

PEIR Technical Appendix 6A

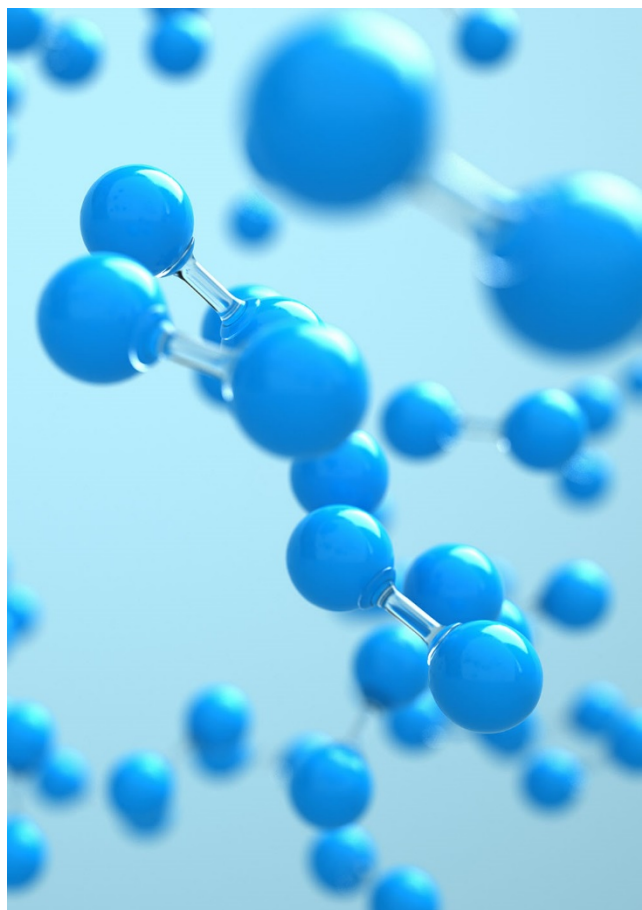
Archaeology Desk-based Assessment

September 2022

Revision 1

Volume 0001

Document ref. 0001



Executive summary

Purpose of this report

This report has been produced for the purpose of gaining an understanding of the presence and nature of buried and above ground archaeological remains within and surrounding the development site which may be impacted. This will help identify opportunities and constraints to the proposed development and inform design.

Data was collected for a 1km Study Area surrounding the Preliminary Order Limits to provide context and consider its wider setting. The Preliminary Order Limits contains 18 designated heritage assets, with a further 646 designated heritage assets, comprising 579 Listed Buildings, 20 Scheduled Monuments and 50 Conservation Areas identified within the Study Area. A total of 2115 non-designated heritage assets are recorded in the 1km Study Area. The Preliminary Order Limits traverses a number of historic landscape contexts, including enclosed fields created in the post medieval period over a former pattern of medieval open fields and common grazing, and industrial areas established in the 19th century facilitated by the creation of transport networks such as canals and railways.

Contents

1.	Introduction	4
1.1	Project Background	4
1.2	Aims and Objectives	4
1.3	Previous Reporting	4
1.4	Walkover Survey	6
2.	Methodology	7
2.1	Scope of Report	7
2.2	Study Area	7
2.3	Location and Topography	7
2.4	Geology and Soils	8
2.5	Data Collection	8
	Datasets	8
	Remote sensing data analysis	9
	Site visits	10
2.6	Assessment of Archaeological Potential and Significance	11
	Classification of archaeological potential	11
	Assessment of heritage significance	12
2.7	Limitations and Assumptions	14
2.8	Legislation, Policy and Guidance	14
3.	Character of the Historic Environment	16
3.1	Introduction	16
3.2	Designated Heritage Assets	16
3.3	Non-Designated Heritage Assets	17
3.4	Historic Landscape Character	17
3.5	Archaeological Character and Potential	18
	West Corridor	18
	North Corridor	38
	East Corridor	68
	South Corridor	77
	Spurs	97
4.	Summary of Archaeological Potential and Heritage Significance	115

5.	Conclusions	134
6.	Bibliography	137

Table 2.1	Assessment of archaeological potential	12
Table 2.2	Classification of heritage significance	13
Table 4.1	Summary of archaeological potential and heritage significance	115

1. Introduction

1.1 Project Background

- 1.1.1 The HyNet North West Hydrogen Pipeline Project (hereafter ‘the Project’) is a proposal by Cadent Gas Ltd to construct and operate a hydrogen pipeline. It will deliver hydrogen to multiple industrial users and power generators.
- 1.1.2 The Project comprises the construction, operation and maintenance of 125km of new pipeline to distribute hydrogen to users across the gas network in the North West of England. The pipeline would connect a newly constructed Hydrogen Plant at the Essar Stanlow site to a Central Hub, which serves as an onward distribution point to customers along southern, eastern and northern corridors.

1.2 Aims and Objectives

- 1.2.1 The aims of this desk-based assessment (DBA) are to:
- identify and characterise the buried and above ground archaeological remains to provide a proportionate but robust evidence base for the Preliminary Environmental Information Report (PEIR) and the Environmental Statement (ES); and
 - set out the key themes which will be used to inform the understanding of the historic and archaeological interest of relevance to the Preliminary Order Limits and, furthermore, to focus fieldwork on areas which are critical to understanding the potential presence and significance of archaeological remains.
- 1.2.2 The specific objectives of this DBA are to:
- identify and characterise known archaeological remains;
 - assess the potential for previously unrecorded archaeological remains; and
 - assess the heritage significance of known and potential archaeological remains.

1.3 Previous Reporting

- 1.3.1 Research frameworks, which have been produced for much of England, are compiled using data from Historic Environment Records (HERs), museums, and developer-led archaeology. The most recent North West England Regional Research Framework (NWERRF hereafter), launched online in 2021,¹ builds on the original Framework published in 2006-2007. The NWERRF online resource is

¹ Research Frameworks (2022). The North West England Regional Research Framework (online) <https://researchframeworks.org/nwrf/> (Accessed March 2022)

presented as Resource Assessments, and a Research Agenda, with a further section focusing on overarching questions and strategies.

1.3.2 Within these sections are questions which hold particular importance to the current Study Area, including:

- assessing the effectiveness of the North West Wetlands Survey as a planning and research tool (PH02);
- how can we identify previously unknown prehistoric sites? (PH23);
- identifying whether there is a settlement hierarchy for later Prehistoric lowland settlements (PH35);
- what is distinctive about industrial processing in the Roman North West? (R28);
- how can place names inform our understanding of the landscape context of known sites? (EM16);
- how can modern survey and excavation techniques improve our understanding of the origins and architecture of castles and defended sites? (LM34);
- how can we recreate the medieval land-use patterns within townships? (LM05); and
- where does pre-18th century enclosure survive in the region? (PM 10).

1.3.3 The Wetlands of Greater Manchester Survey (Hall *et al.* 1995), presents original research on wetland contexts in the current Study Area including Carrington Moss, ranging from post-glacial periods to the recent past.

1.3.4 The Mersey Gateway Project included areas in the western portion of the current Study Area. The ES for this project included a detailed chapter on cultural heritage, which in the case of the current Study Area contains useful analysis of the area around Clifton and Rocksavage (Giffords 2008).

1.3.5 The Archaeology of Mining and Quarrying in England: Resource Assessment and Research Agenda (2016)² has been used to inform discussions on the development of the salt industry at specific points in the Study Area.

1.3.6 An aerial survey and archaeological desk-based assessment of Dunham Massey³ identified numerous unrecorded heritage assets on aerial photographs.

² National Association of Mining History Organisations (2016). The Archaeology of Mining and Quarrying in England (online) Available at: https://www.namho.org/documents/MINING_FRAMEWORK_Pt_one.pdf (Accessed June 2022)

³ National Trust (2022). Cropmark evidence of former parkland tree planting, 325m north-east of Home Farm, Dunham Massey (online) Available at: <https://heritagerecords.nationaltrust.org.uk/HBSMR/MonRecord.aspx?uid=MNA119007> (Accessed May 2022)

- 1.3.7 The North West Rapid Coastal Zone Assessment (2017)⁴ identified otherwise unknown heritage assets along the North West coast. The Study Area for this stretched inland to include parts of the current Study Area, such as along the western reaches of the river Mersey.
- 1.3.8 The Roman Roads Research Association⁵ has a page on its website dedicated to Cheshire, which includes detailed studies of Roman Roads in the county using remote sensing and walkovers to explore theories.

1.4 Walkover Survey

- 1.4.1 Walkover surveys of targeted areas were undertaken in March and April 2022. The surveys informed the identification and condition of heritage assets considered in this report.

⁴ Historic England (2017). The North West Rapid Coastal Zone Assessment (NWRZA) Phase 2 Project (online) Available at:

<https://historicengland.org.uk/research/results/reports/62-2012> (Accessed May 2022)

⁵ Ratledge, D & Buckley N (2018). The Roman Road from Chester to Wilderspool (online) Available at: <https://www.romanroads.org/gazetteer/cheshire/M701.htm> (Accessed May 2022)

2. Methodology

2.1 Scope of Report

- 2.1.1 This DBA has been prepared using the project design information presented for PEIR, together with background information submitted as part of the EIA Scoping Report. The baseline presented within this DBA considers an area within the scoping red-line boundary, and therefore will consider the potential of all identified land parcels that intersect the Preliminary Order Limits. This area was chosen as the DBA is a point-in-time document for which the aim is to investigate baseline conditions and allow for subsequent modification of the Project without requiring revision. Any refinement to the Preliminary Order Limits through the course of the PEI and DCO can be anticipated to fall within the scoping red-line boundary. The focus of this report is known archaeological remains and archaeological potential. Consequently, built heritage, namely Listed Buildings and Conservation Areas, are not assessed and can be found in the PEIR. Listed Buildings and Conservation Areas feature in this report only to inform archaeological potential. This DBA can consequently be taken as a comprehensive statement of baseline conditions for archaeology.

2.2 Study Area

- 2.2.1 The Study Area for the assessment of effects on the historic environment has been defined through consideration of the nature of the Project, principally buried pipelines and above ground elements comprising Hydrogen Above Ground Installations (HAGIs) and Block Valve Installations (BVIs), and the sensitivity of the receiving historic environment. The Study Area extends 1 kilometre (km) from the Preliminary Order Limits, within which all the elements, including HAGI search areas, will be located. The defined Study Area will allow the establishment of archaeological and historical context and inform assessment of the potential for previously unrecorded buried archaeological remains. The Study Area is shown on **Figures 6.1-6.5**.
- 2.2.2 The Study Area ensures that sufficient data has been collected to contextualise and better understand any archaeological features or deposits identified within the Preliminary Order Limits.

2.3 Location and Topography

- 2.3.1 The Preliminary Order Limits is located within the administrative counties of Merseyside, Greater Manchester and Cheshire in North West England. It traverses a mix of arable agricultural, industrial and residential areas on the outskirts of villages and towns including St Helens, Warrington, Frodsham and Winnington. The topology across the Preliminary Order Limits varies from the intertidal mudflats and sand flats and salt marsh in the west, to the expanse of flat or gently undulating, lush, pastoral farmland in the south of the Preliminary Order Limits, to the varied topography of gentle hills and valleys in the northern and eastern

regions of the Preliminary Order Limits. The height above Sea Level ranges from 13 metres (m) in the intertidal region in the west of the Preliminary Order Limits, to around 80m in the northern part of the Preliminary Order Limits, around Sutton Heath.

- 2.3.2 The major waterways which traverse the Preliminary Order Limits are the river Mersey, with its tributary the River Weaver which branches off to the south-east, and the Manchester Ship Canal, which runs largely in parallel to the River Mersey roughly south-west to north-east. Other waterways of note include the Bridgewater Canal and the Trent and Mersey Canal which, alongside the other waterways, are closely linked to historic settlement and industrial development in the Study Area.

2.4 Geology and Soils

- 2.4.1 Geology is varied across the Study Area. The banks of the River Mersey in the western corridor overlie Till on Chester Formation sandstone and gravel and tidal flat deposits of clay, silt and sand which are on Kinnerton Sandstone Formation. Around Sutton Weaver and Aston Grange, the geology comprises glaciofluvial deposits, Devensian sand and gravel above Mudstone bedrock. The northern corridor contains areas of Pennine Coal measures with clay soils, with areas of sandy soils on Sandstone around the river Mersey and Manchester Ship Canal. The eastern corridor contains areas of peat deposits in Bollin Mudstone Member contexts amongst areas of till, sand and gravel, and the southern corridor broadly comprises clay soils on mudstone, with interspersed sands and gravels.
- 2.4.2 The geological context across the Study Area is closely related to known and recorded cultural heritage assets. The peat deposits around Frodsham Marsh and Helsby Marsh have been found to contain evidence for human activity dating to as early as the Mesolithic period, while evidence for Bronze Age mortuary activity is recorded on the sands and gravels of the ridge overlooking the River Weaver between Sutton Weaver and Aston Grange. Swathes of sandstone and mudstone overlain by clay and marl deposits are prevalent throughout the Study Area. Here, cropmark evidence of prehistoric settlements and field systems have been identified, along with the presence of numerous villages with medieval origins and associated evidence for open fields of arable agriculture. In addition, high concentrations of the remains of historic mineral extraction pits occur in large numbers in these areas.

2.5 Data Collection

Datasets

- 2.5.1 The principal data sources used to inform this DBA comprise the following:
- National Heritage List for England (NHLE);
 - local Historic Environment Records, including HLC data (HERs);
 - ▶ Cheshire
 - ▶ Merseyside

- ▶ Greater Manchester
- locally listed buildings and Conservation Areas provided by the local planning authorities;
- Historic Environment Character Areas;
- English Place-Names Society, in particular volumes on the Place-names of Cheshire by J McN Dodgson;
- historic mapping, including Tithe maps⁶;
- aerial and satellite photography, including Google Earth;
- Environment Agency Light Detection and Ranging (LiDAR) data;
- British Geological Survey;
- Readily available regional and local contextual studies, including *The History of the County Palatine and City of Chester* by George Ormerod (1819, revised 1882); and
- Site walkover.

Remote sensing data analysis

LiDAR

- 2.5.2 LiDAR data was downloaded from the Environment Agency website in the form of American Standard Code for Information Interchange (ASCII) tiles for 1m resolution digital Surface and Terrain data in 10km grid areas. These were merged to form a continuous model across the Study Area. The data was analysed in QGIS[®] as hillshade with a pseudo lighting set at an altitude of 30°, Azimuth of 315°⁷. Pseudo lighting was set to various azimuths with the aim of identifying microtopographic features of different alignments, from which Principal Component Analysis (PCA) was undertaken.
- 2.5.3 The hillshade layer was underlain by a single band pseudo colour rendition of the same digital surface model (DSM) with quantile spread of 10 classes. With the hillshade layer set as semi-transparent over the single band pseudo colour rendition this enables better interpretation of the Preliminary Order Limits and its immediately surrounding topographic features.
- 2.5.4 The hillshade layer has been analysed and visible areas of potential archaeological earthworks or palaeoenvironmental interest have been identified and mapped in QGIS[®]. Within identified areas, tiles have been processed using Local Relief Modelling (LRM) either in ArcMap[®] or using GRASS GIS[®]. LRM is effective for identifying archaeological features as it "filters out" terrain surfaces

⁶ Cheshire West and Chester Council & Cheshire East Council. (2022). Cheshire Tithe Maps Online (online). Available at: <https://maps.cheshireeast.gov.uk/tithemaps/> (Accessed May 2022)

⁷ "GIS" stands for Geographic Information System

leaving otherwise discreet archaeological features and their relative elevation above or below the surrounding terrain.

