and a smallpox hospital. By 1967 the sludge and filter beds dominate the upper flood plain and the canal and isolation hospital became disused. However the area continued to evolve and maps show the creation of allotment gardens and the introduction of overhead power lines and pylons.



Plate: 73
Location: Irwell
Characteristic: Paths along river



Plate: 74
Location: Irwell
Characteristic: Flood plain



Plate: 75
Location: Irwell
Characteristic: Plantation woodland



Plate: 76
Location: Irwell
Characteristic: Clifton Viaduct



Plate: 77
Location: Irwell
Characteristic: Pylons



Plate: 78
Location: Irwell
Characteristic: Sewage works

55 / 2 Woodland Cloughs**Background**

<i>Context</i>	South facing slope overlooking Manchester conurbation
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Natural factors

<i>Solid geology</i>	Alternating bands of sandstone and undivided sedimentary rock
<i>Drift geology</i>	Southern part of site composed of glacial fluvial deposits
	Northern part contains both glacial fluvial deposits and till
<i>Landform</i>	Altitude range between 70m and 110m above sea level
	South-facing slope with distinctive clough profile along face
<i>Drainage</i>	Several brooks along slope draining into River Irwell below
<i>Ecological sites</i>	Incised clough areas part of wildlife corridor
	Great Crested Newt site located in north corner of site
	Local Nature Reserve designation in central area along motorway
	Several cloughs designated Sites of Biological Importance
<i>Woodland cover</i>	Largest concentration of woodland within Borough
	Woodland forms part of Red Rose Community Forest
	Semi-natural woodland cloughs designated Ancient Woodland sites
	Plantation woodland dominating landscape around M60 motorway
	Base of slope in southern area mostly plantation woodland
	Broad-leaved woodland blocks scattered in central & southern areas
<i>Groundcover</i>	Amenity grassland at highest points along top of slope
	Northern area predominately cultivated arable & improved grassland
	Pockets of bracken located along base of slope between cloughs

Cultural and social factors

<i>Agricultural land quality</i>	Wide variation in agricultural land classification
	Grade 3 in north, grade 4 in central area and urban soils in south
<i>Infrastructure</i>	M60 motorway crosses south facing slope in northern corner
	Contains recreational paths and tracks in between cloughs
	Pylons & overhead power lines located along Bradley Brook Clough
<i>Settlement</i>	Sparse distribution of buildings within area
<i>Heritage</i>	Cluster of sites of historical value around Stand and Philips Park
<i>Boundaries</i>	Sparse distribution of hedgerows located between woodland cloughs
<i>Field patterns</i>	Defined fields located in between cloughs
<i>Time depth 1848</i>	Railway along base of slope with cloughs and agricultural land above
<i>Time depth 1910</i>	New land uses include lunatic asylum, bleach works and golf courses
<i>Time depth 1953 / 1967</i>	More golf courses located at the top end of the slope
	Creation of Philips Park with well-defined tree avenue

Landscape description

The last landscape character area in Bury is located south east of Prestwich and comprises of a large south facing slope with a series of ancient cloughs containing the largest concentration of woodland cover within the borough. These woodlands form part of the Red Rose Community Forest.

The bedrock on this south facing slope consists of bands of different sandstone types and some undivided sedimentary rock. The bedrock is covered by glacial fluvial deposits (sand) at the southern end and a mix of till and glacial fluvial deposits in the centre and upper parts. The slope has an altitude range between 70m and 110m above sea level intersected by distinctive woodland cloughs throughout. The cloughs consist of small incised ravines which form part of the wildlife corridor within the local area. The ecological status of the area is diverse with a selection of small Sites of Biological Importance as well as a Great Crested Newt site and Local Nature Reserve.

The woodland composition is a mix of Ancient Woodland sites along the clough which primarily consist of semi natural woodland with plantation woodland along the M60 motorway. There are also several broadleaved woodland blocks scattered in the centre and in the south.

The baseline groundcover data shows a diverse composition across the area with amenity grassland on the highest points along the top of the slope, cultivated arable land and improved grassland in the north and pockets of bracken located along the base of the slope between the cloughs.

Agricultural land data also show a wide range with the best quality land located in the north (grade 3) grade 4 in the centre and urban soils found in the south.

The cloughs are intersected by the M60 motorway which crosses in the north. The central and southern are dominated by recreational paths and tracks which can be found along the ridges between the cloughs. Pylons and overhead power lines also intersect Bradley Brook clough in the north.

The clough landscape is also characterised by a sparse distribution of buildings although there are a cluster of sites around the Stand and Philips Park area which are of historic value.

The spaces between the woodland cloughs contain a well defined field structure although the distribution of hedgerows as a field boundary are sparse.

Time depth information show several changes which have occurred over the years. Some of these changes have taken advantage of the areas hidden and isolated nature. The most significant came around 1848 with the creation of the railway which ran between Bury, Bolton and Manchester located along the base of the slope. By 1910 new land uses were introduced, these include a lunatic asylum, bleach works and golf courses along the top of the slope. By 1967 more golf courses were added as well as the creation of Philips Park including a planted avenue of beech trees which have become a prominent feature within the woodland.



Plate: 79
Location: Prestwich
Characteristic: Golf courses



Plate: 80
Location: Prestwich
Characteristic: South-facing slope



Plate: 81
Location: Prestwich
Characteristic: View of old railway bridge



Plate: 82
Location: Prestwich
Characteristic: Woodland clough



Plate: 83
Location: Prestwich
Characteristic: Extensive woodland area



Plate: 84
Location: Prestwich
Characteristic: Network of recreational paths

4. GUIDING PRINCIPLES

36 / 1 ***Moorland Hill***

36 / 2 ***Moorland Fringe***

36 / 3 ***River Valley***

36 / 4 Pennine Industrial Brooks

guiding principles

ecological sites:

- consolidate and strengthen wildlife links and corridors
- any new development should retain all existing ecological and wildlife features and also contribute to the ecological and habitat value of the area through the proposed design, landscape arrangements, siting of development proposals and mitigation works
- do not permit development which would adversely affect ecology and habitats within the area
- the development of redundant reservoirs as Sites of Biological Importance should be considered

woodland cover:

- protect ancient woodlands from grazing
- support the retention of woods and hedgerows within the area and encourage natural regeneration
- control invasive species including Japanese knotweed and Himalayan balsam
- encourage and promote woodland management schemes with farmers and landowners
- promote the extension of broadleaved woodland on former ancient woodland sites
- planting should reflect the species composition of local native woodlands

land use:

- maintain and enhance pastures to benefit flora and bird interest

boundaries:

- replace post and rail fence with species rich hedgerows in order to strengthen wildlife links and corridors

historic:

- the preservation of buildings and other industrial heritage is a key issue for the character of the area
- industrial heritage features relating to the series of old bleach works and printing works along Kirklees Brook to be retained where possible
- industrial heritage features relating to the series of cotton mills, printing, bleaching and dye works scattered along Holcombe Brook to be retained where possible

urban development:

- any permitted new development should be assimilated where they would respect the linearity of the urban form and any existing gaps between settlements / towns
- the wooded backdrop of the valley towns should be maintained

36 / 5 Pennine Settled Valley Pasture

guiding principles

ecological sites:

- protect and manage ecological sites north of Hawkshaw
- provide habitat that would benefit farmland birds

woodland cover:

- maintain sparse woodland cover throughout area in order to maintain open character of landscape

land use:

- maintain and enhance pastures to benefit flora and bird interest
- maintain a system of low intensity grazing regimes to achieve nature conservation objectives
- maintain and improve extensive rights of way network

boundaries:

- repair and maintain network of hedgerows and pockets of dry stone walls

urban development:

- any permitted new development should be assimilated where they would respect the nature of the open valley
- the rural context and gaps between settlements must be maintained
- views of the surrounding countryside especially Holcombe Hill should be maintained
- special attention should be made to the massing and scale of proposed buildings and materials used as these can be seen extensively from the hills above
- the wooded backdrop of Holcombe and Kirklees Brook should be maintained
- any large scale warehouse developments should not be avoided when possible as it would be unsympathetic to the open character of the valley

54 / 1 *Fringe Industrial Brooks*

guiding principles

ecological sites:

- consolidate and strengthen wildlife links and corridors in all fringe industrial brook areas
- the development of redundant reservoirs as Sites of Biological Importance should be considered

woodland cover:

- continued landscape enhancement of broad leaved woodland at Pigs Lee Brook, Elton Brook and Hollins and Parr Brook through woodland planting and management
- continued landscape enhancement of plantation woodland at Elton Brook through woodland planting and management
- promote the introduction of broad leaved woodland and plantation woodland along Walshaw Brook
- manage and restore areas of unimproved grassland at Pilsworth

land use:

- appropriate treatment of disused sandstone quarries in upper parts of Pigs Lee Brook and Hollins and Parr Brook areas
- promote recreation links between brook area and surrounding residential areas

boundaries:

- prevent boundary loss and fragmentation around urban fringes
- repair and maintain network of hedgerows at Walshaw Brook and Pigs Lee Brook
- promote the introduction of species rich hedgerows along Elton Brook and Parr Brook

historic:

- the preservation of buildings and other industrial heritage is a key issue for the character of the area
- industrial heritage features relating to cotton mills at Pigs Lee Brook to be retained where possible
- industrial heritage features relating to old print works at Hollins and Parr Brook to be retained where possible
- industrial heritage features relating to the bleach work buildings at Elton & Walshaw Brook to be retained where possible

54 / 2 *Fringe Settled Valley Pasture*

guiding principles

ecological sites:

- consolidate and strengthen wildlife links and corridors in all fringe settled valley pasture areas
- provide habitat that would benefit farmland birds
- protect and manage protected species sites against any proposed urban development within area
- protect and manage Great Crested Newt site at Castle, Whittle & Brightley area against any proposed urban development within area
- the development of existing ponds at Castle, Whittle & Brightley area as Sites of Biological Importance should be considered

woodland cover:

- continued landscape enhancement of plantation woodland at Jericho and along motorway at Castle, Whittle & Brightley areas through woodland planting and management
- continued landscape enhancement of broad leaved and semi natural woodland at Jericho through woodland planting and management

land use:

- promote good agricultural practices within area in order to maintain grade 3 agricultural land quality classification
- manage pastures for the benefit of ground nesting birds
- prevent the progression of woodland into farmland areas
- promote recreation links between existing amenity areas to surrounding urban areas
- appropriate treatment of sandstone pits at Jericho and small sand pits within Castle, Whittle & Brightley area

boundaries:

- prevent boundary loss and fragmentation around urban fringes in all fringe settled valley pasture areas
- repair and maintain network of hedgerows in all fringe settled valley pasture areas

urban development:

- promote sympathetic conversion of redundant farm buildings for alternative uses on the edge of urban areas

54 / 3 *West Pennine Foothills*

guiding principles

ecological sites:

- the development of existing ponds as Sites of Biological Importance should be considered
- protect and manage Great Crested Newt sites at Affetside and Ainsworth against any proposed urban development within area
- consolidate and strengthen wildlife links and corridors within Ainsworth area
- improve habitat that would benefit farmland birds

woodland cover:

- continued landscape enhancement of distinctive coniferous woodland blocks on both foothills through woodland planting and management

boundaries:

- prevent boundary loss and fragmentation around urban fringes
- maintain and extend network of hedgerows on lower levels of foothill at both Affetside and Ainsworth
- maintain and extend network of dry stone walls on upper levels at Affetside
- promote the introduction of dry stone walls on upper levels at Ainsworth
- conserve and manage field boundary trees in agricultural areas

land use:

- promote recreation links between settled valley pasture and surrounding residential areas
- appropriate treatment of disused sandstone quarries and coal pits in both areas

urban development:

- promote sympathetic conversion of redundant farm buildings for alternative uses on the edge of urban areas
- retain views of Ainsworth and Affetside hill top settlements especially landmark church spires throughout area

54 / 4 *Parkland Estate*

guiding principles

ecological sites:

- protection and management of Chesham Woods Local Nature Reserve to be maintained

woodland cover:

- continued landscape enhancement of plantation, broad leaved and semi natural woodland within area through woodland planting and management
- maintain and enhance old line of beech trees along Chesham Road
- manage existing ornamental trees around former Chesham House area
- control invasive species especially Japanese knotweed
- protect existing woodlands from grazing

land use:

- prevent the progression of woodland into farmland areas
- promote recreation links between parkland / Local Nature Reserve and surrounding residential areas
- maintain well defined field parcels in upper parts of slope

boundaries:

- maintain dry stone walls around woodland area
- repair and improve hedgerows occupying upper end of slope
- prevent boundary loss and fragmentation around urban fringes

54 / 5 *Canal and River Corridor*

guiding principles

heritage:

- retain industrial heritage features along the Manchester, Bolton and Bury Canal where possible

ecology:

- consolidate and strengthen wildlife links and corridors
- the development of redundant reservoirs as sites of biological importance or recreational facilities should be considered
- management and restoration of areas of unimproved grassland and rough grazing
- improve range of species within existing hedgerows
- restrict amenity grassland to central areas with remaining grassland areas along river to be set aside for wildlife
- the protection and management of ecological sites found within the area is to be maintained

boundaries:

- control and remove extensive stretches of Japanese Knotweed and other non native / invasive species along all water margins
- prevent boundary loss and fragmentation around urban fringes
- replace existing post and wire hedges with species rich hedgerows where possible

land use:

- promote recreation links between industrial river corridor and surrounding residential areas
- manage and improve access to national cycle path in order to produce a wider spread of recreational activity in peripheral green areas
- resist development pressure especially around margins and along main roads
- improve access between existing public transport network especially between Metrolink stations and main recreational areas

trees:

- continue landscape enhancement through woodland planting and management
- retain and manage the boundary trees and wall around Radcliffe Cemetery as an important formal and imposing landscape feature within the Elton area

agriculture:

- provide habitat that would benefit farmland birds
- manage pastures for the benefit of ground nesting birds

54 / 6 *Encapsulated Flood Plains*

guiding principles

heritage:

- retain any remaining industrial heritage features especially those which relate to bleach works along river
- retain views to Radcliffe Tower where possible
- improve relationship between Radcliffe Tower and the surrounding urban environment via the retention of views and by improving accessibility

land use:

- promote recreation links between encapsulated flood plains and surrounding residential areas
- resist development pressure especially around margins and along main roads
- improve access and crossing points along river in order to produce a wider spread of recreational activity within the area
- restrict amenity grassland to central areas with remaining grassland areas along river to be set aside for wildlife

trees:

- promote tree planting along riverside with species appropriate to river flood plains
- extend tree cover within Gigg area where possible

ecology:

- consolidate and strengthen wildlife links and corridors

boundaries:

- control and remove extensive stretches of Japanese Knotweed and other non native / invasive species along riverbank
- prevent boundary loss and fragmentation around urban fringes
- retain and manage the boundary trees and wall around Bury Cemetery as an important formal and imposing landscape feature within Gigg area

55 / 7 *Post Industrial Landform*

guiding principles

heritage:

- retain where possible non listed farm buildings of historic interest

land use:

- prevent the progression of woodland into farmland / rough grassland areas

groundcover:

- management and restoration of areas of unimproved grassland and rough grazing

trees:

- protect existing woodlands from grazing
- maintain view points from site into surrounding landscape
- manage deciduous woodland planting
- manage willow coppice
- continue landscape enhancement through woodland planting and management

ecology:

- manage restored pasture
- manage restored heathland area
- manage wildflower meadows

boundaries:

- manage and improve existing hedgerows
- replace existing post and wire hedges with species rich hedgerows where possible

55 / 1 *Industrial Flood Plain*

guiding principles

heritage:

- maintain views of Clifton viaduct where possible

agriculture:

- provide habitat that would benefit farmland birds
- manage pastures for the benefit of ground nesting birds
- promote appropriate management of semi-improved meadows and pastures

boundaries:

- prevent boundary loss and fragmentation around urban fringes
- control and remove extensive stretches of Japanese Knotweed and other non native / invasive species along riverbank

heritage:

- preserve buildings and other industrial relics related to the Manchester, Bolton and Bury Canal

ecology:

- manage and improve riverside planting along Irwell Sculpture Trail
- consolidate and strengthen wildlife links and corridor
- manage semi-improved meadows and pastures
- the protection and management of ecological sites found within the area are to be maintained

trees:

- conserve and manage field boundaries and trees in agricultural areas

land use:

- promote recreation links between the River Irwell / Manchester Bolton and Bury canal and surrounding residential areas
- manage and control recreational pressures
- any proposed recreation infrastructure should not impinge on the secluded nature of the area
- retain existing rural tracks and resist highway improvements except where they are required for essential safety reasons

55 / 2 *Woodland Cloughs*

guiding principles

ecological sites:

- consolidate and strengthen wildlife links and corridors
- the protection and management of ecological sites found within the area are to be maintained
- improve range of species within existing hedgerows

groundcover:

- manage distinctive bands of continuous bracken within woodland cloughs

land use:

- prevent the progression of woodland into farmland areas
- promote recreation links between woodland cloughs and surrounding residential areas
- resist development pressure especially around margins and along main roads
- restrict amenity grassland to upper slopes with remaining grassland to be set aside for wildlife
- manage and control recreational pressures
- any proposed recreation infrastructure should not impinge on the secluded nature of the area
- retain existing rural tracks and resist highway improvements except where they are required for essential safety reasons

river:

- improve and prevent deterioration of water quality
- maintain the panoramic views across the river valley from the motorway

boundaries:

- improve hedgerow distribution and species mix along field boundaries between cloughs on upper slope
- the management of tree avenues as an important landscape features at Philips Park is to be maintained

woodland cover:

- protect ancient woodlands from grazing
- management of existing mix of woodlands as part of Red Rose Forest to be maintained
- promote the planting of suitable native trees within woodland clough areas

agriculture:

- maintain good agricultural practices on existing farmland especially in areas classified as Grade 2

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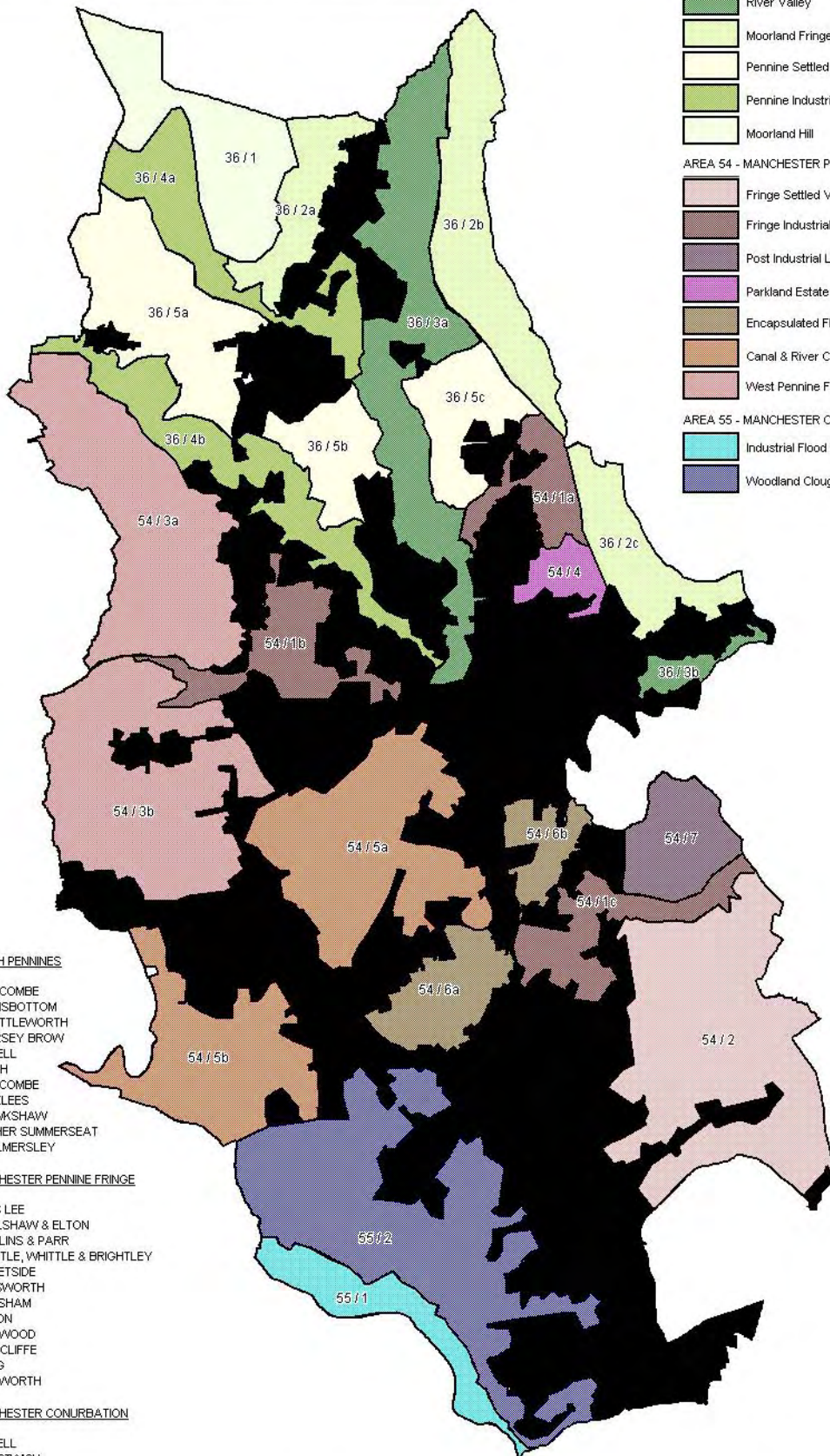


figure 4 - ADMINISTRATIVE WARDS



figure 5 - LANDSCAPE CHARACTER TYPES

- KEY**
- AREA 36 - SOUTH PENNINES**
- River Valley
 - Moorland Fringe
 - Pennine Settled Valley Pasture
 - Pennine Industrial Brook
 - Moorland Hill
- AREA 54 - MANCHESTER PENNINE FRINGE**
- Fringe Settled Valley Pasture
 - Fringe Industrial Brook
 - Post Industrial Landform
 - Parkland Estate
 - Encapsulated Flood Plain
 - Canal & River Corridor
 - West Pennine Foothill
- AREA 55 - MANCHESTER CONURBATION**
- Industrial Flood Plain
 - Woodland Cloughs



AREA 36 - SOUTH PENNINES

- 36 / 1 HOLCOMBE
- 36 / 2a RAMSBOTTOM
- 36 / 2b SHUTTLEWORTH
- 36 / 2c GORSEY BROW
- 36 / 3a IRWELL
- 36 / 3b ROCH
- 36 / 4a HOLCOMBE
- 36 / 4b KIRKLEES
- 36 / 5a HAWKSHAW
- 36 / 5b HIGHER SUMMERSEAT
- 36 / 5c WALMERSLEY

AREA 54 - MANCHESTER PENNINE FRINGE

- 54 / 1a PIGS LEE
- 54 / 1b WALSHAW & ELTON
- 54 / 1c HOLLINS & PARR
- 54 / 2 CASTLE, WHITTLE & BRIGHTLEY
- 54 / 3a AFFETSIDE
- 54 / 3b AINSWORTH
- 54 / 4 CHESHAM
- 54 / 5a ELTON
- 54 / 5b OUTWOOD
- 54 / 6a RADCLIFFE
- 54 / 6b GIGG
- 54 / 7 PILSWORTH













AREA 55 - MANCHESTER CONURBATION

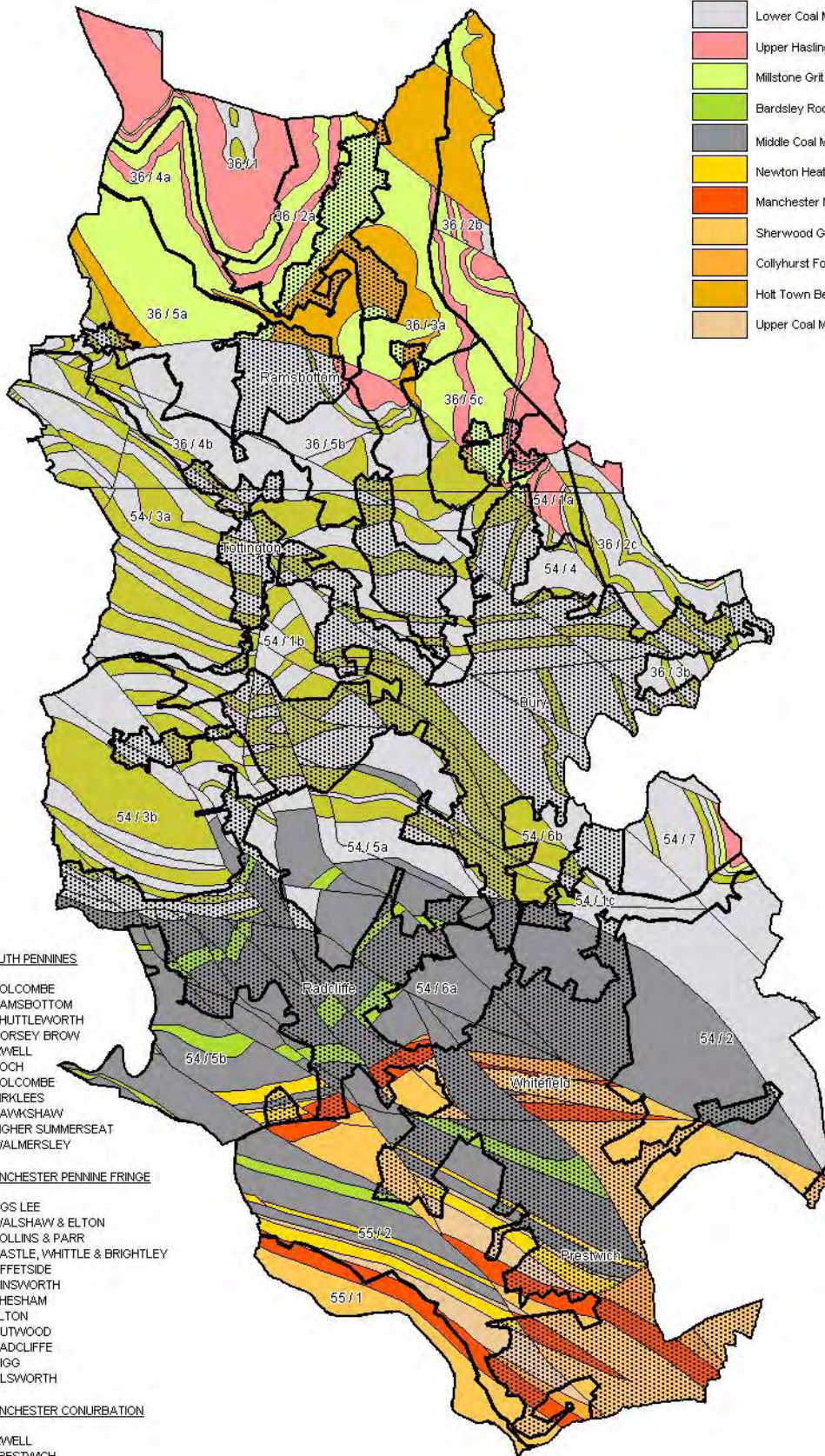
- 55 / 1 IRWELL
- 55 / 2 PRESTWICH



figure 6 - SOLID GEOLOGY

KEY

-  Old Lawrence Rock - sandstone
-  Lower Coal Measures Formation - undivided sedimentary rock
-  Upper Haslingden Flags - sandstone
-  Millstone Grit Group - mudstone and siltstone
-  Bardsley Rock - sandstone
-  Middle Coal Measures Formation - undivided sedimentary rocks
-  Newton Heath - sandstone
-  Manchester Marls Formation - mudstone
-  Sherwood Group - sandstone
-  Collyhurst Formation - sandstone
-  Holt Town Bed - sandstone
-  Upper Coal Measures Formation - undivided sedimentary rocks



AREA 36 - SOUTH PENNINES

- 36 / 1 HOLCOMBE
- 36 / 2a RAMSBOTTOM
- 36 / 2b SHUTTLEWORTH
- 36 / 2c GORSEY BROW
- 36 / 3a IRWELL
- 36 / 3b ROCH
- 36 / 4a HOLCOMBE
- 36 / 4b KIRKLEES
- 36 / 5a HAWKSHAW
- 36 / 5b HIGHER SUMMERSEAT
- 36 / 5c WALMERSLEY

AREA 54 - MANCHESTER PENNINE FRINGE

- 54 / 1a PIGS LEE
- 54 / 1b WALSHAW & ELTON
- 54 / 1c HOLLINS & PARR
- 54 / 2 CASTLE, WHITTLE & BRIGHTLEY
- 54 / 3a AFFETTSIDE
- 54 / 3b AINSWORTH
- 54 / 4 CHESHAM
- 54 / 5a ELTON
- 54 / 5b OUTWOOD
- 54 / 6a RADCLIFFE
- 54 / 6b GIGG
- 54 / 7 PILSWORTH

AREA 55 - MANCHESTER CONURBATION

- 55 / 1 IRWELL
- 55 / 2 PRESTWICH

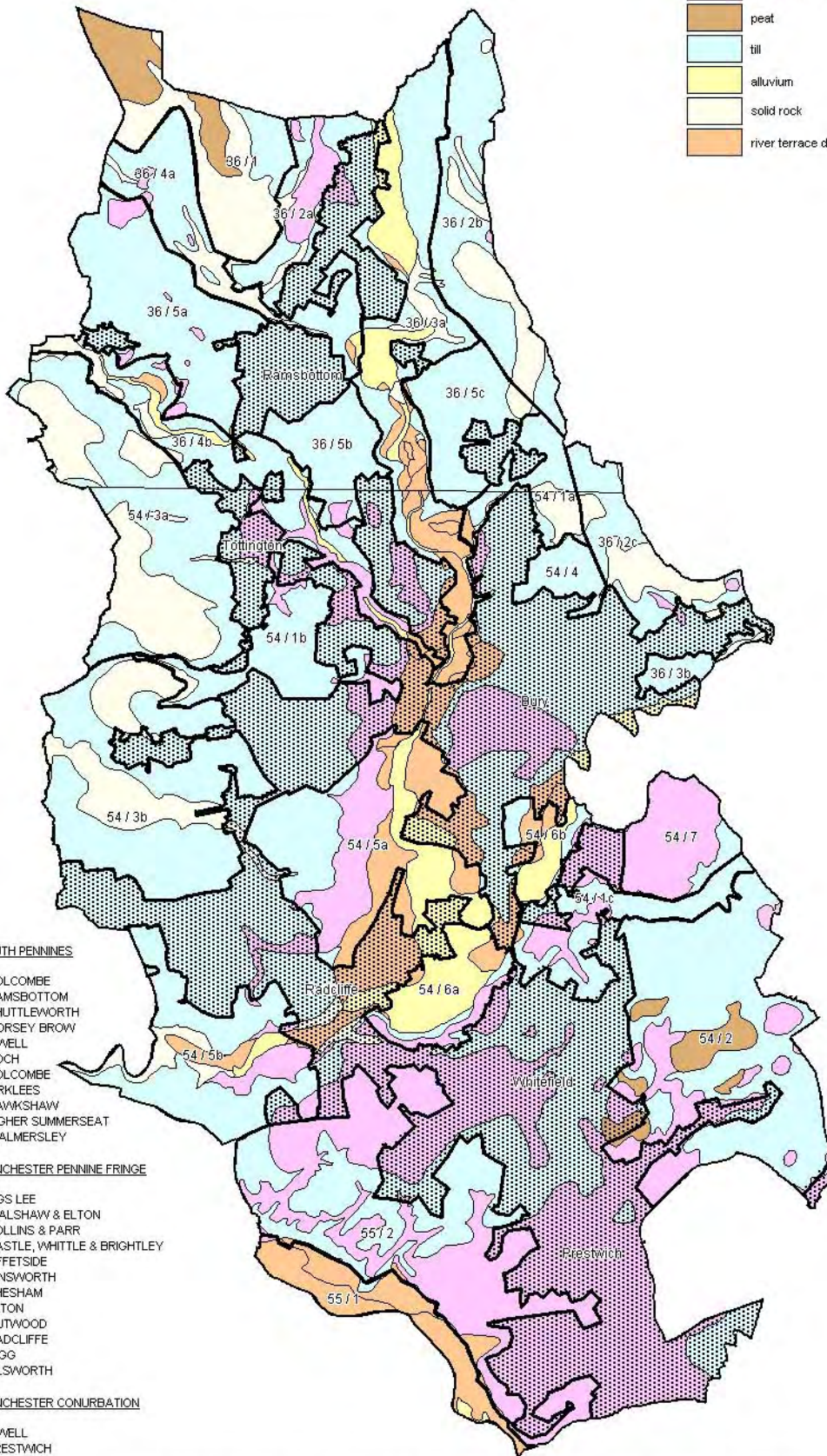
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figure 7 - DRIFT GEOLOGY