- 2.5.5 Features of archaeological origin or potential within the Preliminary Order Limits, such as former field systems, trackways, agricultural earthworks, former settlement, funerary monuments and paleochannels have been mapped in QGIS® as shapefiles. Where potential features are deemed to require more detailed interpretation, then digital terrain model (DTM) data was obtained from the Environment Agency website and processed to enable fine detail assessment of micro-topography and below tree canopy surfaces; this information was then integrated into QGIS® and ArcGIS® from which interpretation figures were produced. This methodology for the transcription of archaeological features has been informed by Historic England guidance to retain consistency and represents best practice⁸.

Aerial photographic interpretation and mapping

- 2.5.6 In the absence of existing National Mapping Programme coverage for the whole of the pipeline corridor, searches of the National Monument Record (NMR) and local HERs for aerial imagery were completed. This was then filtered to select images that contain evidence of archaeological features that are within 100m of the pipeline route that have not been mapped on the local HERs or contain additional detail not currently mapped.
- 2.5.7 Alongside the assessment of aerial photographs, the systematic analysis of Google Earth, Apple Maps and Bing online aerial and satellite imagery was undertaken and any features of archaeological origin or potential mapped in ArcGIS®. Features mapped in Google Earth were saved as Keyhole Markup Language (kml) files and converted to shapefiles in ArcGIS®.
- 2.5.8 The rectification and georeferencing of aerial photographs was undertaken in Aerial® 5.36 where control points or topography are complex, while nominal images were rectified in QGIS® 3.10.9. Rectified images will be imported into ArcMap® or QGIS® and features transcribed as shapefiles. The methodology for the transcription of archaeological features is informed by Historic England guidance⁸ to retain consistency and represents best practice.
- 2.5.9 Output is in the form of a series of scale plans showing transcriptions accompanied by a written description following standard guidance⁹.

Site visits

- 2.5.10 A site visit was undertaken between 16 and 18 March 2022. The purpose of the site visit was to determine the location and levels of preservation of recorded heritage assets and identify previously unrecorded heritage assets where ground conditions permitted.

⁸ Historic England Aerial Investigation and Mapping (formerly National Mapping Programme) Standards Technical Review

⁹ Edis J., MacLeod D. and Bewley R., 'An Archaeologist's guide to the Classification of Cropmarks and Soilmarks', *Antiquity* 63, 1989, pp12-126

2.5.11 The criteria for locations to visit included:

- Unploughed land, particularly where earthworks had been identified on remote sensing imagery;
- concentrations of features, such as barrows close to Sutton Hall; and
- sites recorded in HERs relating to former buildings on what is now agricultural land.

2.5.12 Sites not visited along the route were primarily those where modern ploughing has eradicated any possible above-ground traces of archaeological sites, and where industrial activity and residential development overlies the locations of former archaeological sites.

2.5.13 Site notes and photographs from the site visit can be found in **Appendix 6D**.

2.6 Assessment of Archaeological Potential and Significance

2.6.1 Historic Landscape Characterisation (HLC) polygons that intersect the preliminary Order Limits were extracted from shapefiles provided by the relevant local authorities and formed the basis of reporting. Each HLC area was assessed for its archaeological potential, drawing information from the Study Area to make a professional judgement.

2.6.2 The potential presence of archaeology has been assessed according to:

- proximity to designated and non-designated heritage assets;
- proximity to previously unrecorded potential heritage assets identified by analysis of remote sensing data as part of this assessment;
- likely survival of archaeological remains given identified landscape change; and
- site visits.

Classification of archaeological potential

2.6.3 Archaeological potential is classified in accordance with **Table 2.1**.

Table 2.1 Assessment of archaeological potential

Potential	Rationale
High	Presence of heritage assets has been established or can be confidently inferred on the basis of previous investigations or visibly surviving material.
Medium	Presence of heritage assets likely as a result of finds or features identified within the immediate vicinity.
Low	No finds or features to suggest potential presence of archaeology though site is relatively undisturbed or, presence of archaeology has likely been reduced due to some previous disturbance (such as intensive arable farming).
Negligible	Presence of archaeology demonstrably unlikely as a result of extensive previous disturbance (such as quarrying).

2.6.4 It is important to note that an assessment of **low** potential means that a potential for archaeological remains to be present exists, but that there is no evidence to directly suggest the presence or nature of those remains. In contrast, **high** and **medium** potential reflects the existence of evidence which suggests, indicates or confirms the presence of archaeological remains.

2.6.5 Area of **medium** and **high** archaeological potential are shown on **Figure 6.4**.

Assessment of heritage significance

2.6.6 The potential significance of known heritage assets and areas of **medium** or **high** archaeological potential has been considered in line with the identified regionally important historic themes set out in the regional research framework and based on professional judgement as informed by relevant legislation, policy and guidance (see **Section 2.8**).

2.6.7 'Significance' in terms of heritage-related planning policy is defined as the value of a heritage asset to this and future generations because of its historic, archaeological, architectural, or artistic interest. Significance derives not only from a heritage asset's physical presence, but also from its setting.

- Historic interest - an interest derived from an asset's ability to illustrate or be associated with past lives and events (including pre-historic). Heritage assets with historic interest not only provide a material record of our nation's history but can also provide meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity.
- Archaeological interest - there will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point.

- Architectural and artistic interest - these are interests in the design and general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an interest in the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types. Artistic interest is an interest in other human creative skills, like sculpture.

2.6.8 Given the scope of this DBA, heritage significance is most likely to arise from historic and archaeological interests.

2.6.9 For the purposes of the historic environment assessment, the heritage significance of an asset will be assigned to one of four classes (**Table 2.2**). This is then used to make an assessment of the sensitivity of the HLC parcel they are located in.

2.6.10 To align with other workstreams in this assessment, heritage significance is referred to as a receptor's sensitivity in the table below.

Table 2.2 Classification of heritage significance

Sensitivity	Criteria	Receptor Type
High	Assets of national importance, which have significance for an outstanding level of archaeological, architectural, historic and/or artistic interest.	Designated heritage assets
Medium	Asset has significance for a high level of archaeological, architectural, historic and/or artistic interest.	Non-designated assets of regional importance.
Low	Assets of local interest, which have significance for elements of archaeological architectural, historic or artistic interest.	Non-designated assets of local importance.
Negligible	Due to its nature of form/condition/ survival, cannot be considered as an asset in its own right.	Non-extant HER record.

2.6.11 Surviving elements of the post medieval and modern agricultural landscape have been considered primarily as elements of historic landscape character rather than necessarily as archaeological remains. This is because they are of significance primarily for historic value as defining elements of the historic landscape of the Study Area, and because mitigation of any adverse effect would be required to address the historic value of that landscape.

2.6.12 For areas of **medium** and **high** archaeological potential, the overall sensitivity of the area has been assessed, based on professional judgement and taken as an

overall assessment based on the known or potential individual assets within that area. These are shown on **Figure 6.5**.

2.7 Limitations and Assumptions

- 2.7.1 The data in the records supplied by the HERs is drawn from a variety of sources, which have variable precision and accuracy. Some records are based on recent professional archaeological investigations, which adhere to Chartered Institute for Archaeologists (CIfA) standards, whilst others are based on older records or are reliant on reporting by members of the public; the precision of these records cannot always be reliably assessed. Information on individual records is précisised from the detailed description sheets provided by the HERs, supplemented by information gathered during the research for the report as appropriate. Each of the consulted data sources represents a collection of existing knowledge and is unlikely to be a complete record of all surviving heritage features.
- 2.7.2 It should also be noted that both existing national and local records of the historic environment provide an inventory of what has been recorded at present, and an absence of records of past activity cannot necessarily be taken as a demonstrable absence of archaeological potential. In many cases, the absence of records reflects the absence of previous development activity, rather than any necessary absence of archaeological remains. This assessment therefore considers the potential for archaeological remains which have not previously been recorded to be present within the Preliminary Order Limits and sets out an understanding of the potential location, character and significance of archaeological remains within the Preliminary Order Limits.
- 2.7.3 An attempt has been made to consult all readily available documentary sources. However, it is always possible that there are additional documentary sources, for example, those held under obscure references, which have not been identified.
- 2.7.4 Gaps in available cropmark data exist in various parts of the Study Area, particularly the north-east section. The lack of evidence in this area is not likely to represent evidence of absence for buried archaeological features. There are also gaps in LiDAR data along the eastern and southern corridors.

2.8 Legislation, Policy and Guidance

- 2.8.1 A full description of legislation, policy and guidance relevant to this baseline description is presented in **PEIR Chapter 6**.
- 2.8.2 Guidance pertinent to desk-based assessment is listed below:
- Chartered Institute for Archaeologists (CIfA), *Standards and guidance for archaeological desk-based assessment* (2017).¹⁰

¹⁰ CIfA (2017). Standard and guidance for archaeological desk-based assessment. (Online) Available at

- Cheshire Archaeology Planning Advisory Service, *Guidance on Archaeological Desk-Based Assessments* (2013).¹¹

https://www.archaeologists.net/sites/default/files/ClfAS%26GDBA_4.pdf (Accessed 07 February 2022)

¹¹ Cheshire Archaeology Planning Advisory Service (2013). *Guidance on Archaeological Desk-Based Assessment*. (Online). Available at <http://www.cheshirearchaeology.org.uk/wp-content/uploads/Archaeological-Desk-Based-Assessments.pdf> (Accessed 07 February 2022)

3. Character of the Historic Environment

3.1 Introduction

- 3.1.1 The characterisation of the historic environment across the Study Area has relied on numerous sources of data and information. One character type requires a brief explanation. The identification of medieval open fields in the Study Area is based on proximity to medieval villages and presence of reverse 'S' boundaries depicted on tithe mapping and remote sensing imagery. Academic research undertaken in the 20th century found a plethora of evidence for open field agriculture in Cheshire (Sylvester 1956), Lancashire (Youd 1961), and North West England in general (Elliott 1973) which all broke former assumptions which had been held since the late 19th century. The identification of the presence of these relict landscapes is important in terms of archaeological potential and in particular the presence of medieval ridge and furrow which is almost completely unrecognised on remote sensing imagery. It is therefore likely that this lack of evidence is not evidence for absence and is more a result of a lack of favourable conditions in which the imagery has been captured (vertical RAF shots; Google Earth).

3.2 Designated Heritage Assets

- 3.2.1 A total of 22 Scheduled Monuments are located within the Study Area. Two of these are situated within 25m of the Preliminary Order Limits: Micklehead Green Moated Site (NHLE 1012329) and Bank Quay Transporter Bridge (NHLE 1006768). The latter is also a Grade II* Listed Building. Scheduled Monuments within the Study Area include isolated prehistoric round barrows, hillforts, medieval moated sites, transporter bridges associated with post medieval industrial activity and WWII gun placement sites. A total of 585 Listed Buildings are located within the Study Area. Of these nine are Grade I listed, 28 are Grade II* listed and the remaining 548 are Grade II listed. Nine Listed Buildings are located within the Preliminary Order Limits, all of which are Grade II listed and relate to river crossings and canal locks. A total of three Registered Parks and Gardens are wholly or partially located within the Study Area. The closest of these to the Preliminary Order Limits is Castle Park, Frodsham (NHLE 1001622) at a minimum of 290m, with Dunham Massey (NHLE 1000853) at a minimum of approximately 1km and Arley Hall (NHLE 1000637) at a minimum of approximately 865m. There are 54 Conservation Areas wholly or partly within the Study Area. The closest of these to the Preliminary Order Limits is Latchford- Greenalls Brewery (DCH1320) at around 5m. Conservation Areas within the Study Area represent historic settlements, such as Thornton le Moors (DCH1310), Higher Whitley (DCH1396) and Hartford (DCH1392). The exception to this is the Trent and Mersey Canal (DCH8686).
- 3.2.2 A list of all designated heritage assets within the Study Area can be found in **Appendix 6C**.
- 3.2.3 Consideration of effects arising from change within the setting of designated heritage assets is included in **PEIR Chapter 6**.

3.3 Non-Designated Heritage Assets

- 3.3.1 There are 2,115 non-designated heritage assets in the Study Area. These include lithic scatters dating to the Mesolithic period, cropmarks relating to possible prehistoric or Romano-British settlements, fieldscapes and mortuary remains, Roman Roads, medieval open fields, and assets related to post medieval industry and communications including salt works and canals.

3.4 Historic Landscape Character

- 3.4.1 HLC areas have been used as a framework from which to assess archaeological potential and significance. HLC is a method of identification and interpretation of the varying landscape character that looks beyond individual heritage assets to provide patterns and connections in landscape use. HLC is used to map the predominant historic landscape character of discrete patches of land, whether that character remains the product of prehistoric or medieval activity or is of much more recent origin. The present-day landscape character is the primary object, though this requires an understanding and representation of a place's history (Historic England). National Character Areas (NCAs) as defined by Natural England, cover much larger areas than HLC areas, and are defined by changes in the natural environment rather than administrative boundaries (Natural England 2013; 2014). Despite these changes in approach, HLC areas are closely linked to NCAs in that the natural landscape and its varied resources have shaped the way humans use and experience the landscape over millennia.
- 3.4.2 HLC areas have been used as the basic framework for the assessment of archaeological character and potential, but where similar historic trajectories can be seen across individual areas, these have been amalgamated.
- 3.4.3 A total of three NCAs are covered by the Preliminary Order Limits, Mersey Valley, Shropshire, Cheshire and Staffordshire Plain and Lancashire Coal Measures.
- 3.4.4 The following section comprises an outline description of archaeological potential and significance for each of the HLC areas which are located partly or wholly within the Preliminary Order Limits. For ease, these are grouped in accordance with the following elements of the Project. Each of these corridors would contain the pipeline and construction easement, as well as associated HAGIs or other above ground elements, as described in **PEIR Chapter 2: The Project**.
- **West Corridor** - The West Corridor starts at the Hydrogen Production Plant HAGI (HPP HAGI) in Stanlow, with the Pipeline running approximately 10.2km west to the Rocksavage HAGI. The Pipeline then runs approximately 11.4km south-east to the Central Hub HAGI.
 - **North Corridor** - The North Corridor starts at the Central Hub HAGI with the Pipeline running approximately 12km north to the Higher Walton HAGI and then approximately 9km north-west to the Clockface HAGI. The Corridor continues broadly north for 8km to the St Helens HAGI.
 - **East Corridor** - The East Corridor starts at the Central Hub HAGI with the Pipeline running approximately 20.4km north-east to the Warburton HAGI. The

Pipeline would then continue north-east for approximately 4.7km to the Partington HAGI.