AREA 36 - SOUTH PENNINES

- 36 / 1 HOLCOMBE
- 36 / 2a RAMSBOTTOM
- 36 / 2b SHUTTLEWORTH
- 36 / 2c GORSEY BROW
- 36 / 3a IRWELL
- 36 / 3b ROCH
- 36 / 4a HOLCOMBE
- 36 / 4b KIRKLEES
- 36 / 5a HAWKSHAW
- 36 / 5b HIGHER SUMMERSEAT
- 36 / 5c WALMERSLEY

AREA 54 - MANCHESTER PENNINE FRINGE

- 54 / 1a PIGS LEE
- 54 / 1b WALSHAW & ELTON
- 54 / 1c HOLLINS & PARR
- 54 / 2 CASTLE, WHITTLE & BRIGHTLEY
- 54 / 3a AFFETTSIDE
- 54 / 3b AINSWORTH
- 54 / 4 CHESHAM
- 54 / 5a ELTON
- 54 / 5b OUTWOOD
- 54 / 6a RADCLIFFE
- 54 / 6b GIGG
- 54 / 7 PILSWORTH

AREA 55 - MANCHESTER CONURBATION

- 55 / 1 IRWELL
- 55 / 2 PRESTWICH

Scale: 1 to 50 000

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figure 8 - LANDFORM

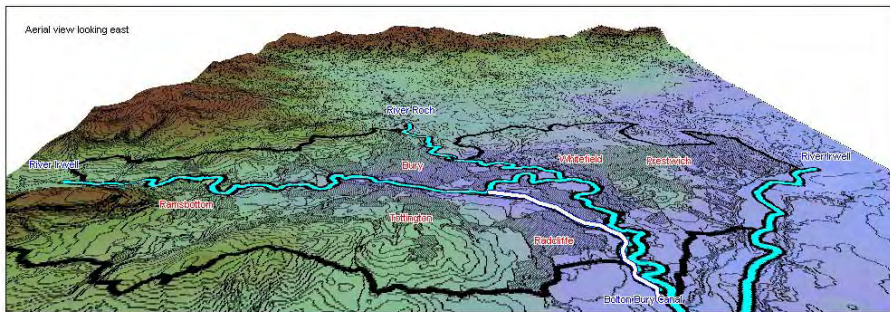
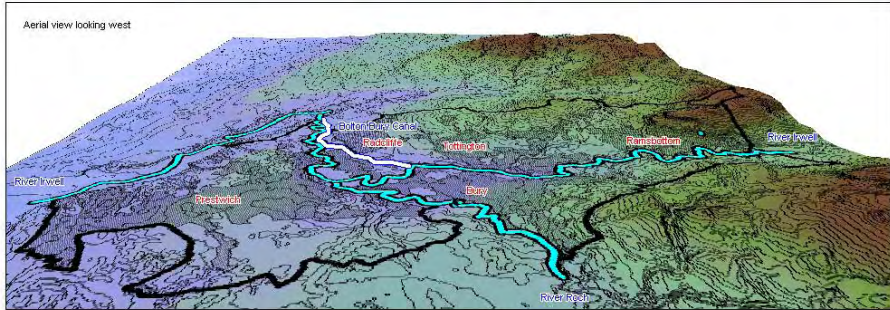
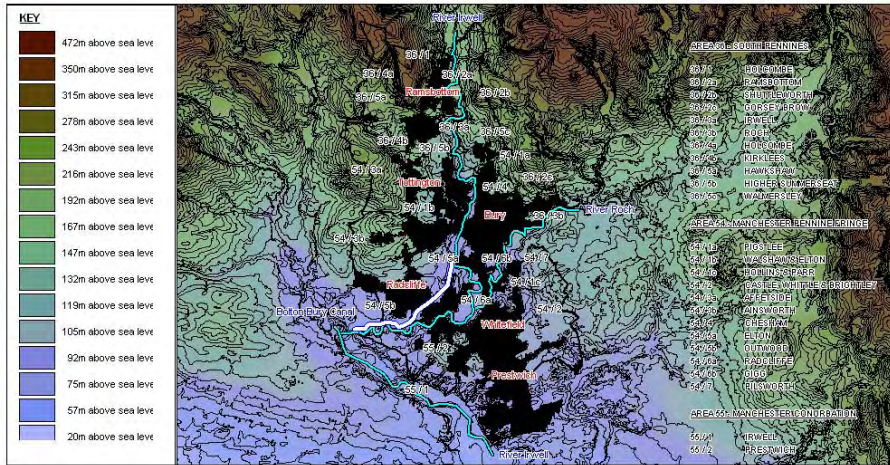


figure 9 - DRAINAGE










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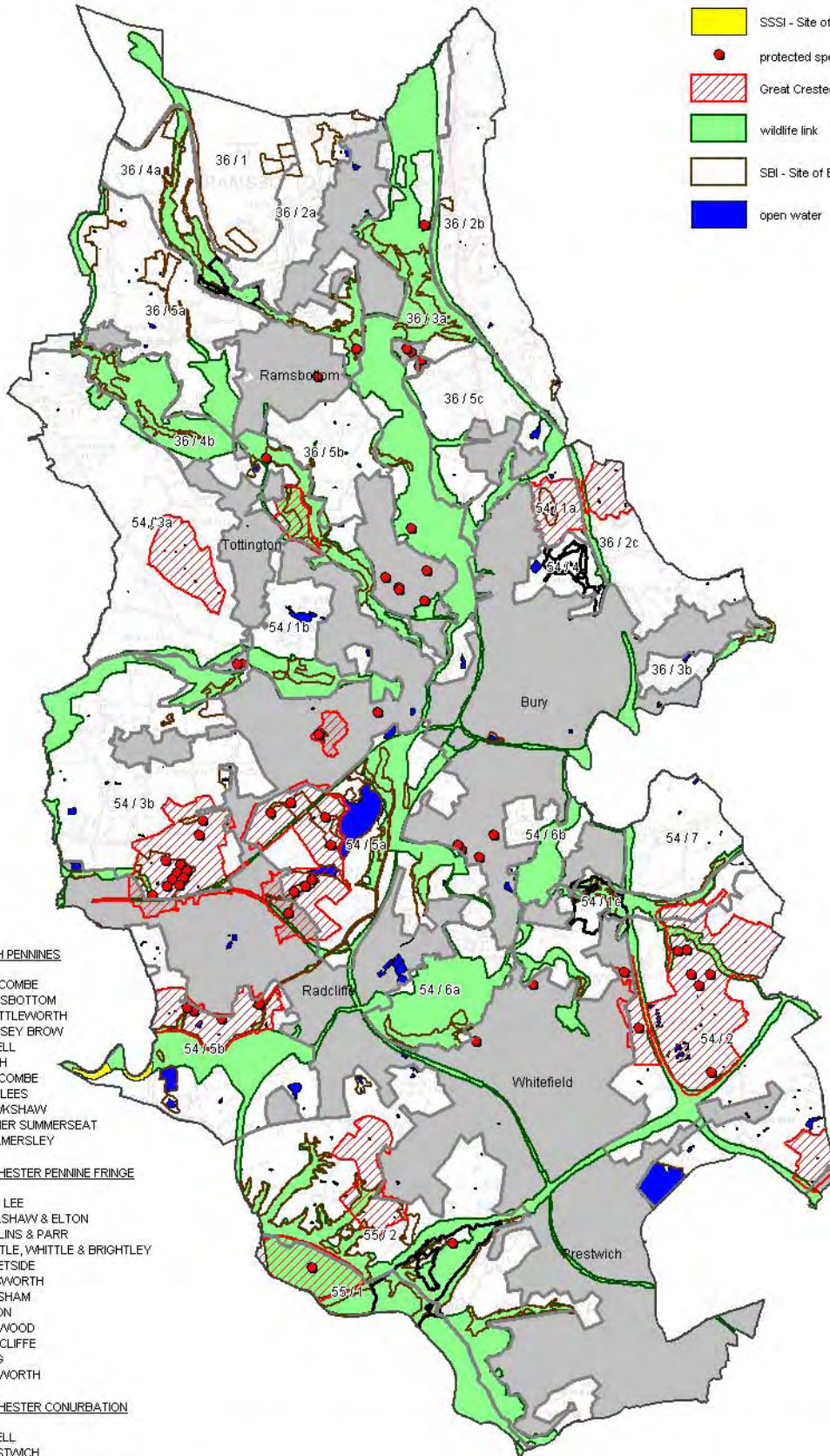
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figure 10 - ECOLOGICAL SITES

- KEY**
-  LNR - Local Nature Reserve
 -  SSSI - Site of Special Scientific Interest
 -  protected species site
 -  Great Crested Newt site
 -  wildlife link
 -  SBI - Site of Biological Importance
 -  open water



AREA 36 - SOUTH PENNINES

- 36 / 1 HOLCOMBE
- 36 / 2a RAMSBOTTOM
- 36 / 2b SHUTTLEWORTH
- 36 / 2c GORSEY BROW
- 36 / 3a IRWELL
- 36 / 3b ROCH
- 36 / 4a HOLCOMBE
- 36 / 4b KIRKLEES
- 36 / 5a HAWKSHAW
- 36 / 5b HIGHER SUMMERSEAT
- 36 / 5c WALMERSLEY

AREA 54 - MANCHESTER PENNINE FRINGE

- 54 / 1a PIGS LEE
- 54 / 1b WALSHAW & ELTON
- 54 / 1c HOLLINS & PARR
- 54 / 2 CASTLE, WHITTLE & BRIGHTLEY
- 54 / 3a AFFETSID
- 54 / 3b AINSWORTH
- 54 / 4 CHESHAM
- 54 / 5a ELTON
- 54 / 5b OUTWOOD
- 54 / 6a RADCLIFFE
- 54 / 6b GIGG
- 54 / 7 PILSWORTH

AREA 55 - MANCHESTER CONURBATION

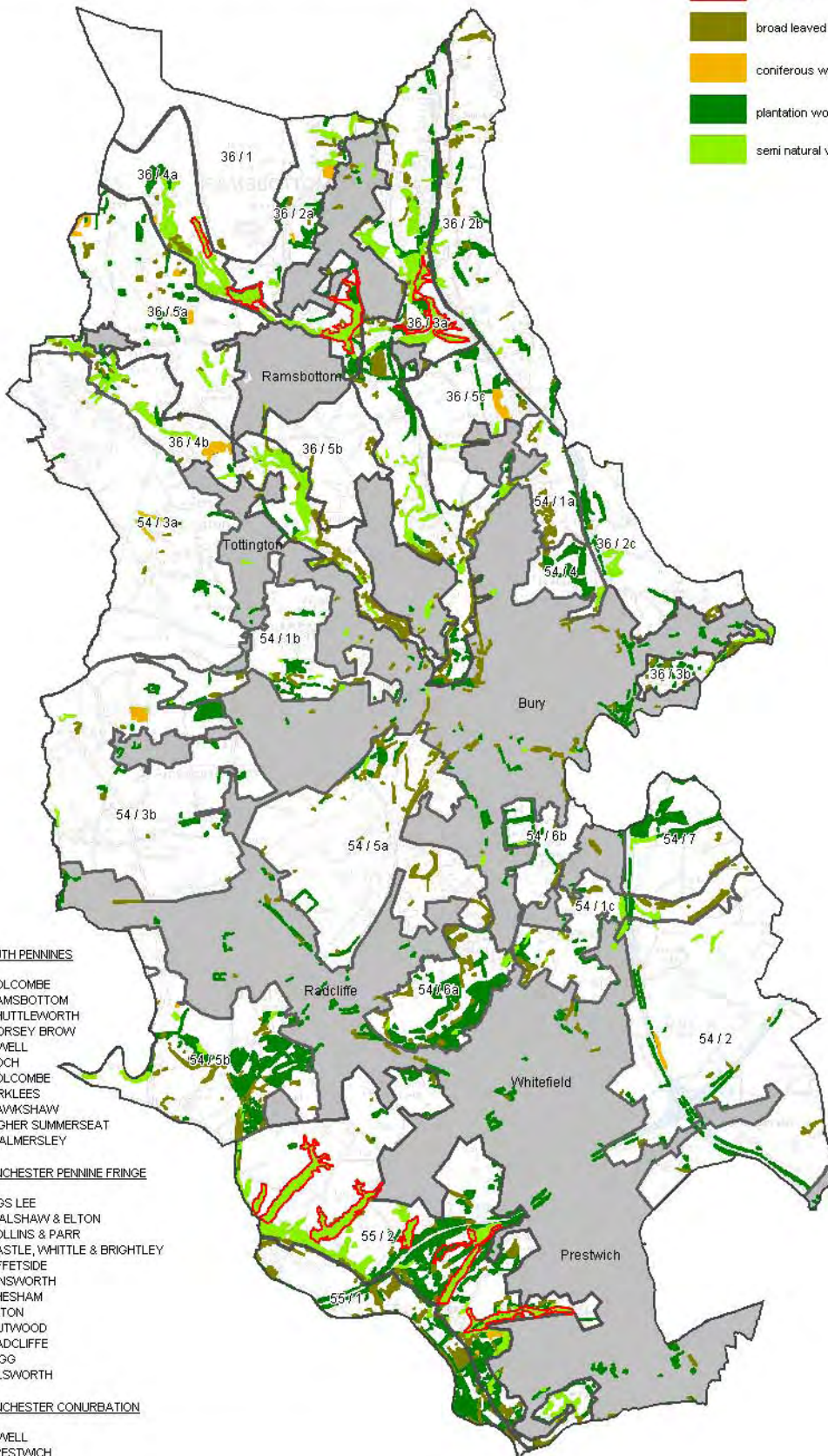
- 55 / 1 IRWELL
- 55 / 2 PRESTWICH

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figure 11 - WOODLAND COVER



AREA 36 - SOUTH PENNINES

- 36 / 1 HOLCOMBE
- 36 / 2a RAMSBOTTOM
- 36 / 2b SHUTTLEWORTH
- 36 / 2c GORSEY BROW
- 36 / 3a IRWELL
- 36 / 3b ROCH
- 36 / 4a HOLCOMBE
- 36 / 4b KIRKLEES
- 36 / 5a HAWKSHAW
- 36 / 5b HIGHER SUMMERSEAT
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- 54 / 6b GIGG
- 54 / 7 PILSWORTH

AREA 55 - MANCHESTER CONURBATION

- 55 / 1 IRWELL
- 55 / 2 PRESTWICH

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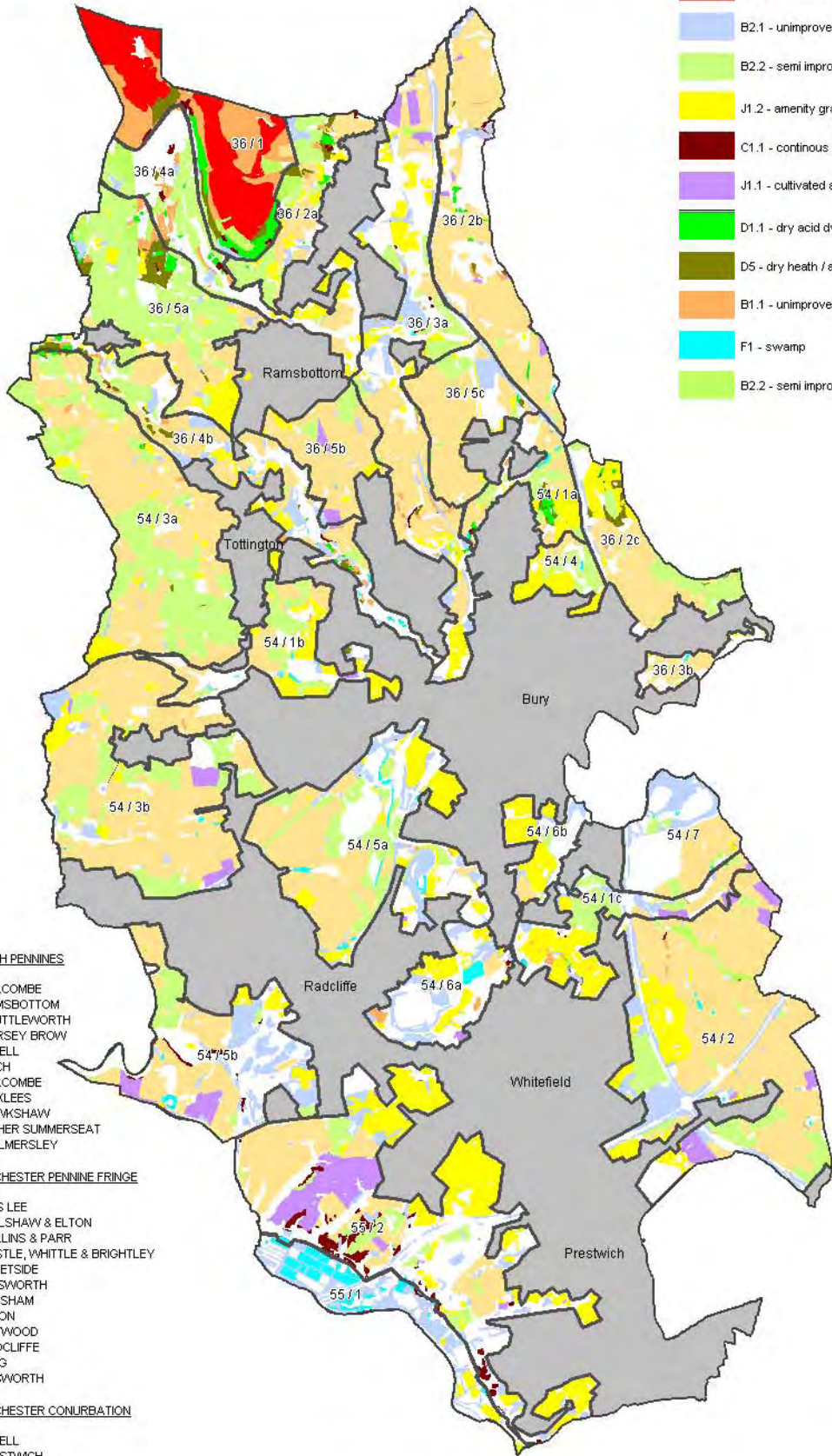
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figure 12 - GROUNDCOVER

- KEY**
- E1.8 - dry modified bog
 - B2.1 - unimproved neutral grassland
 - B2.2 - semi improved neutral grassland
 - J1.2 - amenity grassland
 - C1.1 - continuous bracken
 - J1.1 - cultivated arable land
 - D1.1 - dry acid dwarf shrub heath
 - D5 - dry heath / acid grassland mosaic
 - B1.1 - unimproved acid grassland
 - F1 - swamp
 - B2.2 - semi improved neutral grassland



AREA 36 - SOUTH PENNINES

- 36 / 1 HOLCOMBE
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- 36 / 2b SHUTTLEWORTH
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- 36 / 3a IRWELL
- 36 / 3b ROCH
- 36 / 4a HOLCOMBE
- 36 / 4b KIRKLEES
- 36 / 5a HAWKSHAW
- 36 / 5b HIGHER SUMMERSEAT
- 36 / 5c WALMERSLEY