- **South Corridor** - The South Corridor starts at the Central Hub HAGI, with the Pipeline running approximately 20.5km south to the Hydrogen Storage Facility HAGI (HSF HAGI).
- **Spurs:**
 - ▶ **Runcorn Spur** - The Runcorn Spur starts at the Rocksavage HAGI and runs broadly north to the Runcorn HAGI;
 - ▶ **The Warrington Spur(s)** would start at the Higher Walton HAGI and run north-east for approximately 0.7km;
 - ▶ **The Clock Face Spur** starts the Clock Face HAGI and runs north-east;
 - ▶ **The St Helens Spur(s)** start at the St Helens HAGI;
 - ▶ **The Warburton Spur** starts at the Warburton HAGI and runs approximately 0.2km west;
 - ▶ **The Partington Spur(s)** start at the Partington HAGI within a disused industrial area; and
 - ▶ **The Northwich Spur** starts at the Central Hub HAGI and runs to the south-east.

3.4.5 National Character Areas are listed in **Appendix 6C, Table 6C.11**, where they are related to HLC parcels. HLC parcels are shown in **Figures 6.3**.

3.5 Archaeological Character and Potential

West Corridor

20th Century Industry (HCH3386, HCH14389, HCH1907, HCH1913, HCH4223, HCH4357)

3.5.1 These HLC areas mostly comprise modern industry in large part related to Stanlow Oil Refinery in the far west of the Study Area. A small area of secondary woodland occupies the south-eastern corner of the area. The current character of the areas developed at some point after the 1970s, before which the area was subdivided into straight rectangular fields which had remained largely intact since at least the mid-19th century, as evidenced on the Elton tithe map of 1838. The character of these former boundaries taken together suggest strip fields formed from former medieval open field furlongs possibly associated with the nearby villages and Conservation Areas of Elton (DCH1285) and Ince (DCH1459). No heritage assets are recorded in these HLC areas. The remains of some of these boundaries may survive within the small remaining undeveloped areas within these HLC areas, such as the secondary woodland in the south-eastern corner of HCH3386.

3.5.2 There is **negligible** potential for surviving archaeological deposits in this area due to extensive recent industrial redevelopment, excepting the small remaining open

undeveloped area, where there is **medium** potential for the remains of post medieval field boundaries. These would be of **low** sensitivity as assets of local importance.

Post Medieval Fieldscapes (HCH4151, HCH4152)

- 3.5.3 These HLC areas are located immediately south of the M56 motorway and around 350m north-east of the village of Thornton-le-Moors. They predominantly comprise agricultural fields, alongside two areas of hard standing used for vehicle storage within the north of HCH4151. Aside from the areas of hard standing, the agricultural character of these areas has remained unchanged since at least the mid-19th century as evidenced on the Elton tithe map of 1838, although some boundary loss has occurred in the 20th century. The County Palatine of Chester, a map produced in 1794, shows the area on the border of Frodsham Marsh (National Library of Scotland, no date a). The Blau Atlas of 1662-5 depicts the area within the Hundred of Eddesbury (Edisbury), a territorial unit which is believed to have originated in the early medieval period (Ormerod 1819: 1-3).
- 3.5.4 No heritage assets are recorded in these HLC areas, and no features have been identified on available remote sensing imagery. However, it is possible that former field boundaries may survive as buried deposits. The areas are also situated outwith nearby peat deposits along the intertidal zone. The archaeological potential of these areas is therefore assessed as **medium** for features that would be of **low** sensitivity as assets of local importance.

Ancient Fieldscapes (HCH4153)

- 3.5.5 This is a relatively large HLC area which is bounded to the north by the modern A5117 road, and through which the M56 traverses roughly north-east to south-west. The current landscape character of this area is largely agricultural, with a modern dairy farm occupying part of the northern section of the area. Numerous small ponds are located throughout this area, some of which are likely to be the remains of former mineral extraction pits. There are many surviving hedgerows present on the Elton tithe map of 1838, which entails these may be deemed important under the Hedgerow Regulations. The southern portion of the HLC area contains a large area given over to a World War II (WWII) ammunition store (MCH9985). This comprised a series of steel framed brick-built magazines, some of which were surrounded by earthworks. Two of these structures remain standing within the Study Area, 50m and 160m from the Preliminary Order Limits, respectively.
- 3.5.6 The area contains the scheduled medieval moated site, fishpond and connecting channel (NHLE 1012122). This is situated within a field known as 'Moat Field' on the 1838 tithe map. The southern boundary of Moat field separates the earthwork remains, which were confirmed through a site walkover, from an area of broad ridge and furrow identified on LiDAR LRM imagery which is also likely to date to the medieval period but may not be contemporary with the moated site.
- 3.5.7 Recorded evidence within this HLC area entails **high** potential for further buried and standing WWII military remains associated with ammunition store, which are assets of **medium** sensitivity, along with the risk of UXOs. There is also **high**

potential for medieval agriculture in the form of ridge and furrow ploughing which survives both above and below ground, which will be assets of **low** sensitivity, and for further buried features associated with the scheduled medieval moated site, which would be of **high** sensitivity.

20th Century Recreation (HCH3915) and 20th Century Communications (HCH1176, HCH3387, HCH9320, HCH1908)

- 3.5.8 These HLC areas comprise a motorway service station along the northern edge of the M56 motorway which was built in the mid-1990s; and the modern roads of the M56 and A5117. The former historic character of HCH3915 was assessed as medieval townfields which were located between the villages of Elton and Hapsford, and the area is depicted as two enclosed fields with irregular boundaries on the 1838 tithe map of Elton. A paleoenvironmental survey was undertaken prior to the construction of the services, which did not reveal any archaeological ecofacts, but did identify a peat deposit along the eastern edge of the Preliminary Order Limits (ECH3547).
- 3.5.9 Any remains associated with previous land use are likely to have been destroyed through development of the motorway services and associated roads, and the archaeological potential of this area is therefore assessed as **negligible**.

20th Century Fieldscapes (HCH3914)

- 3.5.10 This HLC area is situated approximately 400m east of the village of Elton, with part of its southern boundary being defined by the M56 motorway and associated services. It is comprised of agricultural fields, some of which have retained their character from at least the early 19th century as is evidenced on the Elton tithe map of 1838. This entails some of the hedgerows in this area may be deemed to be significant under the Hedgerow Regulations. Other boundaries have since been lost throughout the 20th century. No heritage assets are recorded in this area, though some of the boundaries depicted on 19th century mapping display characteristics consistent with medieval furlongs converted into field boundaries in the post medieval period. Faint traces of the remains of former medieval ridge and furrow have been identified as soil marks on 2015 Google Earth imagery, suggesting at least the northern portion of the area was part of open fields associated with nearby medieval villages such as Elton.
- 3.5.11 The possibility of buried remains associated with medieval and post medieval agriculture entails there is **medium** potential for the survival of buried ridge and furrow remains and former field boundaries in this HLC area, which would be assets of **low** sensitivity.

Post Medieval Fieldscapes (HCH3913)

- 3.5.12 This HLC area is located roughly 600m east of Elton village and sits between the M56 motorway in the south and the Hooton and Helsby railway line to the north. The area comprises agricultural land split into narrow rectangular fields bounded in some instances by mature hedgerows. This character is retained from at least the early 19th century as evidenced through the 1838 tithe map of Elton. Therefore, some hedgerows in this area may meet the criteria to be deemed important under

the Hedgerow Regulations. No heritage assets are recorded in this area, and no archaeological features have been identified on available remote sensing imagery. The area does however sit on an area of known peat deposits in which Investigations close by have recovered archaeological ecofacts dating to the Mesolithic and Bronze Age (RSK 2017). It is possible therefore that the peat layers which underlie this HLC area contain comparable evidence. The area is located upon tidal flat deposits including sandy deposits, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period.

- 3.5.13 Despite a lack of known evidence for heritage assets in this area, the potential for surviving remains is assessed as **medium** due to the presence of peat layers upon which this area is situated. There is also medium potential for lithics dating to early prehistory. These potential remains would carry medium sensitivity for their regional importance

Post Medieval and 20th Century Fieldscapes (HCH1161, HCH1178)

- 3.5.14 These HLC areas are occupied by enclosed agricultural land situated immediately south-west of Frodsham. Their location on underlying sand and gravels marks a change in underlying geology from the tidal flat deposits immediately north towards the River Mersey. Their current character is the result of boundary loss in the late 19th and 20th centuries, although the general field layout is largely retained from the pattern depicted on the Helsby tithe map and Frodsham Lordship tithe map, both of 1844. Therefore, some hedgerows within these HLC areas may meet the criteria to be considered important under the Hedgerow Regulations. Some removed boundaries have been identified as low earthworks on LiDAR imagery. No traces of ridge and furrow have been identified within these areas, although LiDAR analysis shows it immediately to the south-west and to the east. Only one heritage asset is currently recorded within this area, a post medieval bridle bit recovered from ploughsoil in HCH1161 (MCH23987).
- 3.5.15 Within this HLC area there is **high** potential for the buried and upstanding remains of medieval ridge and furrow and post medieval boundaries. Any features of this nature would be of **low** sensitivity as assets of local importance.

Industry (HCH1902)

- 3.5.16 This HLC area is located along the tidal flat deposits immediately south of the Manchester Ship Canal (MCH24520) and the River Mersey, and around 500m north of Frodsham. The area is currently occupied by Frodsham windfarm, which became fully operational in 2017, and largely unenclosed marsh and scrub. The Frodsham tithe map of 1844 shows most of the area as enclosed and drained, likely through Parliamentary Act. The primary use is meadow on the tithe, but traces of ridge and furrow have been identified on historic aerial photographs (Archaeological Research Services 2017). The enclosures were gradually removed throughout the 20th century, and a large portion in the centre of the HLC area has been used for landfill in the late 20th century. Other parts of the HLC area are depicted as 'Canal Deposit Dump' on early 21st century Ordnance Survey (OS) mapping. The levels of ground disturbance associated with these recent land uses will depend on the nature of the works and equipment used. Archaeological

monitoring ahead of the windfarm construction identified no archaeological features (L-P Archaeology 2016). The area is located upon tidal flat deposits including sandy deposits, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period.

- 3.5.17 Within this HLC area there is **medium** potential for lithic remains dating to early prehistory. Any finds of this nature would carry **medium** sensitivity for their regional importance. There is also **medium** potential for the remains of former field boundaries and ridge and furrow present from the 19th century until the later 20th century beneath dredged deposits. Any remains of this nature would be of **low** sensitivity as assets of local importance.

Industry (HCH15038)

- 3.5.18 This small HLC area comprises two land parcels along Rake Lane north-west of Helsby and are located either side of the M56 motorway. Both contain modern industrial units, with the northern parcel developing around Spring Farm which was built in the early 20th century, and the southern parcel developing around Meadow Farm which is first depicted on the OS 2nd edition map of 1873.
- 3.5.19 Due to extensive ground disturbance, there is **negligible** potential for archaeological remains within this HLC area.

Post Medieval Landscapes (HCH1157, HCH1904, HCH3912) and 19th Century Field Systems (HCH1159, HCH1909, HCH1158)

- 3.5.20 These areas are situated south of the intertidal flats associated with the River Mersey. Frodsham windfarm occupies part of the northern section of HCH1157. The areas comprise agricultural land which has undergone marshland enclosure during the late post medieval period, possibly through Parliamentary Act. Many of the existing fields are depicted on the Elton tithe map of 1838 and Helsby tithe map of 1844. Therefore, some of the hedgerows which bound these fields may meet the criteria to be considered important under the Hedgerow Regulations. The northern and eastern portions are depicted on the tithe maps as lying within Helsby Marsh and Lordship Marsh on 1st edition OS mapping. The presence of straight boundaries which define the fields in this area suggests these areas were brought into agricultural use at some point in the post medieval period enabled through technological developments in drainage during that time. The far north of HCH1157 contains the site of a possible former WWII prisoner of war camp (MCH23950), which was identified on aerial photographs. Little remains today, but field investigations identified two concrete platforms which were thought to be associated with the camp.
- 3.5.21 The only other recorded heritage asset in this area is an undated enclosure (MCH7626) in the western portion of HCH1157. This survives as a low earthwork visible on LiDAR imagery, however it is unclear what the feature represents, and it could be the result of natural phenomena as it is located in an area of reclaimed marsh. The marsh upon which these current fields are located has been subjected to research and investigation through the North West Rapid Coastal Zone Assessment (Archaeological Research Services 2017), which identified traces of

ridge and furrow ploughing within HCH1909 on historic aerial photographs. Investigations immediately west of HCH1904 uncovered layers of peat dated to the Mesolithic and Bronze Age periods (RSK 2017). The area is also located upon tidal flat deposits including sandy deposits, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithic scatters dating to the Mesolithic period. (NWERRF 2020).

- 3.5.22 Within these HLC areas there is **high** potential for archaeological ecofacts within peat deposits similar to those discovered immediately adjacent to HCH1904. There is **medium** potential for lithic scatters dating to the early prehistoric period. Any remains of this nature would be of **low/medium** sensitivity and would be of regional importance. There is also **high** potential for the buried and upstanding remains of post medieval ridge and furrow. Remains of this nature would be of **low** sensitivity as assets of local importance.

Woodland (HCH1910, HCH1911)

- 3.5.23 These small HLC areas are occupied by woodland around modern roads and industrial areas east of Ince. The woodland is the result of planting on ground which was extensively disturbed in the late 20th century, prior to which the areas consisted of enclosed fields surrounding the former Grinstone Farm, of which nothing now remains.
- 3.5.24 Within this HLC area there is **negligible** potential for archaeological remains due to extensive ground disturbance.

20th Century Settlement (HCH1026, HCH1819, HCH1897)

- 3.5.25 These HLC areas are occupied by 20th century housing which represents the urban expansion of the medieval market town of Frodsham which has been designated as a Conservation Area (DCH1399). The expansion of housing to the south-west and north-east of the town has been a steady development from the late 19th onwards, with the earliest phase occurring in HCH1026 in the form of terraced housing stretching north from Main Street. These are not depicted on the Frodsham tithe map of 1844 but are shown on the 2nd edition OS map of 1887. The housing within HCH1026 replaced former enclosed fields used for both arable and pasture by the 19th century. The housing within HCH1819 to the north-east of Frodsham is known as Newtown, which developed gradually either side of the A56 and the Birkenhead railway from a small industrial community in the 19th century. Development increased rapidly from the 1950s onwards, eventually encompassing the whole HLC area to what is now the M56 motorway. The housing replaced former enclosed fields which had changed little from the pattern depicted on the Frodsham tithe map.
- 3.5.26 Frodsham's known history can be traced back to the early medieval period. It was included in Domesday as belonging to the Earl of Mercia prior to the Norman Conquest and containing 13 households and nine ploughlands. It is one of a small number of settlements in Cheshire recorded as having a priest and a church at this time, that possibly being the Grade I listed Church of St Laurence (NHLE 1253193) which is primarily a 12th century build incorporating earlier elements. It is also likely that the location of the church within a further Conservation Area

immediately south-east of the town at Overton (DCH1400) was the estate centre (Cheshire Historic Towns Survey 2003; Higham 1993: 152-153). The present town centre is likely to have its origins within the later medieval period and is described as one long street by the 16th century (Ormerod 1882: 138). Heritage assets within these areas are concerned with later post medieval activity, such as the site of a Bone Works in the far eastern extent of HCH1819 (MCH10566), and the Birkenhead and Chester railway (MCH19851).

- 3.5.27 Within these HLC areas there is **low** potential for the remains of former post medieval boundaries and small finds within remaining open areas such as gardens. These would be of **low** sensitivity as assets of local importance.

20th Century Industry (HCH1181)

- 3.5.28 This HLC area, almost wholly industrial in character, is bounded by the M56 motorway to the south-east and on all other sides by the River Weaver and the Weaver Navigation Canal. The area currently comprises Frodsham Substation along with four large ponds which were built in the later 20th century and of which two are now filled in. Prior to 20th century industrial use, the area consisted of enclosed fields which are depicted on both the 1st edition OS map and the Clifton tithe map of 1844.
- 3.5.29 No heritage assets are recorded in this area, and due to the disturbance caused by industrial development in the 20th century, the potential for this HLC area is assessed as **negligible**.

Post Medieval Communications (HCH730, HCH990)

- 3.5.30 These HLC parcels are occupied by the Sutton Weaver Canal, which flows from the River Mersey in the north and joins the River Weaver south-east of Frodsham Junction. From here the HLC parcel incorporates the River Weaver to an area west of Bartington. The River Weaver Canal, also known as the Weaver Navigation, was introduced as an idea to maintain the River Weaver as a navigation from Frodsham to Windsford, and an act of Parliament was obtained in 1721 to undertake the works. The River Weaver became fully navigable for 40-ton barges by 1732. The Weaver Navigation prospered through the 19th century, being deepened and widened alongside the construction of the docks at Weston Point in 1806. The Weaver Navigation was mainly used to transport salt, and later chemicals from the growing industries around Northwich (Atterbury and Darwin 1983: 150-151).
- 3.5.31 Numerous heritage assets are closely associated with these HLC areas including Sutton lock (MCH15341), Viaduct over the River Weaver (NHLE 1391812), Weston Point Docks (MCH5954), and Runcorn Lime Kilns (MCH10035). However, only assets close to the Preliminary Order Limits will be dealt with here. The heritage asset with the highest archaeological potential close to the Preliminary Order Limits concerns a possible Roman arch and a portion of possible Roman Road found during the construction of this part of the Weaver Navigation in 1808 (MCH7729). Their proximity to the Roman Road-Chester to Wilderspool (Route 701) (MCH1449), now the modern A56, is potentially significant. The only other heritage asset close to the Preliminary Order Limits is the A56 Swing Bridge

(MCH17863) which crosses the Weaver Navigation around 150m north-west of the Preliminary Order Limits.

- 3.5.32 The Preliminary Order Limits is due to cross the HLC area 130m southeast of the potential site of the Roman remains. As these were found during the construction of the Weaver Navigation, it is debatable whether any archaeological remains within the Weaver Navigation (River Weaver) would survive due to the construction works undertaken during the 19th century, and as such the potential for further remains in this HLC area close to the Preliminary Order Limits is assessed as **low** for assets of **medium** sensitivity and local importance.

Post Medieval Fieldscapes (HCH1183)

- 3.5.33 This HLC area is currently characterised by scrubland in the east and hard standing in the west. It is bounded by the A56 to the south, the Weaver Navigation to the north-east, the Chester-Birkenhead railway to the north-west and industrial units to the south-west. Aside from the recently installed hard standing, the area has retained its historic character as enclosed fields which are depicted on the Sutton tithe map of 1838. The fields depicted on the tithe map are characterised by straight boundaries, which is indicative of late medieval enclosure, possibly of former marshland associated with Frodsham marsh. These fields were bisected by the Viaduct over the River Weaver (NHLE 1391812) in 1846, which still carries the Chester-Birkenhead Line (MCH19851). There are no recorded heritage assets within this HLC area, but the earthwork remains of ridge and furrow have been identified on LiDAR imagery in the eastern portion. This appears in two forms, both narrow and broad type, which suggests there is evidence of more than one phase of ploughing in the area. The broad ridge and furrow is likely to be representative of medieval ploughing, while the narrow ridge and furrow in the far eastern portion is more likely to be post medieval in date. The site visit was unable to determine these features on the ground due to the level of vegetation.
- 3.5.34 Due to the presence of earthworks representing at least two phases of ridge and furrow, the archaeological potential in the eastern portion of the area is assessed as **high**, for assets of **low** sensitivity and local importance. The disturbance and lack of assets in the western portion suggests the archaeological potential here is **low**.

20th Century Industry (HCH1184)

- 3.5.35 This HLC area is located immediately north of Sutton Causeway and immediately east of the River Weaver. It is currently largely occupied by Weaver Park Industrial Estate which includes a mix of historic and modern industrial units either side of Mill Lane and is part of the Frodsham Area of Archaeological Potential (DCH12597). Surviving historic structures relating to the site's former use as a water mill include the Grade II listed Mill House (NHLE 1253574) and the locally listed Aston Arms (DCH10614). Other recorded features include the site of Sutton Mill (MCH8258) and of a former lime kiln (MCH10567) which is depicted on the 1st edition OS map. Areas of hard standing across the area may seal other archaeological remains associated with Sutton Mill.

- 3.5.36 Within this HLC area there is **medium** potential for archaeological remains beneath the areas of hard standing relating to Sutton Mill. Any remains of this nature would be of **low** sensitivity as assets of local importance.

20th Century Industry (HCH1182)

- 3.5.37 This HLC area is located between the Weaver Navigation in the east and the River Weaver itself in the west. The M56 forms the northern boundary, with the Chester-Birkenhead railway forming the southern boundary. The area is currently largely under secondary woodland and scrub, having formerly been the possible site of landfill or dredging dumping in the 1960s and 1970s. Prior to this the area comprised regular enclosed fields with straight boundaries indicative of parliamentary enclosure of former marshland. These boundaries are first shown on the tithe map for Sutton dated to 1838. No heritage assets are recorded in this area, and due to the substantial modern disturbance, the archaeological potential for this area is assessed as **negligible**.

Post Medieval Fieldscapes (HCH1185, HCH1186)

- 3.5.38 These HLC areas, comprising agricultural land used for pasture, are located between the Weaver Navigation in the north-east and the River Weaver in the south-west, with the A56 Sutton Causeway forming the north-east boundary and marsh to the south-east. HCH1185 is bisected by a former mill race associated with Sutton Mill (MCH8258). The mill was built in 1670 for Thomas Wharburton (Pickering History 2011), and the location of which is recorded 100m north-west of this HLC area. The mill race still contains water but is now cut off from its original use. The northern portion of the area now contains standing water which has formed into a large established pond. This now overlies an area of former enclosed fields in which earthwork traces of former ridge and furrow have been identified on LiDAR imagery and on the ground during the walkover survey. South of the mill race lies an area of broad ridge and furrow which survives as prominent earthworks. These are morphologically consistent with medieval open field agriculture, possibly associated with the medieval settlements of Frodsham or Sutton. The former open fields in which the ridge and furrow is located was enclosed at some point in the post medieval period, the extant straight hedged boundaries of which are first recorded on the Sutton tithe map of 1844. This entails that these hedgerows may be deemed important under the Hedgerow Regulations. The northern boundary of this HLC area, the modern A56, is a known Roman road (MCH1449), and Roman remains were discovered during the construction of the Weaver Navigation, which forms the north-east boundary, in the early 19th century. The area is also located upon tidal flat deposits including sandy deposits, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period. (NWERRF 2020).
- 3.5.39 There is **high** potential for medieval ridge and furrow in these HLC areas due to the presence of upstanding remains. These would be of **low** sensitivity as assets of local importance. There is **medium** potential for the presence of Roman remains associated with the nearby Roman Road and possible remains found during the construction of the Weaver Navigation. This potential is bolstered by the relative lack of later disturbance in the HLC areas. Any remains of this nature

would be of **medium** sensitivity as assets of regional importance. There is also **low/medium** potential for lithic scatters dating to early prehistory which would carry medium sensitivity for regional importance.

20th Century Industry (HCH1013)

- 3.5.40 This HLC area is located immediately south of the Weaver Navigation, with the River Weaver forming the east and south boundaries and agricultural fields immediately to the west. It now comprises open marsh and scrub surrounded by a narrow body of standing water. This current character has developed following a period during the late 20th century when it was used as a canal deposit tip. Prior to this the area contained enclosed fields which were in place from at least the early 19th century, as is shown on the Sutton tithe map of 1844. The tithe map also shows an area of standing water in the far north-east of the area, this appears to be defined by an earthen bank which remains in situ. A hedged boundary associated with this phase of land use remains intact despite modern disturbance. Historic OS mapping shows a raised bank, likely associated with historic flood defences, running roughly around the northern and eastern edges of the Preliminary Order Limits, and the northern portion of this remains intact close to the Weaver Navigation. The area lies adjacent to the Grade II listed Frodsham weir and sluice gates (NHLE 1253445), although it is deemed unlikely that any associated features would be found in the HLC area. A small block of surviving ridge and furrow has been identified on LiDAR imagery in the south-east corner of the area. This is likely to be part of the same phase of medieval open field agriculture as that found more extensively in HLC area HCH1185 directly to the west. That the remainder of the area is devoid of similar evidence for ridge and furrow might imply the significant disturbance deriving from the area's use as a tip in the late 20th century. The area is also located upon tidal flat deposits including sandy deposits, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.41 There is **high** potential for the remains of medieval ridge and furrow in the south-west corner of the HLC area, and **low** potential in the remainder of the area due to later disturbance. There is **medium** potential for lithic scatters relating to early prehistoric activity, which would carry **low/medium** sensitivity as remains of regional importance. There is **medium** potential for remains of post medieval field boundaries, and **high** potential for the remains of historic flood defences. All these potential features would be of **low** sensitivity as assets of local importance.

Post Medieval Fieldscapes (HCH1169, HCH12752)

- 3.5.42 These HLC areas comprise improved fields situated south of the village of Sutton which consist of large sub-rectangular fields bounded by erratic hedgerows. This character has remained largely unchanged since the mid-19th century as evidenced through the tithe map of 1843 and some of the hedgerows are likely to be surviving elements from this time. It is therefore likely that some hedgerows in this area would be considered important under the Hedgerow Regulations. No known evidence of medieval activity is recorded in these areas, but the proximity to Sutton, which has medieval origins, suggests they may have formed part of medieval open fields associated with the village. No recorded evidence for

medieval ridge and furrow is present in the area to support this, but surviving blocks are recorded around 200m to the south-west of the areas.

- 3.5.43 HCH1169 contains evidence for possible prehistoric ceremonial and mortuary activity in the form of possible round barrows surviving as below ground deposits and visible as cropmarks on aerial photography (MCH8218 and MCH8219). LiDAR survey undertaken for this DBA has identified a low mound in this area which may represent a further barrow. There is evidence for the remains of prehistoric or Romano-British field systems in the vicinity of this HLC area, surviving as below ground deposits and visible as cropmarks. The earliest evidence for human activity recorded within this area is a flint scatter found through fieldwalking which is thought to be of Mesolithic date (MCH8107). This area is located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced similar evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.44 Due to the nature of existing evidence and the likely lack of disturbance to sub-surface deposits, there is **high** potential for possible prehistoric round barrows within these HLC areas. Any remains of this nature would be of **medium** sensitivity as assets of regional importance. There is also **medium** potential for the remains of former field systems likely to date to the prehistoric and Romano-British periods which may be associated with recorded evidence just beyond the HLC areas. Any remains of this nature would carry medium sensitivity as assets of regional importance. There is **high** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Recreation - Golf Course (HCH1169)

- 3.5.45 This HLC area is currently occupied by Sutton Hall golf club, which is located immediately south of the village of Sutton Weaver and west of Grade I listed Sutton Hall (NHLE 1253572). The present character replaced a former pattern of enclosed fields in the 1990s which had remained largely unchanged from that depicted on the Sutton tithe map of 1843. The golf course incorporates an existing stand of mature woodland, Lowes Wood, in the centre of the HLC area, which is also depicted on the 1843 tithe map. Archaeological investigations prior to the construction of the golf course recorded a culvert running south from the extant millpond immediately west of Sutton Hall (Gifford and Partners 1994). Prehistoric flint scatters have also been found within and close to this area (MCH8062; MCH8107), which alongside the presence of recorded prehistoric barrows immediately north of the area (MCH8218; MCH8219) suggests further features similar in nature may await discovery in the area.
- 3.5.46 Within this HLC area there is **high** potential for the remains of prehistoric activity including barrows and small finds similar to recorded examples within and around the area. These would be of **medium** sensitivity as assets of regional importance. There is also **high** potential for the buried remains of medieval and post medieval field boundaries which have not been disturbed by the construction of the golf course. Any remains of this nature would carry **low** sensitivity as assets of local importance.

Post Medieval Fieldscapes (HCH1225)

- 3.5.47 This HLC area is located immediately east of Sutton, and to the north is bisected by the M56 motorway. It comprises enclosed fields defined by straight boundaries which appear to have been established in the late 19th century as is evidenced on the earliest OS mapping. The present character of the fields is indicative of the amalgamation of multiple phases of piecemeal enclosure of former open fields, which can clearly be seen on the tithe map for Sutton dated to 1844, which shows a pattern of small irregular enclosed fields extending east from the village of Sutton. Some of the boundaries from this previous character have been incorporated into the present landscape. Many of the boundaries on the tithe map have the reverse 'S' shape indicative of former medieval furlongs and selions associated with former medieval open field agriculture. It is likely, therefore, that much of this HLC area was open fields associated with the village of Sutton, which has origins in at least the medieval period. The latter point is evidenced through its place name elements, deriving from 'South farmstead or village' (Dodgson 1970: 180), and the village's planned linear layout which is indicative of medieval nucleated settlements (Historic England 2018). No traces of ridge and furrow associated with this former phase of land-use have been identified on LiDAR imagery, suggesting subsequent heavy ploughing has reduced any potential remains for below ground deposits. Analysis of Google Earth imagery has not identified traces of ridge and furrow.
- 3.5.48 Analysis of Google Earth imagery has led to the identification of numerous cropmarks which are likely to relate to prehistoric activity. These take the form of linear buried ditches in the northern and central portions of the HLC area, which are likely to be representative of late prehistoric or Romano-British fieldscapes. One particular group of features is more enigmatic and shows up as a result of a lack of crop growth, or negative cropmarks (Wilson 2000: 67-69) which form a series of small circular features ranging from 3m to 5m in diameter and linked by linear features which are also visible through a lack of growth. The provenance of these features is unclear: they could represent prehistoric barrows, which would tie in with other recorded evidence in the fields to the south of the HLC area (e.g., MCH8219); or they could be related to former cattle feeders which have long since disappeared on the ground. A heavy anti-aircraft gunsight, a Scheduled Monument (NHLE 1019849), is located in the immediate vicinity of this HLC area, and it could be that the features in question have some as-yet unknown relationship with this. This area is located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.49 There is **high** potential within this HLC area for the buried remains of former medieval open fields in the form of buried ridge and furrow, which would be of local importance and **low** sensitivity. There is also **high** potential for the buried remains of prehistoric or Romano-British field systems, which would be of local importance and **low** sensitivity. In addition, there is **high** potential for further buried archaeological features relating to the negative cropmarks identified; if they relate to prehistoric barrows they would be of national importance and be of **high** sensitivity and could warrant classification as a Scheduled Monument. A degree of caution should be given alongside this assessment, as the negative cropmarks could be representative of animal feeders and as such would be of **low** sensitivity.