AREA 54 - MANCHESTER PENNINE FRINGE

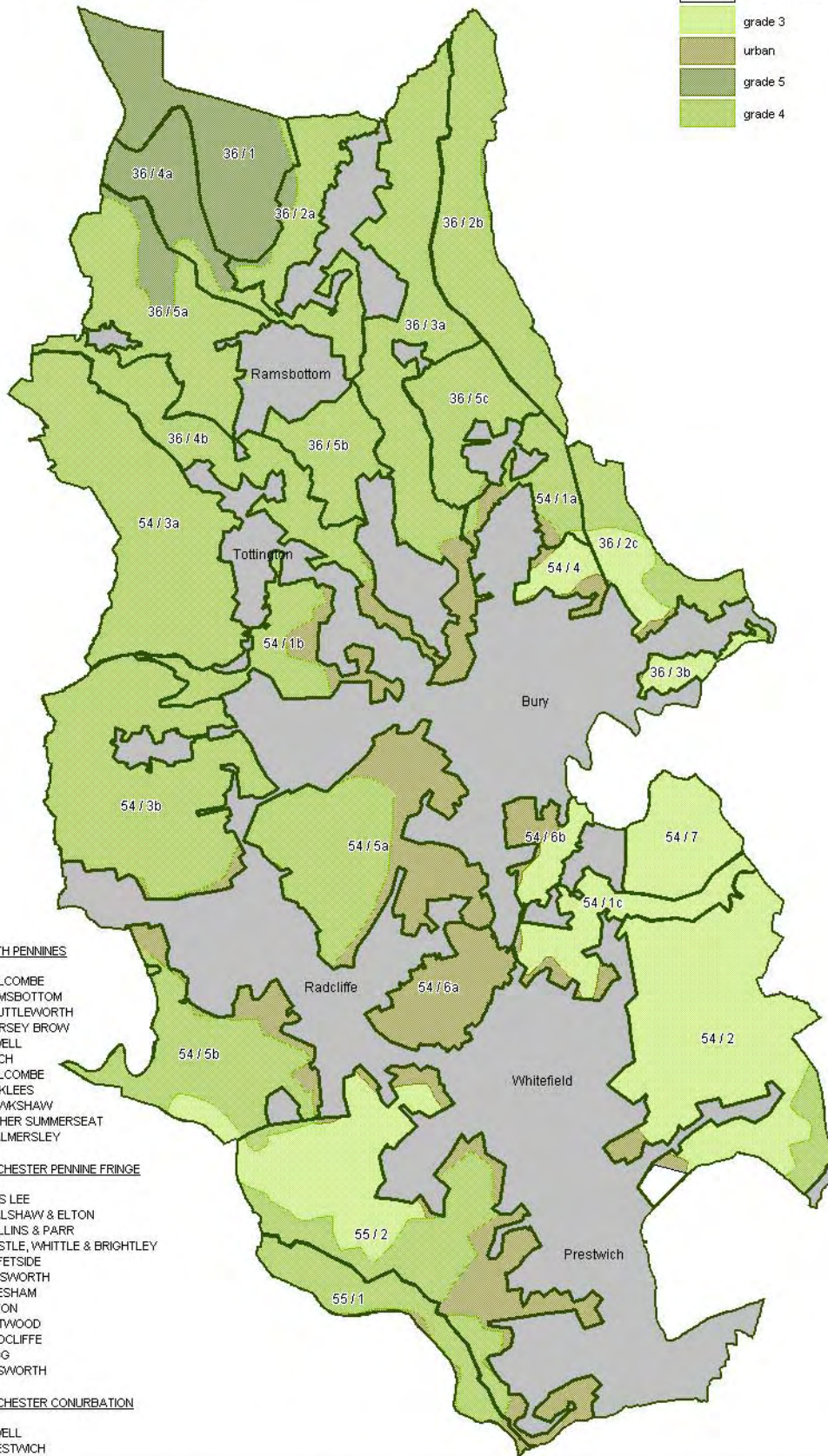
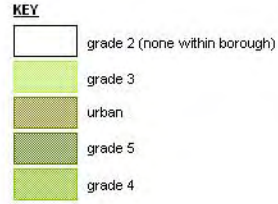
- 54 / 1a PIGS LEE
- 54 / 1b WALSHAW & ELTON
- 54 / 1c HOLLINS & PARR
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- 54 / 5b OUTWOOD
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- 54 / 6b GIGG
- 54 / 7 PILSWORTH

AREA 55 - MANCHESTER CONURBATION

- 55 / 1 IRWELL
- 55 / 2 PRESTWICH

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55/2 PRESTWICH

figure 13 - AGRICULTURAL LAND QUALITY



AREA 36 - SOUTH PENNINES

- 36 / 1 HOLCOMBE
- 36 / 2a RAMSBOTTOM
- 36 / 2b SHUTTLEWORTH
- 36 / 2c GORSEY BROW
- 36 / 3a IRWELL
- 36 / 3b ROCH
- 36 / 4a HOLCOMBE
- 36 / 4b KIRKLEES
- 36 / 5a HAWKSHAW
- 36 / 5b HIGHER SUMMERSEAT
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- 54 / 5b OUTWOOD
- 54 / 6a RADCLIFFE
- 54 / 6b GIGG
- 54 / 7 PILSWORTH

AREA 55 - MANCHESTER CONURBATION

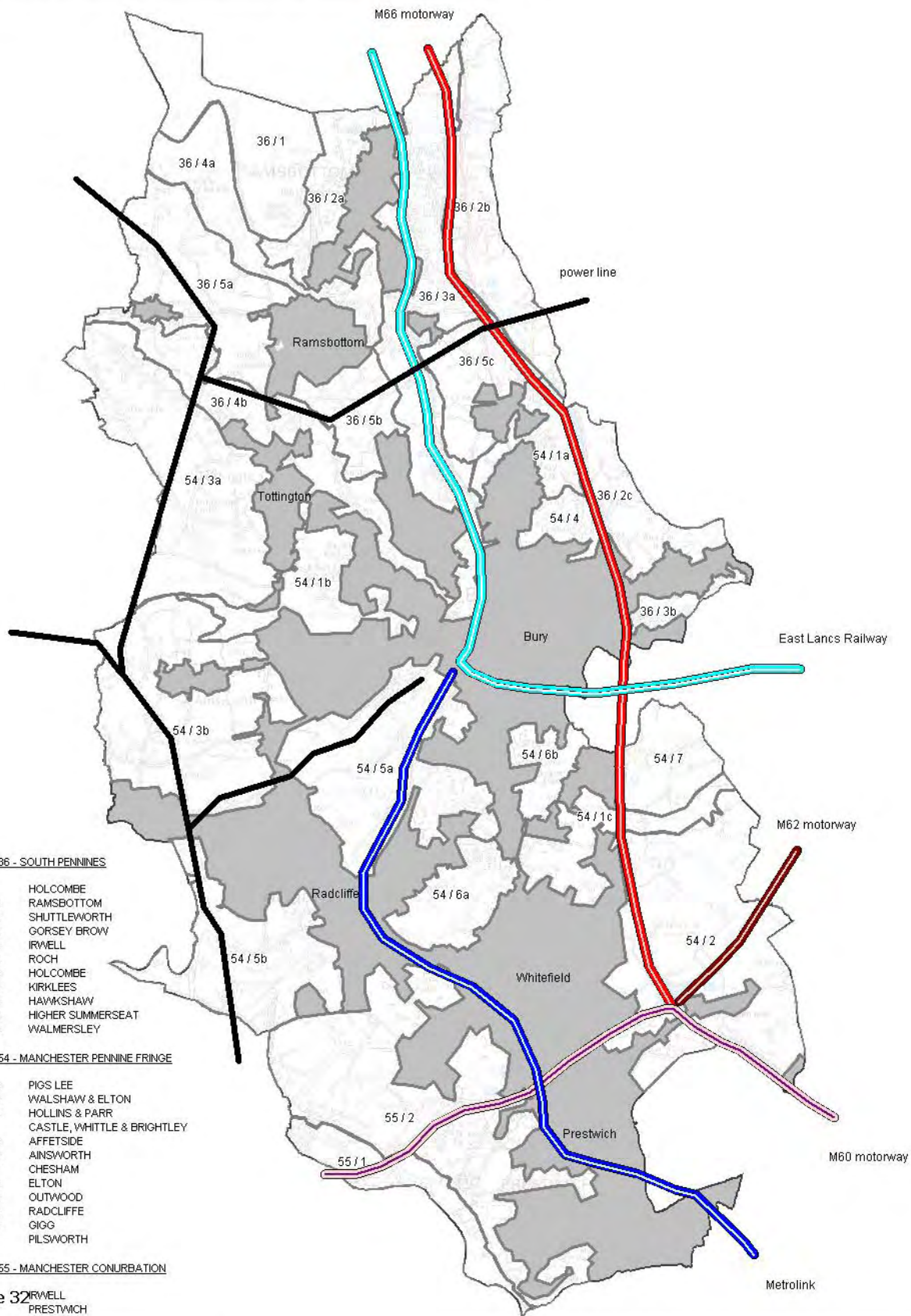
- 55 / 1 IRWELL
- 55 / 2 PRESTWICH

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figure 14 - INFRASTRUCTURE



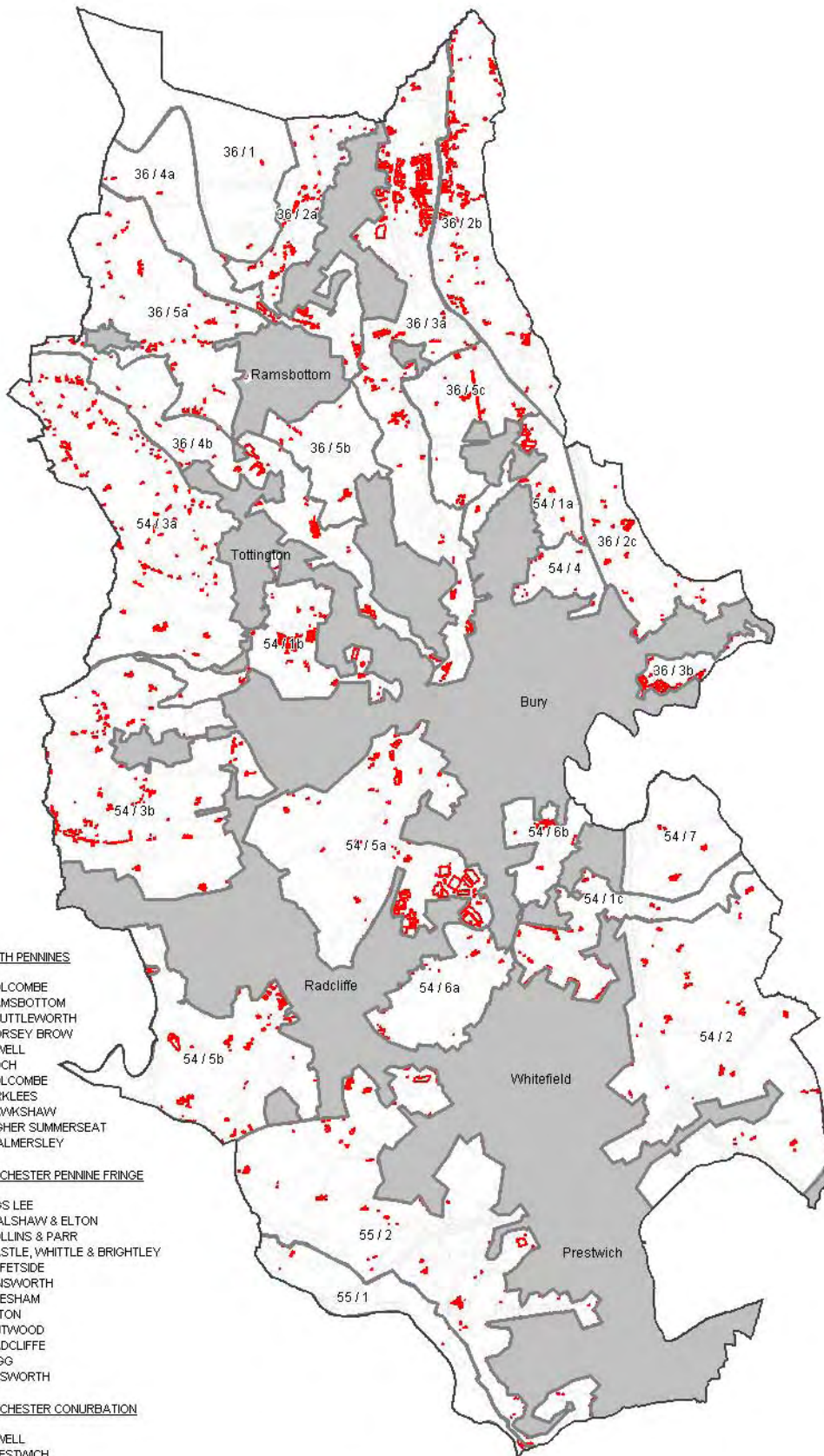
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figure 15 - SETTLEMENT