There is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Ancient Woodland (HCH1226)

- 3.5.50 This HLC area is occupied by ancient bands of woodland surrounding agricultural land located immediately south and west of the village of Aston. Its present character has been largely retained from that depicted on the 1843 Aston by Sutton tithe map, where it is described as comprising of a mix of woodland and plantation. This indicates the woodland was not wholly ancient and was partly being used to supply timber.
- 3.5.51 The area was likely once part of ornamental parkland associated with Aston Old Hall (MCH8340), a 16th century timber framed building which was demolished in 1938. Surviving remnants of the former hall are the Grade II listed wings of the building now used as a gamekeepers' cottage and store (NHLE 1253145), a dovecote (NHLE 1253143), coach house (NHLE 1253144) and a circular horse trough, (NHLE 1261931). The Manor of Aston belonged to the Aston family from the reign of Henry II (1133-1189) (Ormerod 1882: 531). There are suggestions that the house was moated but there is no physical evidence to support this. A group of four fishponds are located in the eastern portion of woodland, which may be related to the medieval manor.
- 3.5.52 Aside from areas of probable historic mineral extraction, no archaeological features have been identified on LiDAR DTM imagery beneath the woodland canopy. However, within the open agricultural land that this area encircles there is evidence for prehistoric activity in the form of cropmarks which represent the possible remains of a round barrow (MCH16127), and former field boundaries and rectilinear enclosures (MCH24439; MCH24439). The evidence for a possible round barrow in this area is consistent with further evidence around 600m north-west (MCH8218; MCH8219). This suggests this area on the sands and gravels overlooking the River Weaver held great importance during the main period of round barrow construction between 2000-1500 BC (Historic England 2018b). This area is located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.53 Other linear cropmarks do not correspond with any depicted on historic mapping and appear to be of more than one phase of land management. It is possible that some may relate to medieval ridge and furrow.
- 3.5.54 Within this HLC area there is **high** potential for the buried remains of prehistoric round barrows and field boundaries. Any remains of this nature would be of **medium** sensitivity as assets of regional importance. There is also **high** potential for the buried foundations of Aston Old Hall in the south-east portion of the HLC area. Remains associated with this may include cellars and foundation layers and would be of **medium** sensitivity as assets of regional importance. There is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

20th Centuriescapes (HCH1235)

- 3.5.55 This HLC area is located immediately north of the village of Aston, with Aston Heath located directly to the north-east. Whitehouse Industrial Estate forms the northern boundary of the area, with Sutton Fields Farm located along the north-west boundary. The area currently comprises a network of large sub-rectangular arable fields which are largely the product of 20th century developments. Prior to this the area largely consisted of a slightly different and more irregular field pattern which is visible on the Aston by Sutton tithe map of 1844. Some of the boundaries from this layout have remained intact in the current layout. The Severn Vyrnwy Aqueduct traverses this HLC area as a tunnelled pipeline (MCH10449). When it was built in the late 19th century it was the longest aqueduct in the world (Engineering Timelines 2020). The feature has been identified on LiDAR imagery as a low earthwork in an area of pasture. It is also clearly visible as a negative cropmark in other parts of the HLC area.
- 3.5.56 The tithe map shows an area of small tenement plots in the far south-east corner of the HLC area. Some of these plots contain houses which still stand immediately south of the area including the Grade II listed The Cottage (NHLE 1136640). The small plots to the north of the existing houses were amalgamated through the late 19th and early 20th centuries before being removed in the late 20th century with the land being given over to arable agriculture. The nature of these plots is indicative of medieval croft units which probably formed an opposing row of houses in Aston village during this time. Linear cropmarks (MCH24503) may relate to former boundaries associated with these crofts. The field in which these features are located was known as 'Near Town Field' on the tithe map. This implies this field was part of a medieval open field likely to be associated with the medieval settlement of Aston. Some fields in the north of the area contain 'heath' within their names, which implies this area may have been used as common grazing land during the medieval period. As the HLC area is located directly adjacent to village of Aston which has medieval origins, it is possible that early medieval phases of settlement may lie in its immediate environs. The place name Aston contains old English elements, meaning East Farm (Dodgson 1970: 160).
- 3.5.57 Numerous linear cropmarks identified on Google Earth 2018 imagery are likely to represent the remains of former late prehistoric or Romano-British field systems, adding to evidence in other HLC areas along this ridge overlooking the River Weaver. The only other evidence for prehistoric activity in the area is a fragment of a nodule of mottled grey flint with edges that indicate this fragment had been utilised as a tool (MCH8401). This type of flint is not native to Cheshire and must have been traded into the area. It was found during fieldwalking. This area is located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has commonly produced lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.58 Within this HLC area there is **high** potential for post medieval industrial remains in the shape of the Severn Vyrnwy Aqueduct which crosses the proposed pipeline route. There is also **high** potential for the remains of medieval and post medieval croft boundaries in the south-east corner of the area. These would be of **low** sensitivity as assets of local importance. There is **high** potential for the buried remains of former boundaries relating to prehistoric or Romano-British field

systems which would be of **medium** sensitivity as assets of regional importance. There is **medium** potential for the remains of medieval and post medieval ridge and furrow and field boundaries which would be of **low** sensitivity as assets of local importance, and **low** potential for early medieval settlement features in the southern portion of the area, the remains of which would likely be reduced to ephemeral buried post holes and pits. These would be of **medium** sensitivity as assets of regional importance. There is **high** sensitivity for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Post Medieval Landscapes (HCH1247)

- 3.5.59 This HLC area is located immediately east of Aston village and comprises agricultural fields which are largely in arable use. The area is split into two separate portions, separated by Bankfield Farm, the farmhouse of which is Grade II listed (NHLE 11384490). The existing field boundaries in the western portion of the area have remained intact from the pattern depicted on the Aston by Sutton and Aston Grange tithe maps of 1844. The hedgerows in this western portion may meet the criteria to be deemed significant under the Hedgerow Regulations. The portion of fields east of Bankfield Farm, however, has changed significantly during the late 19th and early 20th centuries, from a pattern of small, irregular shaped fields to larger, more regular fields defined by straight hedgerows. None of the former character remains in this portion. The earlier pattern of fields depicted on the tithe map in the eastern portion of the HLC area are likely to be the result of a long process of piecemeal enclosure throughout the post medieval period. The tithe map apportionment shows that two small fields immediately east of Bankfield Farm were used as orchards during this period.
- 3.5.60 The Severn Vyrnwy Aqueduct (MCH10449) traverses underground through the western portion of the area; this asset is described in more detail in HCH1235, above. The only other tangible evidence for post medieval activity in the HLC area is the presence of the boundaries in the western portion and numerous small finds recovered from fieldwalking surveys. The eastern portion of the area contains earthworks which relate to locations of field boundaries, lanes, woodland and marl pits depicted on the tithe map of 1844 (MCH24736). This area is depicted as a strip of woodland on the tithe map which has since been removed. The earthworks are now less well defined than and the former ponds which formed from marl pits have been agglomerated into two single ponds which are now used as a small nature reserve in the centre of a large arable field.
- 3.5.61 Across the HLC area numerous linear cropmarks have been identified on 2018 Google Earth imagery. These are likely to represent the buried remains of former prehistoric or Romano-British field systems, and in particular a possible settlement enclosure in the south-west portion of the HLC area. This area is located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.62 Within this HLC area there is **high** potential for the existing The Severn Vyrnwy Aqueduct in the western portion, for the remains of former field boundaries and marl pits in the eastern portion of the area, and also for the buried remains of

prehistoric or Romano-British settlements and field systems and early prehistoric lithic scatters. These assets would all be of local importance and **low** sensitivity, aside from the prehistoric settlement and field system remains and lithic scatters, which would be of **low/medium** sensitivity as assets of regional importance.

20th Centuries Fieldscapes (HCH21248)

- 3.5.63 This HLC area is located north-east of the village of Aston and is bounded to the east and west by HLC parcel HCH1247. Bird's Wood lies directly to the north-east. The northern portion comprises three large agricultural fields in current arable use, and which are the product of agricultural developments in the late 19th and early 20th centuries. A further portion of the HLC area is located south of Bankfield Farm, which is also characterised by two large arable fields but here bounded by irregular boundaries following prominent topography. Aside from the removal of internal boundaries, the southern portion has seen little alteration from the layout depicted on the Aston Grange tithe map of 1844. The boundaries depicted in the north of the area shown on the tithe map are indicative of the long process of piecemeal enclosure which occurred throughout the post medieval period. Many former boundaries present a reverse 'S' morphology suggestive of former medieval furlongs, so it is likely that this area was part of a medieval open field which was probably associated with Aston during its medieval phase. This is further bolstered by the presence of field names on the tithe map such as 'town field', which is a typical name given to a former medieval open field. The fields in the south of the area are all depicted on the tithe apportionment as pasture by the 19th century. The field names here all include 'wood'. This, coupled with the presence of woodland surrounding this part of the HLC area, implies it may have been part of a larger area of woodland up until the post medieval period.
- 3.5.64 Numerous linear cropmarks identified on 2018 Google Earth imagery in the north of the area are likely to represent the buried remains of former prehistoric or Romano-British settlements and field systems. Similar evidence could not be identified in the south of the HLC area. The only recorded evidence in this HLC area relates to random small finds dating to the post medieval period recovered through fieldwalking (e.g., MCH13436). The northern portion of this HLC area is located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.65 Within this HLC area there is **high** potential for the presence of buried ditches relating to prehistoric and/or Romano-British settlement and fields. These would be of **medium** sensitivity as assets of regional importance. There is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance. There is **medium** potential for the buried remains of medieval and post medieval ridge and furrow and field boundaries. These would be of **low** sensitivity as assets of local importance.

Ancient Woodland (HCH1202, HCH1250)

- 3.5.66 These HLC areas are located either side of the L&NWR Grand Junction line close to Dutton. They are wholly occupied by ancient woodland which is depicted on the

Dutton tithe map of 1843 and are likely to be remnants of a larger area of woodland, perhaps Longacre Wood and Reservoir Wood which are located immediately east of these areas. Both areas of woodland line streams which run into the Longacre Brook to the east. No heritage assets are recorded in these areas and no archaeological features have been identified on LiDAR DTM imagery.

- 3.5.67 Within this area there is **medium** potential for archaeological remains due to the relative lack of ground disturbance. The nature of any possible remains is unknown.

Post Medieval Landscapes (HCH1138, HCH1193)

- 3.5.68 These HLC areas are located on either side of the London and North-western railway (formerly the Grand Junction Railway), around 800m east of Aston Grange and currently consist of three large fields in both arable and pasture use. Aside from some boundary removal in the late 19th and early 20th centuries, the field pattern has remained largely intact from that depicted on the Dutton tithe map of 1841. The area at this time appears to have been closely associated with the nearby Dutton Park Farm (MCH17235) located around 60m south-east of the HLC areas. This is gleaned from fieldnames on the tithe apportionment which contain 'Park'. The 1841 tithe map also shows the line of the Grand Junction Railway, which was built in the 1830s linking Birmingham and Liverpool and was one of the first long distance rail routes in the country (Railscot, no date).
- 3.5.69 No heritage assets are recorded in these HLC areas, and no potential archaeological features have been identified on remote sensing imagery. Despite this there is **medium** potential for the remains of former post medieval field boundaries. These would be of **low** sensitivity as assets of local importance. There is also **medium** potential for the buried remains of former prehistoric settlements and field systems based on evidence from the vicinity of the HLC areas. Any remains of this nature would carry **medium** sensitivity for their regional importance.

Communications (HCH2, HCH1175, HCH134466, HCH18472)

- 3.5.70 These HLC areas comprise railways established in the 19th century, the London and North-western railway (formerly the Grand Junction Railway), which was built in the 1830s to connect Birmingham and Liverpool, and the Birkenhead Line. These railways remain in operation, and as such the archaeological potential for these HLC areas is **negligible**.

Post Medieval Landscapes (HCH1194, HCH1279)

- 3.5.71 This HLC area is located immediately east of Dutton Park Farm and around 350m south of Dutton Lodge Farm. The area currently consists of four fields, of which the southernmost three are now lightly wooded. The northernmost field is currently used as pasture. The London and North-western railway bisects the southernmost field roughly north to south. Aside from some boundary removal during the late 19th and early 20th century, the pattern of fields in this area has remained intact since that depicted on the Dutton tithe map of 1841. The tithe apportionment

shows the area to have been used as pasture and meadow by the early 19th century. There are no heritage assets recorded in this HLC area. An irregular array of earthworks has been identified in the northernmost field, through which the Preliminary Order Limits is due to traverse. This field was surveyed as part of the site walkover for this DBA, but no coherent pattern could be discerned on the ground, and it was concluded that these features are most likely the result of natural phenomena.

- 3.5.72 Due to the lack of recorded evidence, and historic and current land use, the archaeological potential for this area is deemed to be **medium** in terms of the possibility of the remains of post medieval field boundaries. These would be of **low** sensitivity as features of local importance.

20th Century Landscapes (HCH1282)

- 3.5.73 This narrow HLC area is located 150m east of Dutton Park Farm and currently comprises a mix of ancient and secondary woodland which skirts the Longacre Brook. This character has remained largely intact since the early 19th century, as evidenced on the Dutton tithe map of 1841. The Longacre Brook forms part of the historic parish boundary between Dutton and Acton, land units which have origins in at least the medieval period. No heritage assets are recorded within the HLC area, but it does skirt Pickering's Cut, an artificial arm of the River Weaver (MCH24778), which was first dug in the 1730s as part of the original construction of the Weaver Navigation, bypassing a meandering section of the river. In the 1870s, with the construction of the present cut through Dutton Locks, the eastern section of Pickering's Cut became disused and was allowed to silt up, although short stretches remain filled with water along the south-west boundary of the HLC area. This area is located upon underlying alluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.74 Within this HLC area there is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance. there is **low** potential for evidence associated with Pickering's Cut, which would probably take the form of small finds representing discarded objects from when the Cut was in use. These would be of **low** sensitivity as finds of local importance.

Post Medieval Landscapes (HCH1283)

- 3.5.75 This HLC area is located either side of the River Weaver close to Dutton Locks. It is currently occupied by narrow enclosed fields which have largely retained their character from the pattern depicted on the Dutton tithe map of 1843. No heritage assets are recorded in this area, but the low earthworks of former ridge and furrow ploughing have been identified on LiDAR imagery. It is mostly broad ridge and furrow, with the reverse 'S' shape present in some areas which is characteristic of medieval agriculture. This area therefore represents a rare example of upstanding medieval ridge and furrow in the Study Area. The area is located upon underlying alluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).

- 3.5.76 Within this HLC area there is **high** potential for the upstanding remains of medieval ridge and furrow. Remains of this nature will be of **low** sensitivity as assets of local importance, although this HLC area represents a rare example of the survival of this feature type in the Study Area. There is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Post Medieval Fieldscapes (HCH1191)

- 3.5.77 This HLC area occupies low-lying ground immediately north of the River Weaver, with the Longacre Brook forming its western boundary. The Trent and Mersey Canal Conservation Area forms the northern boundary of the HLC area, and the east of the area runs to the edge of Bartington village. The west of the area is currently composed of a series of rectangular fields used for a mixture of arable and pasture. A review of tithe and early OS mapping shows this pattern was the result of land development in the late 19th century, as the pattern of fields depicted on the Acton tithe map of 1841 is almost wholly different and includes the now silted up former route of the River Weaver following rerouting in the 1870s. This former river route once formed part of the parish boundary between Acton and Dutton and is still shown on the OS 2nd edition despite the river being silted up by this time. The field boundaries in the west of the HLC area as shown on the tithe map are irregular in shape, but still likely to be late post medieval in date due to the straight boundaries. One hedgerow which remains extant today, displays a reverse 'S' morphology which is suggestive of medieval furlongs associated with open field agriculture from that period. It is likely that this would be deemed important under the Hedgerow Regulations. Field names in this area include the term 'hey', which is derived from the Norse word for hedge, or enclosure. Traces of ridge and furrow have been identified on LiDAR imagery, however, these do not seem to correspond with the alignment of field boundaries depicted on the tithe map and so could be the remnants of an earlier field system. In addition, an isolated circular feature and the possible remains of relict ditches have been identified in the west of the area on LiDAR LRM imagery, although these cannot be assigned to any particular use or period. The ditches do not correspond with field patterns on the tithe map so are likely to be part of a medieval or earlier phase of land use.
- 3.5.78 The eastern portion of the HLC area has also seen a degree of change to the field patterns depicted on the Acton tithe and Bartington tithe maps which took place in the late 19th century as is evidenced on the OS 2nd edition map. These fields are described as largely water meadow on the tithe apportionment, which by this time lay between the River Weaver and the Trent and Mersey Canal. The canal was completed in 1777 (Inland Waterways, no date) and is now a Conservation Area (DCH8686). No heritage assets associated with the canal are recorded in this HLC area.
- 3.5.79 The HLC area lies in close proximity to the village of Bartington village. Bartington is located just east of this area and is recorded in the Domesday Book of 1086 as containing three households (Open Domesday, no date). The place name contains the Old English element of *ingtun*, which describes a settlement called after or associated with in this case Beornthryth, which interestingly is a female name (Dodgson 1970: 106). This evidence implies therefore that Bartington has pre-

Conquest roots, and early phases of settlement have often been found on the outskirts of medieval village cores elsewhere in England (Wright 2015).

- 3.5.80 Linear cropmarks have been identified on Google Earth imagery from 2018 in the eastern portion of this HLC area. These features do not correspond with any known existing or historic field patterns, carrying the likelihood that they represent the remains of former field systems associated with prehistoric or Romano-British land-use and settlement. The proximity of these features to the River Weaver suggests further as yet unknown remains await discovery in this area. This area is located upon underlying alluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.81 Within this HLC area there is **high** archaeological potential for the buried remains of ridge and furrow and former field boundaries associated with medieval and post medieval land-use. These would be of **low** sensitivity as assets of local importance. There is also **high** potential for the remains of buried ditches associated with prehistoric land-use and settlement, which would be of **medium** sensitivity as assets of regional importance. There is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance. There is **low** potential for the presence of medieval and early medieval settlement remains in the east of the HLC area. These would likely take the form of buried post holes, pits and ditches, and would be of **medium** sensitivity as assets of regional importance.

Post Medieval Landscapes (HCH1276)

- 3.5.82 This HLC area is located immediately north and east of the Trent and Mersey Canal Conservation Area (DCH8686). Dutton Hall lies immediately to the west of the area, with the Dean Brook forming the eastern boundary. The area currently comprises large agricultural fields under arable cultivation. Aside from the removal of a small block of enclosures in the south-west, the field system has remained intact from that depicted on the Dutton tithe map of 1844. The tithe apportionment describes the large field in the north-east as 'East Field', which implies it may have once been part of a system of medieval open field agriculture, perhaps associated with the medieval village of Dutton, which is recorded in Domesday as containing nine households (Open Domesday, no date). No traces of ridge and furrow have been identified on remote sensing imagery to support this claim, however, the freely draining sandy soils which underlie this area would have made it an attractive location for medieval arable agriculture. It is unclear what form of settlement Dutton was in the medieval period. The County Palatine of Chester map, produced in 1794 (National Library of Scotland, no date a), shows a cluster of tenements around what is now Dutton Hollow Farm, however by the early 19th century most of these plots have been removed. The nearby Dutton Hall, adjacent to the HLC area, is just one of at least four individual farms in the locality which share the name Dutton. Dutton Hall has now been converted into a number of modern residences.
- 3.5.83 Recorded heritage assets within this HLC area are limited to small finds recovered through fieldwalking, including a medieval coin (MCH7622) and a possible Saxon brooch (MCH8048). Immediately west of Dutton Hall lies a small area of

incoherent earthworks which has remained in use as pasture since the early 19th century. The tithe apportionment, however, describes this area as outbuildings, so there is a possibility that some earthworks here are the remains of such buildings.

3.5.84 Within the large fields in the east numerous linear cropmarks have been identified on Google Earth 2018 imagery. These are likely to represent the buried remains of former prehistoric or Romano-British field systems. The proximity of this area to the Dean Brook in the east would suggest further features of this type await discovery.

3.5.85 There is **high** archaeological potential within this HLC area for the buried remains of former prehistoric and Romano-British field systems and settlements in the east of the area. These would be of **medium** sensitivity as assets of regional importance. There is also **high** potential for the remains of former buildings associated with Dutton Hall. These would take the form of low wall footings and foundations, which would be of **low** sensitivity as features of local importance. There is **low** potential for the presence of medieval ridge and furrow which would take the form of buried deposits of **low** sensitivity and local importance.

North Corridor

Communications (HCH13)

3.5.86 This HLC area is wholly occupied by the Manchester to Chester railway which bisects largely enclosed agricultural land in the current Study Area. The line was built in the late 19th century and continues to be in use.

3.5.87 Due to extensive disturbance caused by the construction of the railway there is **negligible** potential for archaeological remains pre-dating the late 19th century within this HLC area.

Communications (HCH237)

3.5.88 This HLC area is occupied by the M6 motorway, which in the current Study Area bisects a landscape of enclosed fields. Due to extensive disturbance caused by the construction of the motorway there is **negligible** potential for archaeological remains in this area.

Ancient Landscapes (HCH1195)

3.5.89 This large HLC area is bounded to the south by the Trent and Mersey Canal Conservation Area (DCH8686) and comprises a network of enclosed fields under arable cultivation with some areas of pasture. Aside from some limited boundary removal in the late 19th and early 20th centuries, the current field pattern is as it was depicted on the Dutton tithe map of 1844. Some of the existing hedgerows in this area may therefore meet the criteria to be deemed important under the Hedgerow Regulations. The HLC area incorporates part of the Trent and Mersey Canal Conservation Area which here comprises woodland and scrub. Numerous ponds are located within the fields which make up the majority of this HLC area. These are likely to be the result of silted up extraction pits of unknown date. Low earthworks representing more of these pits are dotted throughout this part of the

Study Area, probably concerned with the extraction of clay upon which this HLC area lies (Soilscapes, no date). The provenance of these features is further evidenced through the tithe apportionment, which describes two fields in the north of the area containing ponds as 'Near Shaft Field' and 'Further Shaft Field'.

- 3.5.90 The irregular nature of the field pattern within this HLC area is indicative of a long process of piecemeal enclosure which occurred throughout the post medieval period. One area in particular consisting of fields immediately east of Hill Farm (MCH17232) has undergone considerable change from the pattern depicted on the tithe map. By the early 19th-century, the fields in this area and directly north-west were highly irregular in shape with numerous strips known as 'Town Field'. This, along with the presence of well-draining soils in this discrete area, is highly indicative of former medieval open fields which have undergone piecemeal enclosure in the post medieval period, but then underwent a further phase of enclosure in the late 19th century as is evidenced on the 1st and 2nd edition OS maps. The tithe apportionment describes many of the fields within the rest of this HLC area as being under pasture, meadow, or used for root vegetables, with very few used for cereal cultivation. This may relate to the slowly permeable clayey soils which underlie these parts of the HLC area.
- 3.5.91 Heritage assets in this area comprise a medieval coin pendant found through fieldwalking (MCH20780) and a possible prehistoric settlement enclosure visible as a cropmark on aerial photographs (MCH24432). No associated features have been identified on available remote sensing imagery either in the vicinity of the cropmark enclosure or indeed throughout the HLC area as a whole, although this absence of evidence should not be taken as evidence for absence.
- 3.5.92 Within this HLC area there is **medium** potential for the buried remains of former post medieval field boundaries, and for medieval ridge and furrow associated with open field agriculture in the area immediately east of Hill Farm. Any features of this nature would be of **low** sensitivity as assets of local importance. There is **high** potential for prehistoric settlement and land-use evidence in the north-west of the area as evidenced through the known enclosure; these would be of **medium** sensitivity as assets of regional importance.

Woodland (HCH1208)

- 3.5.93 This HLC area comprises two small areas of woodland situated around 1.7km west of Lower Whitley. The area is surrounded by large enclosed agricultural fields. Both areas of woodland are depicted on the Dutton tithe map of 1843 as plantation. No heritage assets are recorded within this HLC area, but traces of former extraction pits have been identified on LiDAR DTM imagery which gives some idea of the former use of the area prior to plantation. These pits are similar in size and shape to numerous others identified in this part of the Study Area, which were probably used to extract clay and marl.
- 3.5.94 Within this HLC area there is **medium** potential for archaeological remains of an unknown nature due to the relative lack of disturbance aside from the extraction pits.

Post Medieval Fieldscapes (HCH1255, HCH1257, HCH13016, HCH13044, HCH1259, HCH1261)

- 3.5.95 These HLC areas are located around 1.8km south-east from the nearest settlement, Preston on the Hill and around 1km north of Dutton Hollow Farm. They currently consist of enclosed agricultural land bounded by straight hedgerows. Although the overall basic pattern is that which existed in the early 19th century, many boundaries have been removed and straightened through agricultural developments in the late 19th century. The HLC areas are surrounded by historic farms built in the post medieval period, Lightwood Farm (MCH17241), Brook Farm (NHLE 1139140), and Thatched House Farm. These are probably associated with the piecemeal enclosure which took place in the post medieval period. Some of the surviving boundaries display the reverse 'S' morphology characteristic of medieval furlongs and open field agriculture. Faint earthwork evidence for ridge and furrow has been identified on LiDAR LRM imagery to support this theory. The remains of numerous historic extraction pits have been identified on LiDAR imagery. These cannot be accurately dated and, as a whole, probably span a long period of mineral extraction. Further evidence for this can be found in the tithe apportionment for Dutton (1844), where one field is named 'Marl Croft'.
- 3.5.96 Within HCH1255, the HER records the location of an L-shaped building and a number of small plots which are last shown on the Dutton tithe map of 1844. The tithe apportionment describes them as four cottages, gardens, a barn and a road (MCH23657). These were cleared at some point in the later 19th century at probably the same time as the aforementioned agricultural developments. Faint earthwork traces of elements of this former phase of land use have been identified on LiDAR LRM imagery, however the same imagery shows large areas of mineral extraction, probably of marl which underlies much of these areas.
- 3.5.97 The northwest fringe of HCH1261 is located upon underlying alluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.98 There is **high** potential for medieval and post medieval ridge and furrow and former boundaries within these HLC areas. These would be of **low** sensitivity as assets of local importance. Based on evidence in the vicinity of the area there is **medium** potential for buried ditches and pits relating to prehistoric or Romano-British settlement and land-use. These would be of **medium** sensitivity as assets of regional importance. In addition, there is **medium** potential for lithic scatters dating to early prehistory within HCH1261. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Post Medieval Fieldscapes (HCH13009)

- 3.5.99 This HLC area is located roughly 400m south of the M56 motorway and, at its western extent, bounds the village of Preston-on-the-Hill. The area comprises large sub-rectangular enclosed fields that, assessed on a review of the Preston-on-the-Hill tithe map of 1843 and the 1st and 2nd edition OS maps, are largely the product of late 19th and early 20th century agricultural development. Some existing boundaries remain from the pattern depicted on the tithe map, the existing

hedgerows of which may meet the criteria to be considered important under the Hedgerow Regulations.

3.5.100 A degree of boundary loss has occurred during the 20th century; the remains of some of which have been identified as low earthworks on LiDAR hillshade imagery. The irregular enclosed fields shown on the tithe map represent the long process of piecemeal enclosure which occurred through most of the post medieval period. Many of the boundaries, some of which remain extant, bear the reverse 'S' morphology characteristic of medieval furlongs. This evidence would suggest the presence of medieval open field agriculture which was probably associated with the nearby settlement of Preston-on-the-Hill, which is not mentioned directly in Domesday, but was part of the lands held by William fitz Nigel, Baron of Halton (Open Domesday, no date). The possible site of the deserted medieval village of Newton-by-Daresbury is recorded in the north of the area (MCH6011). The earliest reference to this is 1288 (Dodgson 1970: 154), however it is not known when the village became deserted. No physical traces of former settlement have been found in this area, and the site of the village may have lain elsewhere. New Manor Farm moated site, a Scheduled Monument (NHLE 1011891), lies directly adjacent to the south-west boundary of this HLC area. This was probably built at some point between the 13th and 14th centuries. The remains include the moat itself, which remains partially waterlogged and surrounded by mature trees. The site of the original manor house at the centre of the moat is now occupied by New Manor Farmhouse and associated gardens. Directly north-east of the moated site, within the HLC area, the low earthworks of a sub-circular ditch have been identified on LiDAR LRM imagery. This may be the result of natural phenomena but could also be related to the moated site or possibly to earlier activity. The remains buried of prehistoric settlements and field systems have been identified as cropmarks on Google Earth 2018 imagery, which carries the suggestion that further features of this type may await discovery in this HLC area.

3.5.101 Within this HLC area there is **high** potential for the remains of medieval and post medieval ridge and furrow and former field boundaries. These would be of **low** sensitivity as assets of local importance. There is **medium** potential for the remains of archaeological features relating to the deserted medieval village of Newton-by-Daresbury, which would be of **medium** sensitivity as an asset of regional importance. There is **medium** potential for the buried remains of former prehistoric or Romano-British settlement and land-use similar to that which has been identified in the vicinity of the area. These would be of **medium** sensitivity as assets of regional importance.