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PRESTWICH

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1 to 50 000

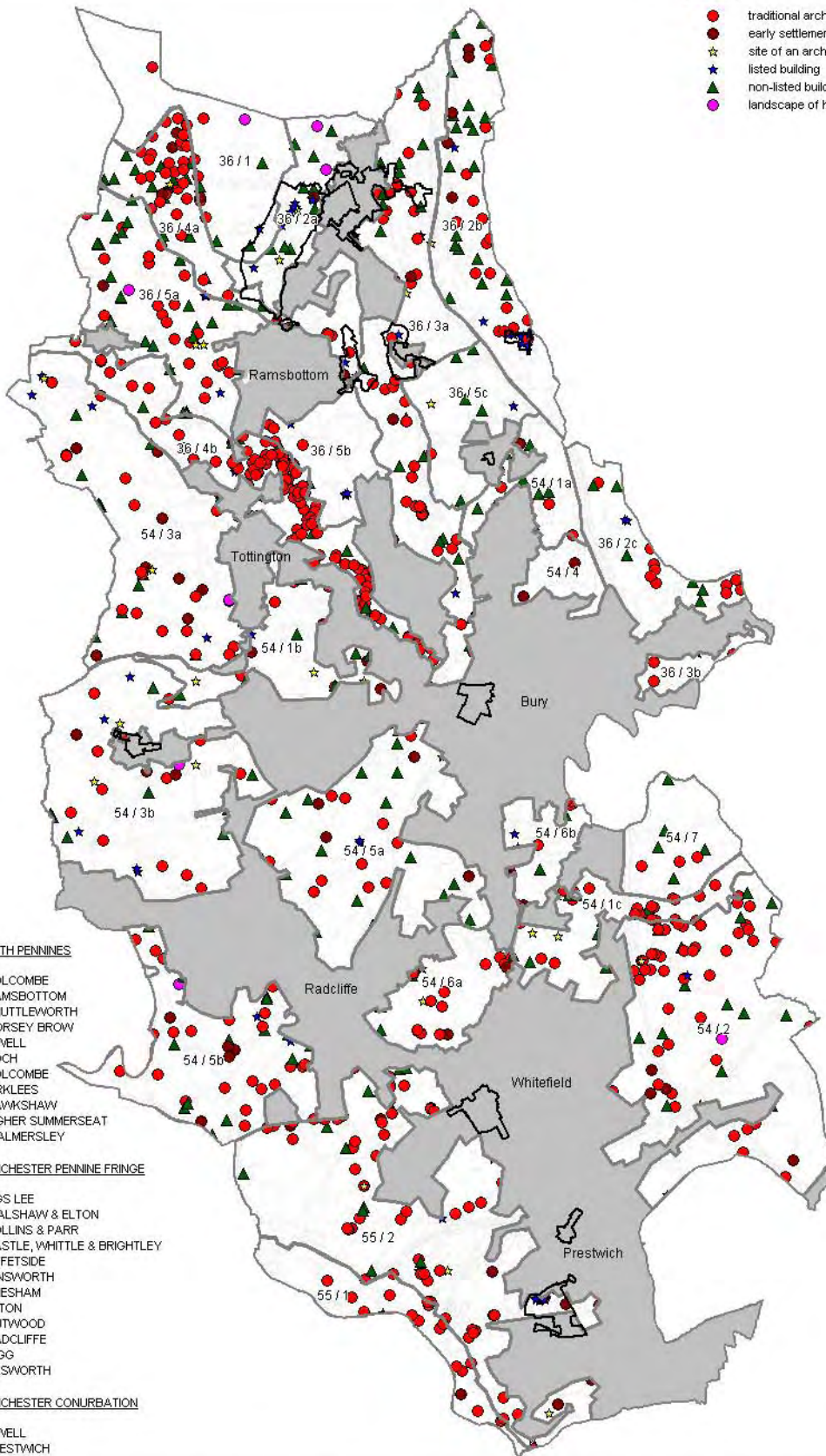
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figure 16 - HERITAGE

KEY

- Conservation Area
- traditional archaeological site
- early settlement site
- ☆ site of an archaeological find
- ★ listed building
- ▲ non-listed building of historic interest
- landscape of historic importance



AREA 36 - SOUTH PENNINES

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- 36 / 3a IRWELL
- 36 / 3b ROCH
- 36 / 3c HOLCOMBE
- 36 / 4a KIRKLEES
- 36 / 4b HAWKSHAW
- 36 / 5a HIGHER SUMMERSEAT
- 36 / 5b WALTERSLEY
- 36 / 5c

AREA 54 - MANCHESTER PENNINE FRINGE

- 54 / 1a PIGS LEE
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- 54 / 1c HOLLINS & PARR
- 54 / 2 CASTLE, WHITTLE & BRIGHTLEY
- 54 / 3a AFFETTSIDE
- 54 / 3b AINSWORTH
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- 54 / 5a ELTON
- 54 / 5b OUTWOOD
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- 54 / 6b GIGG
- 54 / 7 PILSWORTH

AREA 55 - MANCHESTER CONURBATION

- 55 / 1 IRWELL
- 55 / 2 PRESTWICH

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Scale:
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figure 17 - BOUNDARIES

KEY
— dry stone wall
— intact hedgerow (species poor)



AREA 36 - SOUTH PENNINES

- 36 / 1 HOLCOMBE
- 36 / 2a RAMSBOTTOM
- 36 / 2b SHUTTLEWORTH
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AREA 55 - MANCHESTER CONURBATION

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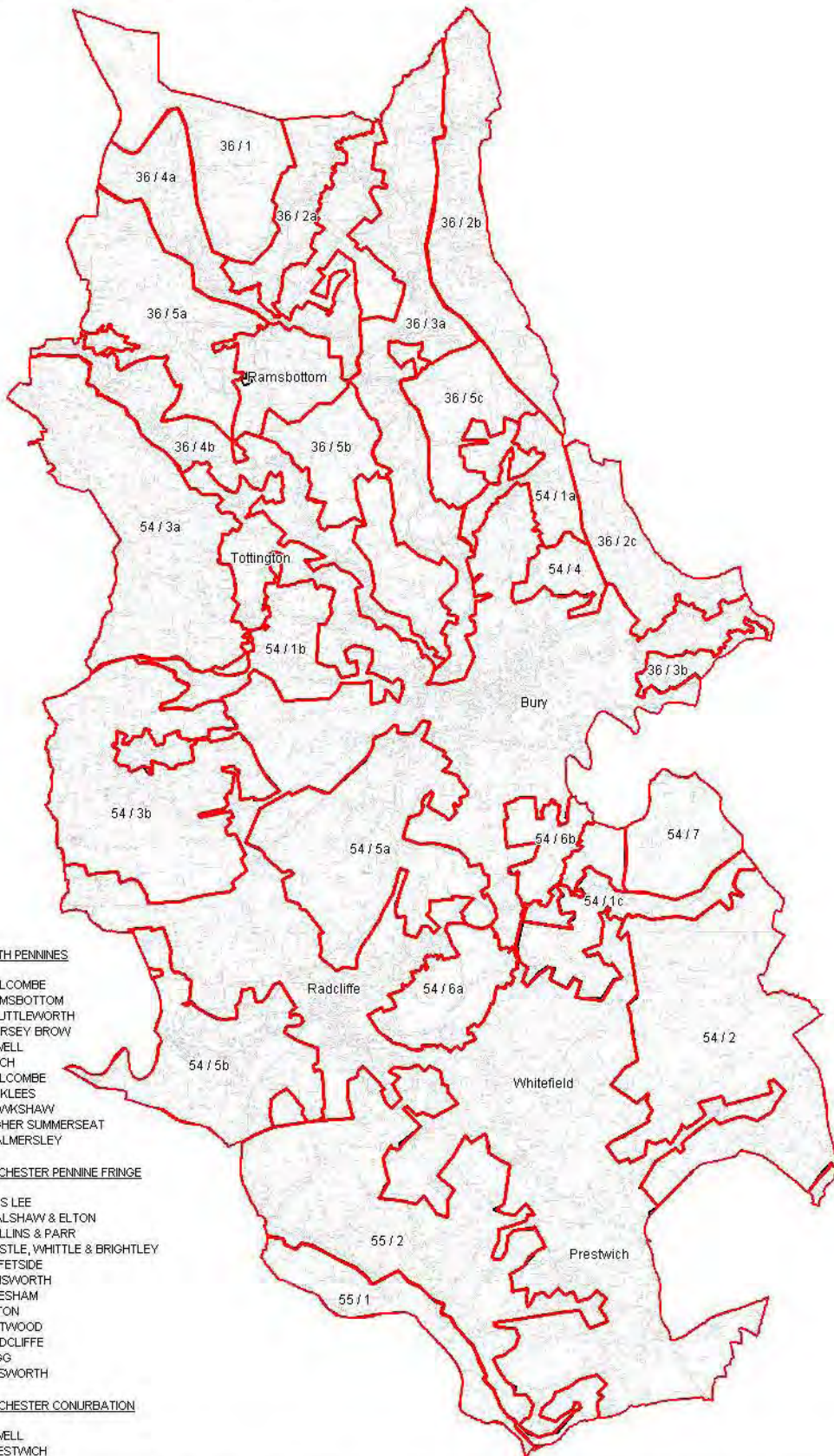


figure 18 - FIELD PATTERNS



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PRESTWICH

figure 19 - TIME DEPTH - 1848



AREA 36 - SOUTH PENNINES

- 36 / 1 HOLCOMBE
- 36 / 2a RAMSBOTTOM
- 36 / 2b SHUTTLEWORTH
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AREA 55 - MANCHESTER CONURBATION

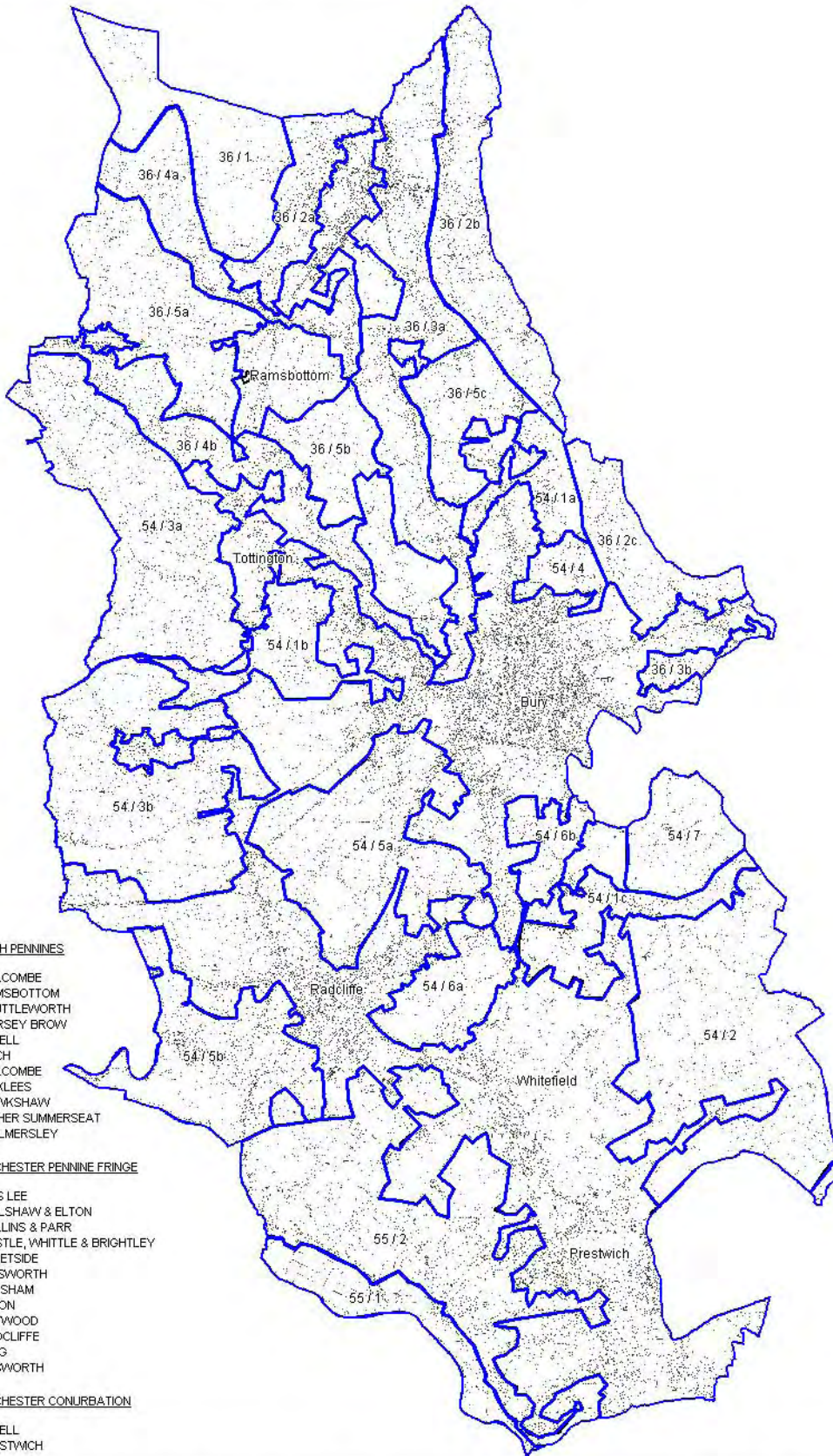
- 55 / 1 IRWELL
- 55 / 2 PRESTWICH

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figure 20 - TIME DEPTH - 1910



AREA 36 - SOUTH PENNINES

- 36 / 1 HOLCOMBE
- 36 / 2a RAMSBOTTOM
- 36 / 2b SHUTTLEWORTH
- 36 / 2c GORSEY BROW
- 36 / 3a IRWELL
- 36 / 3b ROCH
- 36 / 4a HOLCOMBE
- 36 / 4b KIRKLEES
- 36 / 5a HAWKSHAW
- 36 / 5b HIGHER SUMMERSEAT
- 36 / 5c WALMERSLEY

AREA 54 - MANCHESTER PENNINE FRINGE

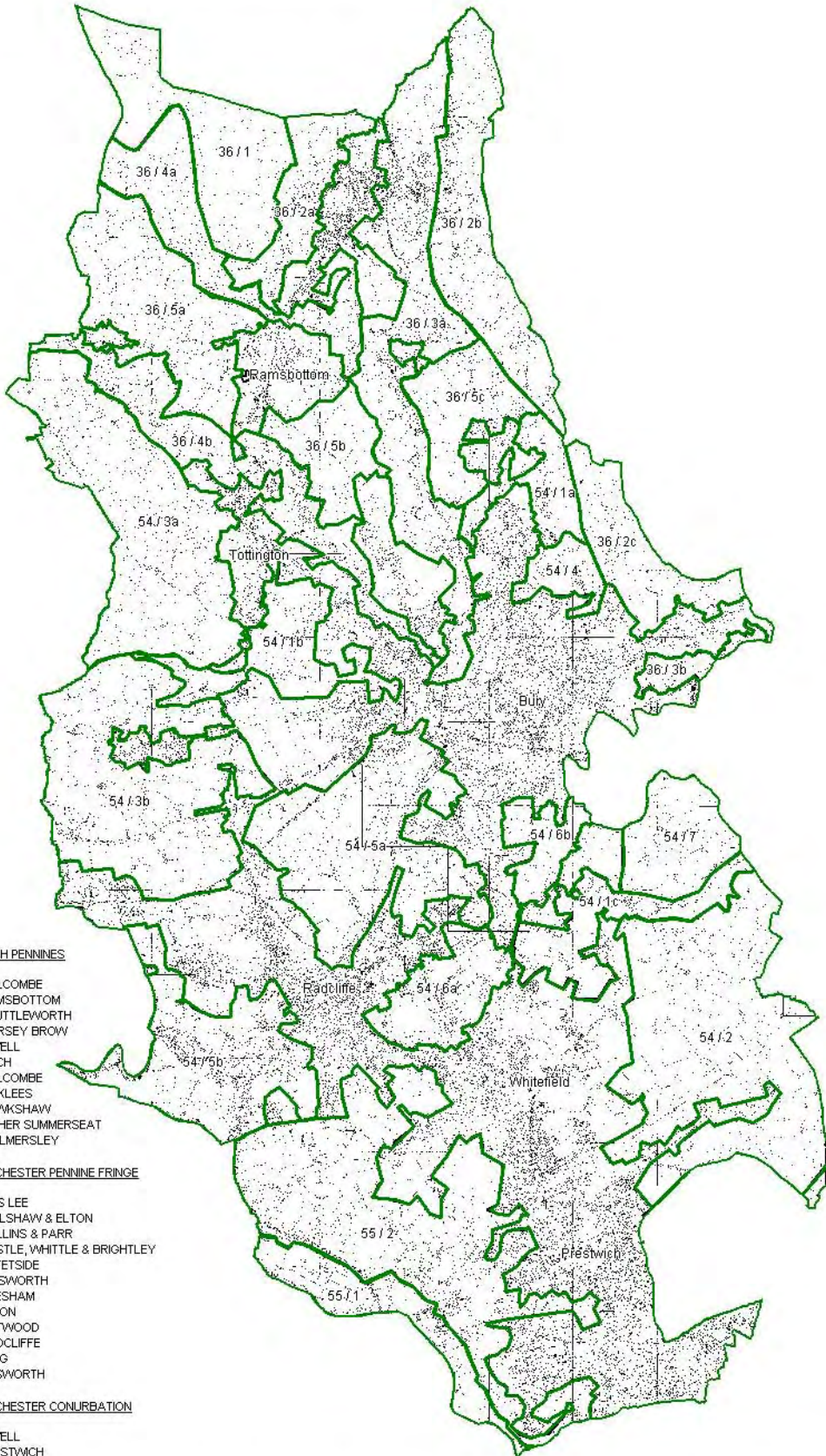
- 54 / 1a PIGS LEE
- 54 / 1b WALSHAW & ELTON
- 54 / 1c HOLLINS & PARR
- 54 / 2 CASTLE, WHITTLE & BRIGHTLEY
- 54 / 3a AFFETSID
- 54 / 3b AINSWORTH
- 54 / 4 CHESHAM
- 54 / 5a ELTON
- 54 / 5b OUTWOOD
- 54 / 6a RADCLIFFE
- 54 / 6b GIGG
- 54 / 7 PILSWORTH

AREA 55 - MANCHESTER CONURBATION

- 55 / 1 IRWELL
- 55 / 2 PRESTWICH

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figure 21 - TIME DEPTH - 1953 / 1967



AREA 36 - SOUTH PENNINES

- 36 / 1 HOLCOMBE
- 36 / 2a RAMSBOTTOM
- 36 / 2b SHUTTLEWORTH
- 36 / 2c GORSEY BROW
- 36 / 3a IRWELL
- 36 / 3b ROCH
- 36 / 4a HOLCOMBE
- 36 / 4b KIRKLEES
- 36 / 5a HAWKSHAW
- 36 / 5b HIGHER SUMMERSEAT
- 36 / 5c WALMERSLEY

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- 54 / 3b AINSWORTH
- 54 / 4 CHESHAM
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- 54 / 5b OUTWOOD
- 54 / 6a RADCLIFFE
- 54 / 6b GIGG
- 54 / 7 PILSWORTH

AREA 55 - MANCHESTER CONURBATION

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- 55 / 2 PRESTWICH

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