Post Medieval Landscapes (HCH13017)

3.5.102 This HLC area is located directly south of the M56 motorway, and surrounds Hallamhall Farm. It comprises agricultural land arranged in sub-rectangular enclosed fields with straight boundaries. From assessment of the Newton-by-Daresbury tithe map of 1844, and subsequent OS 1st and 2nd edition mapping, it can be shown that the current field pattern was developed in the mid to late 19th century, with some boundaries depicted on the tithe mapping being incorporated into the new pattern. Many of the boundaries depicted on the tithe map display the reverse 'S' characteristic indicative of former medieval furlongs which have been re-used as boundaries during the long process of piecemeal enclosure which

occurred throughout the post medieval period. Cropmarks have been identified on Google Earth 2018 imagery which probably relate to some of the boundaries depicted on the tithe map which have since been removed. Plot names on the tithe apportionment imply the fields in this area were used for arable and pasture by the 19th century. Two fields in the south of the area contain the name 'Hurst', which implies they lay close to an area of woodland. No trace of woodland is present by the 19th century, and it is likely that the survival of this field name relates to an earlier phase of landscape development in, or close to, this HLC area.

- 3.5.103 Other cropmarks identified in this area may relate to past activity of unknown date. Some may relate to prehistoric settlement and land-use, such as those which appear to be part of a settlement enclosure 140m south of Hallamhall Farm. Among the other cropmarks are two sub-rectangular buried features recorded 130m east of Hallamhall Farm and close to a linear cropmark relating to a former boundary. No recorded heritage assets in this area attest to these cropmarks, however, and the only recorded assets are coins dating to the medieval and post medieval periods found through metal detecting or fieldwalking. Other features identified on LiDAR hillshade imagery comprise the low earthwork remains of former marl pits which are common along this part of the Study Area and reflect the underlying geology and soils.
- 3.5.104 Within this HLC area there is **high** archaeological potential for the buried remains of medieval and post medieval ridge and furrow and former field boundaries. These would be of **low** sensitivity as assets of local importance. There is also **high** potential for the buried remains of prehistoric or Romano-British activity, assets which would be of **medium** sensitivity as assets of regional importance.

Settlement (HCH13232)

- 3.5.105 This HLC area is occupied by the hamlet of Hatton which is situated around 1.7km east of Daresbury. The village consists of a scatter of 19th and 20th century houses along Hatton Lane and Warrington Road. Many of these are locally listed, including Hatton House (DCH12803) and Greenhouse Farmhouse (DCH12797). The settlement has its roots in at least the medieval period, being mentioned in Domesday as containing one household and three ploughlands (OpenDomesday, no date), and its place-name is suggestive of early medieval origins (Dodgson 1970: 149). This evidence is suggestive of the early history of Hatton as a single farmstead, which is further bolstered by the lack of a church. It is believed that Hatton Lane, which traverses the southern portion of the settlement, is part of the North Cheshire Ridge Roman Road (MCH9506), however due to a lack of available evidence this claim should be treated with a degree of caution (Roman Roads Research Association 2018c).
- 3.5.106 Within this HLC area there is **medium** potential for remains associated with the possible Roman Road, particularly in the south. Any remains of this nature would be of **medium** sensitivity as assets of regional importance. There is **medium** potential for archaeological remains within open areas of the village which may relate to the historic development of the village, including the buried remains of former buildings and small finds. These would be of **medium** sensitivity as assets of regional importance.

Post Medieval Landscapes (HCH12969, HCH13230)

- 3.5.107 These HLC areas are situated directly north of the M56 motorway, and east of the village of Hatton. The area currently comprises a network of fields in arable use. Through the assessment of the Hatton tithe map of 1844 and 1st and 2nd edition OS maps, it can be shown that the current field pattern is the result of late 19th century developments, although some field boundaries present on the tithe map were incorporated into the later pattern. In addition, a small block of enclosures to the west of Hatton village survived into the late 19th century but have been amalgamated during the 20th century. This said, some of the existing boundaries present on the tithe map are composed of hedgerows which may meet the criteria to be considered important under the Hedgerow Regulations. The site of a bombing decoy in the central portion of HCH12969 (MCH9996) stands testament to the risks posed to nearby towns such as Warrington, Runcorn and St Helen's during WWII. Bombing decoys were often made of electrical lights and fires of various sizes that were designed to try and deceive enemy aircraft into thinking that they were above a major target such as an industrial city, therefore acting as passive defence for vulnerable areas. No traces of this feature remain visible on the ground today nor have any been identified on historic aerial photographs, and no traces of bomb craters have been identified in the vicinity. Numerous ponds are situated throughout this area, which are most likely the result of marl pits of unknown date. Other examples of this have been identified as low earthworks on LiDAR imagery. The presence of marl pits in this area corresponds with the underlying geology and soils.
- 3.5.108 The tithe map of 1844 shows a network of irregular-shaped fields, many of which are enclosed by reverse 'S' shaped boundaries. This is evidence for piecemeal enclosure of former medieval open fields during the post medieval period. Earthwork traces of ridge and furrow have been identified on LiDAR LRM imagery to support this suggestion, and many former field boundaries remain visible as low earthworks. The tithe apportionment shows that most of the fields in this area were used for meadow or root vegetables. The apportionment also tells us that three fields in the central portion of the area contained the name 'Riddings', which implies the former presence of woodland in the area, Riddings being a derivation of 'Ridings', which in Old English means a clearing in woodland. This place name provides a clue as to a former, ancient character of this area.
- 3.5.109 The medieval period is also represented by the recorded site of a possible medieval grange in the south-east of the area (MCH8700). This is a speculative siting, and no traces can be identified on the ground or on available remote sensing imagery. LiDAR LRM imagery shows the recorded site is situated in an area of low earthworks representing ridge and furrow.
- 3.5.110 There is no evidence for prehistoric activity within these HLC areas, although this absence of evidence should not be taken as evidence for absence, as cropmarks representing possible prehistoric or Romano-British field systems and settlement remains have been identified in adjacent HLC areas (HCH12974; HCH12961) which are also situated upon the same mudstone geological context.
- 3.5.111 Within these HLC areas there is **medium** potential for the remains of medieval and post medieval ridge and furrow and field boundaries. These would be of **low** sensitivity as assets of local importance. There is **low** potential for the buried

remains of prehistoric or Romano-British settlement and land-use activity based on the presence of similar evidence in the vicinity; if present, such remains would be of **medium** sensitivity as assets of regional importance. There is **low** potential for the remains of the bombing decoy, which would carry low sensitivity as an asset of local importance.

Ancient Fieldscapes (HCH13263)

- 3.5.112 This small HLC area comprising enclosed agricultural land is situated immediately south-west of the village of Walton, a Conservation Area (DCH1425). A car park is now located in the northern portion of the area. Its field pattern has remained largely unchanged from the pattern depicted on the 1843 Higher Walton tithe map. This it is in contrast to the general field pattern of the surrounding area, which is largely the result of agglomeration and boundary loss from the late 19th century onwards. Due to the unchanged character, it is also possible that some hedgerows within this HLC area may meet the criteria to be considered important under the Hedgerow Regulations. Traces of broad ridge and furrow have been identified in the north-western portion of this area as low earthworks on LiDAR imagery. This carries the suggestion that this area may have formed part of an open field system associated with Walton in the medieval period. The Bridgewater canal flows through this area (MCH21049), with the Grade II listed Walton Bridge (NHLE 1139316) crossing it immediately to the north-east. No other heritage assets are recorded within this area but areas of cropmarks representing probable prehistoric or Romano-British settlement are recorded in the vicinity. It is therefore possible that similar features survive as buried deposits in this area.
- 3.5.113 Within this HLC area there is **high** potential for the buried remains of medieval ridge and furrow across the area excepting the car park to the north. Any features of this nature would be of **low** sensitivity as assets of local importance. There is **low** potential for the buried remains of prehistoric or Romano-British settlement and land-use activity based on the presence of similar evidence in the vicinity; if present, such remains would be of **medium** sensitivity as assets of regional importance.

20th Century Fieldscapes (HCH12974)

- 3.5.114 This HLC area is located approximately 250m north of the M56 motorway, and 320m east of Daresbury Hall, a Grade II* Listed Building. The area is currently composed of arable fields bounded by straight hedgerows. Aside from some boundary loss in the 20th century, the current layout retains that which is depicted on the Daresbury tithe map of 1844. The nature of the boundaries would indicate them to be the result of parliamentary enclosure. This suggestion is bolstered by field names on the tithe map which contain 'common', and 'wood', which imply that the historic land character within the area had been unenclosed common and woodland prior to enclosure. The area is situated between the historic villages of Hatton to the east and Daresbury to the west, which further implies it was used as an area of common land for grazing in the medieval period.
- 3.5.115 Analysis of LiDAR data has revealed areas of mineral extraction, likely marl pits due to the underlying geology and soils, in the northern and central areas of the HLC area. These are of unknown date. Linear cropmarks identified on Google

Earth 2018 imagery may relate to former field boundaries which formed the initial parliamentary enclosure in this area in the early 19th century, or to prehistoric or Romano-British settlement and land-use. No recorded heritage assets are located in this HLC area.

- 3.5.116 Within this HLC area there is **high** potential for former boundaries associated with parliamentary enclosure and prehistoric or Romano-British activity. These remains would survive as buried deposits which would be of **medium** sensitivity as assets of regional importance.

20th Century Fields (HCH12967)

- 3.5.117 This HLC area is located between the historic villages of Daresbury to the west and Hatton to the east. It is bounded to the west by a narrow wood which, judging by analysis of historic mapping, was established in the middle to late 19th century. The area is currently composed of large arable fields. This character has remained largely unchanged from the field pattern depicted on the Daresbury tithe map of 1844, although some boundary loss has occurred during the late 19th and 20th centuries. Some existing hedgerows retain the same boundaries as are depicted on the tithe map which suggests they may meet the criteria to be considered important under the Hedgerow Regulations.
- 3.5.118 Some boundaries present on the tithe map which have since been removed bear the reverse 'S' morphology consistent with medieval furlong boundaries which have been reused in later enclosure. This entails that the area was formerly part of a medieval field system associated with Daresbury, which would have contained strips of ridge and furrow agriculture. The nearby 'Commonside Farm' located immediately east of the HLC area, coupled with field names on the tithe map which also contain 'common' suggests that the southern portion of the area was formerly common land before being enclosed in the post medieval period.
- 3.5.119 There are no recorded heritage assets within this HLC area, but analysis of Google Earth 2018 imagery has revealed numerous cropmarks within this HLC area. These cannot be assigned to a specific period, and do not relate to former field boundaries present on 19th century mapping. One cropmark in the north of the HLC area is circular in shape, and could relate to a former prehistoric settlement enclosure, although very few similar sites are currently known in the local area. The nearest recorded settlement enclosures to this HLC area are a sub-rectangular example at Moss Side (MCH8890), 3km north-west, and an elliptical cropmark enclosure identified at Badger's Croft Farm (MCH9343), around 7km to the east. The identification of previously unknown settlements in the region is a key question defined in the North West Regional Research Framework (PH23) and represents a gap in the HER. Some of the cropmarks identified in this area relate to activities performed during the Creamfields music festival which has taken place in the local area for the past 20 years.
- 3.5.120 Within this HLC area there is **high** potential for the buried remains of possible prehistoric settlement structures in the form of enclosure boundaries, particularly in the northern portion of the area. These would be of **medium** sensitivity as assets of regional importance. There is **medium** potential for the buried remains of medieval ridge and furrow and former post medieval field boundaries, which would be of **low** sensitivity as assets of local importance.

Post Medieval Fieldscapes (HCH12960, HCH12950, HCH12951, HCH12957, HCH12958, HCH12959, HCH12960)

- 3.5.121 These HLC areas are located immediately north and north-west of Daresbury Hall and Daresbury village Conservation Area (DCH1431). They currently comprise enclosed arable fields which, aside from some boundary loss in the 20th century, have retained their character from that depicted on the Daresbury tithe map of 1844. This entails that some existing hedgerows within these areas may meet the criteria to be considered important under the Hedgerow Regulations. Certain boundaries shown on the tithe map display the reverse 'S' shape indicative of former medieval furlongs reused in post medieval enclosure. This, along with the presence of field names such as 'Town Field', suggests that certain portions within these areas were part of a medieval open field system, likely associated with the village of Daresbury which, although not mentioned in Domesday, has medieval and perhaps earlier origins. Its place-name contains Old English elements which together mean 'Deor's fortification' (Dodgson 1970: 148).
- 3.5.122 There are two recorded heritage assets within these HLC areas, the recognition of the area as part of Acton Grange (MCH6021), which does not relate to a specific location, and an isolated find in the form of part of a copper vessel thought to be medieval in date (MCH23787). These are both located in HCH12950. The Grade II* listed Daresbury Hall (NHLE 1330337) is located immediately to the south of HCH12960. This is currently in ruins following a fire in 2016 and was subsequently placed on the Buildings at Risk Register (Warrington Guardian 2021). The Conservation Area of Daresbury is located immediately south-west of this HLC area.
- 3.5.123 Within this HLC area there is **medium** potential for the buried remains of medieval ridge and furrow and post medieval enclosure boundaries. These would be of **low** sensitivity as assets of local importance.

20th Century Fieldscapes (HCH12961)

- 3.5.124 This HLC area is located in arable agricultural land around 500m north-east of Daresbury Conservation Area and around 1km north-west of the village of Hatton. It is bounded to the east by Row's Wood, which has been present since at least the early 19th century, and to the west by the Chester-to-Wilderspool Roman Road (MCH1449).
- 3.5.125 This area appears to be the location of the Creamfields music festival which has taken place annually for the past 20 years. Ground disturbance for this appears to be relatively minimal and confined to gravel tracks and tents, with agricultural land being restored following the event.
- 3.5.126 The fields which occupy this HLC area have seen a large amount of boundary loss from the pattern depicted on the Acton Grange tithe map of 1836. At this time, the field pattern consisted of a mix of straight boundaries and those displaying the reverse 'S' shape indicative of former medieval furlongs which were reused as boundaries in piecemeal enclosure agreements in the post medieval period. No traces of ridge and furrow have been identified at this stage to add substance to the assertion that this area was formerly part of an open field system in the medieval period.

- 3.5.127 The line of the probable Roman Road which forms the western boundary of the HLC area remains a modern routeway, the A56. Aside from an obvious linkage route between the Legionary Fortress at Chester with the Roman settlement at Wilderspool near Warrington (NHLE 1006769), evidence for this being part of a Roman Road is limited (Roman Roads Research Association 2018). There are no archaeological assets currently known in the area or its vicinity which may be associated with the road, but it is possible that features such as extraction pits used to build the road could survive as buried deposits close to the route within the HLC area.
- 3.5.128 There are no recorded heritage assets relating to prehistoric activity in this HLC area, however a large complex of cropmarks relating to probable late prehistoric or Romano-British settlement and land-use has been identified on Google Earth 2018 imagery around 400m to the north.
- 3.5.129 Within this HLC area there is **medium** potential for the survival of buried ditches relating to post medieval enclosure. These would be of **low** sensitivity as assets of local importance. There is **medium** potential for possible associated features relating to the Roman Road which forms the western boundary of the HLC area. These may comprise small extraction pits, burials or the remains of settlement features. These would survive as buried deposits in the form of pits and ditches and would be of **medium** sensitivity as assets of regional importance. There is **low/medium** potential for the survival of buried ditches relating to prehistoric or Romano-British settlement and field systems. This is based on the presence of similar features 400m to the north and the relatively low levels of ground disturbance within the HLC area. These potential features would be of **medium** sensitivity as assets of regional importance.

Industry (HCH12970)

- 3.5.130 This HLC area is located between the settlements of Daresbury and Hatton, and currently comprises an historic farm, Commonsides Farm, which has been converted into industrial units and housing. Alongside the historic and modern buildings are areas of hard standing, gardens, and a small paddock in the north. No heritage assets are recorded within this HLC area, and no archaeological features have been identified on available remote sensing imagery.
- 3.5.131 Within this area there is **low** potential for archaeological remains within the remaining undeveloped portions such as gardens and the paddock. Any remains associated with the historic use of the area are likely to be of **low** sensitivity as assets of local importance.

Ornamental (HCH12971)

- 3.5.132 This HLC area comprises the ruins of the Grade II* listed Daresbury Hall (NHLE 1330337) and its former ornamental gardens. Following a fire in 2016, the Hall was placed on the Buildings at Risk Register (Warrington Guardian 2021). The ornamental gardens are now overgrown and all outbuildings in a state of disrepair. The present Hall was built in 1759 but a hall is mentioned at Daresbury in 1541. The hall and gardens were subjected to research undertaken by the Cheshire

Gardens Trust (2011) but it is yet to be included in their list of Non-designated Parks and Gardens.

- 3.5.133 Within this HLC area there is **high** potential for archaeological remains relating to former structures related to the previous hall, and the ornamental gardens to the north and south of the hall. Any remains of this nature are likely to be of **medium** sensitivity as assets of regional importance.

Communications (HCH13072)

- 3.5.134 This HLC area wholly comprises the L&NWR St Helens railway. This bisects a pattern of enclosed agricultural land in the current Study Area. The line is not in use and is now maintained as a cycle route.
- 3.5.135 Due to extensive ground disturbance associated with the construction of the railway there is **negligible** potential for archaeological remains in this HLC area.

Industry (HCH13073)

- 3.5.136 This HLC area is occupied by Bank Head Farm which comprises a 19th century farmhouse and 20th century barns. It is located along the A57 Warrington Road, around 1km west of Bold Heath.
- 3.5.137 Within this HLC area there is **low** potential for archaeological remains associated with the historic use of Bank Head Farm. Any remains of this nature would be of **low** sensitivity as assets of local importance.

Ancient Woodland (HCH12962, HCH12965, HCH13019, HCH13020, HCH13046, HCH13234, HCH13241)

- 3.5.138 These HLC areas are wholly comprised of ancient woodland, Row's Wood and Outer Wood. Their immediate setting is agricultural fields on all sides, with a distance of 170m between the two areas. They are located around 1.5km south of the Manchester Ship Canal, and roughly 1km north-east of the Conservation Area of Daresbury. Both areas are depicted as woodland on the Acton Grange tithe map of 1836 and are likely to be of great antiquity. A stream runs through Row's Wood which forms an historic parish boundary separating Acton Grange from Higher Walton townships. No heritage assets are recorded within these areas, and LiDAR DTM imagery was unavailable for analysis at the time of writing due to a gap in coverage. A total of six pits are depicted on the 2nd edition OS map within Outer Wood; on account of the underlying geology, these are likely to be marl pits of unknown date.
- 3.5.139 Within these HLC areas there is **low** potential for stray finds of a historic nature, such as objects dropped by individuals passing through the woods at various points in the past. These would be of **low** sensitivity as finds of local importance.

20th Century Communications- Road (HCH13244, HCH12963)

- 3.5.140 These HLC area comprise the modern A56 which, in the current Study Area, runs immediately parallel to the suggested route of parts of the Chester-to-Wilderspool Roman Road (MCH1449) and may incorporate some stretches in its course

(Roman Roads Research Association 2018). There is therefore **high** potential for traces of the former Roman road within these HLC areas. Remains may comprise layers of agger, roadside ditches and quarry pits associated with its construction. These would be of **medium** sensitivity as assets of regional importance.

Woodland (HCH12964)

- 3.5.141 This HLC area is situated around 600m north of Daresbury and is occupied by woodland established in the 20th century. Prior to this the area was part of a wider pattern of enclosed fields which remain to this day. No heritage assets are recorded within this area and no archaeological features were identified on LiDAR DTM imagery. Despite this, there is relatively little ground disturbance within this area compared to the heavily ploughed fields which surround it, thus there is **medium** potential for archaeological remains of an unknown nature within this area.

Recreation, Golf Course (HCH13226)

- 3.5.142 This HLC area comprises a golf course and is located immediately south of the village of Walton, a Conservation Area (DCH1425). The golf course was founded in 1903 in the grounds of Walton Hall, a Grade II Listed Building (NHLE 1139355) which is situated just beyond this HLC area. The area is shown as parkland on the 1st edition OS map of 1849, however this was a recent development coinciding with the construction of Walton Hall in the 1830s. The Higher Walton tithe map of 1843 shows the newly built hall surrounded by enclosed fields which appear to be the result of piecemeal enclosure which took place in the post medieval period. Some of these removed boundaries, along with traces of ridge and furrow, survive as low earthworks which are visible on LiDAR imagery indicating that the development of the golf course in this HLC area has not led to a high degree of ground disturbance.
- 3.5.143 There are no heritage assets recorded within this area, but the relatively low levels of ground disturbance entail **high** potential for the survival of upstanding and buried medieval and post medieval ridge and furrow and former boundaries. These would be of **low** sensitivity as assets of local importance.

20th Century Fields (HCH13229)

- 3.5.144 This HLC area is located around 700m south of the village of Walton and is composed wholly of agricultural fields. These fields are the result of extensive 19th and 20th century development, which almost wholly replaced the field pattern depicted on the Higher Walton tithe map of 1843. The former field system contained a pattern of irregular boundaries which are suggestive of piecemeal enclosure of former open fields associated with the village of Walton to the north and Hatton to the south. Numerous cropmarks identified on various Google Earth images relate to former field boundaries from this phase of land-use.
- 3.5.145 No heritage assets are recorded within this HLC area, however some of the linear cropmarks identified may relate to tangible prehistoric or Romano-British settlement and field systems identified around 400m to the north.

- 3.5.146 There is **medium** potential for the buried remains of former boundary ditches relating to land-use between prehistory and the post medieval period. The earliest of these features would be of **medium** sensitivity as assets of regional importance, whilst those of medieval and post medieval date would be of **low** sensitivity as assets of local importance.

Settlement (HCH13038)

- 3.5.147 This HLC area is occupied by the village of Daresbury, a Conservation Area (DCH1431). Most of the present buildings within the village date to the 19th and 20th centuries, including the Grade II* listed Church of All Saints (NHLE1130450) built in 1871 on the site of its 16th century predecessor, of which the tower survives, and Grade II listed The Sessions House (NHLE 1330336) which was built in 1841. Although not mentioned in Domesday, the village has medieval origins owing to the presence of the church, and the village layout suggests that of a two-row medieval nucleated settlement. The opposing rows of the village straddle the A56 Chester Road, which is believed to be the route of the Chester to Wilderspool Roman Road (MCH1449). During construction of the new Church of All Saints in 1871, a mass of Roman concrete was found, which was interpreted as being related to a possible Romano-British villa (MCH6070). It is therefore possible that the churchyard contains further evidence of this nature.
- 3.5.148 The churchyard is located within the Study Area, adjacent to but wholly outside of the Preliminary Order Limits. Within this HLC area there is **high** potential in the area of the churchyard for the buried remains of high-status Roman buildings. Any remains of this nature would be of **medium** significance as assets of regional importance. There is **medium** potential within the remaining open areas of the village for archaeological remains relating to the historic development of Daresbury. These may comprise buried structural remains such as footings and foundations, and small finds. These would be of **medium** sensitivity as assets of regional importance.

Post Medieval and 20th Century Landscapes (HCH12953, HCH12954, HCH13242, HCH13245, HCH12950, HCH12951, HCH12972, HCH12973)

- 3.5.149 These HLC areas are located close to the Conservation Area of Moore (DCH1429) and west of the A56, a probable Roman Road (MCH1449). They currently comprise agricultural land enclosed by straight boundaries which is largely the result of late 19th and 20th century development. This field pattern replaced an earlier, more irregular pattern which is last depicted on the Acton Grange tithe map of 1836. The former field pattern in this area contained many boundaries displaying the reverse 'S' shape indicative of former medieval furlongs which had been reused in later enclosures. Some of the linear cropmarks identified on Google Earth 2018 imagery relate to this former field pattern.
- 3.5.150 The tentative location of Acton Grange (MCH6021) is recorded within HCH12950, although no trace of this has been identified on the ground or through remote sensing at this location. The Grange was first mentioned in 1141 and was attached to Norton Priory at this time. Any remains associated with this asset may comprise former farms and field boundaries as a Grange relates to an area of monastic land rather than a specific structure.

- 3.5.151 Other linear cropmarks identified do not relate to the field pattern depicted on the tithe map and may represent former prehistoric or Romano-British activity. These latter examples may relate to an extensive cluster of cropmarks representing probable prehistoric or Romano-British settlement and field systems identified immediately north of HCH13245.
- 3.5.152 There is **high** potential for the buried remains of prehistoric or Romano-British settlement and land-use in HCH13245 and HCH13242. These would be of **medium** sensitivity as assets of regional importance. There is **high** potential for the remains of medieval and post medieval ridge and furrow and boundaries in these HLC areas. These remains would be of **low** sensitivity as assets of local importance. There is **medium** potential for the buried remains of structures associated with Acton Grange, which is tentatively located in these areas. These remains would be of **medium** sensitivity as an asset of regional importance.

20th Century Landscapes (HCH12990)

- 3.5.153 This HLC area is located south-west of the village of Daresbury and partly incorporates the modern housing development of Daresbury Park in the south-eastern portion. The Bridgewater Canal runs roughly south-west to north-east through this character area and the eastern boundary is formed by the A56, which runs on, or close to, the line of the Chester to Wilderspool Roman Road. The northern portion of the HLC area remains agricultural, as it was depicted on the Daresbury tithe map of 1843, but with a high degree of boundary loss occurring during the 19th century. Some of the removed boundaries can still be seen as low earthworks on LiDAR imagery and as cropmarks on Google Earth imagery. Other linear cropmarks identified do not relate to the field pattern depicted on the tithe map and could be related to medieval or prehistoric/Romano-British activity. Archaeological fieldwork in this area has uncovered lithic scatters thought to represent Neolithic or Bronze Age activity (L-P Archaeology 2021).
- 3.5.154 Within the southern portion of this HLC area are the sites of an Anti-aircraft Battery (MCH9855) and a Royal Observer Corps Monitoring Post (MCH9863). Although no traces of these installations remain on the ground, it is possible that below ground deposits such as concrete foundations and underground chambers will survive.
- 3.5.155 Within the undeveloped areas of this HLC area there is **high** potential for archaeological evidence relating to human activity dating from anywhere between prehistory through to the post medieval period. These remains could comprise lithic scatters, and ditches relating to former field boundaries. These would be of **medium** sensitivity as assets of regional importance. There is also **high** potential for the buried structural remains of WWII installations in the south of the HLC area. These would be of **medium** sensitivity as assets of regional importance.

Settlement (HCH12942, HCH12949, HCH12953)

- 3.5.156 These HLC areas are occupied by the historic settlement of Moore, a Conservation Area (DCH1429). The village currently consists of 19th and 20th century houses, but also contains buildings of earlier date such as the Grade II* listed Moore Hall (NHLE 1330357) and the Grade II listed early Old Hall

Farmhouse (NHLE 1130430), both of which date to the early 18th century. The village has medieval origins with a township recorded at Moore since the 12th century (Daresbury District Heritage Group, no date). This is further reflected in its two-row planned layout indicative of a medieval nucleated settlement. Despite no buildings remaining from this period, the layout of the original settlement has survived as is the case in many examples across the region and beyond. Amongst the existing buildings in the area are garden plots and small enclosures which may contain evidence for earlier occupation of the settlement.

- 3.5.157 Within these HLC areas there is **medium** potential for archaeological remains relating to the historic development of the village. These are most likely to survive in the remaining open areas of the village such as gardens and may comprise buried traces of former structures dating to the medieval period or possibly earlier. Any remains of this nature would be of **medium** sensitivity as assets of regional importance.

Ancient Fieldscapes (HCH12929, HCH12937)

- 3.5.158 These HLC areas are located immediately south of the Manchester Ship Canal and currently consist of a mix of agricultural fields to the south, with woodland, allotments and hard standing in the north. The fields to the south have mostly retained the pattern depicted on the Moore tithe map of 1843; modern tracks and paths now overlie the fields in this part of the area. The most notable change to the northern portion of the HLC area from the tithe map is the removal of field boundaries which have been replaced by the current character described above. Analysis of OS mapping suggests this occurred gradually through the second half of the 20th century. The northern portion of the area was the subject of an archaeological DBA in 2000 ahead of proposed redevelopment, which, at the time of writing, is yet to happen (Lancaster University Archaeological Unit 2000) (ECH3817). The DBA found limited known evidence for prehistoric activity but suggested the possibility of sub-surface remains; the main periods of activity in the area date to the medieval and post medieval periods, with evidence in the form of field boundaries. Prehistoric remains may take the form of buried traces of settlements and field systems such as are known around 1km north-east of this area.
- 3.5.159 Within this HLC area there is **high** potential for the presence of former field boundaries associated with post medieval piecemeal enclosure. In the northern portion of the area these may survive as buried deposits, whereas in the southern portion upstanding elements may survive. These would be of **low** sensitivity as assets of local importance. There is **medium** potential for the buried remains of prehistoric or Romano-British field systems and settlements. These would be of **medium** sensitivity as assets of regional importance.

20th Century Fieldscapes (HCH12934, HCH12935, HCH12936)

- 3.5.160 These HLC areas are located immediately north and south of the Manchester Ship Canal (MCH24520). They are currently occupied by a mix of scrub and secondary woodland which has remained largely undeveloped from at least the early 19th century as evidenced on historic mapping, where it is depicted as marsh associated with Halton Moss. This is reflected in the underlying geology of the

areas which contains peat deposits. The Runcorn Rural District Smallpox Hospital (MCH11083) is recorded within HCH12934. This was constructed in 1893 but had been demolished by the 1940s. No trace of this building now survives above ground. The northern portion of HCH12936 contains an enclosed field which is an agglomeration of smaller enclosures depicted on 19th century mapping.

- 3.5.161 Within this HLC area there is **medium** potential for archaeological artefacts and ecofacts within peat layers, particularly in HCH12934 and HCH12935. There is **medium** potential for the buried footings and foundations of the smallpox hospital in HCH12934, and for the buried remains of former enclosure boundaries within HCH12936. These are likely to be of **low** sensitivity as assets of local importance.

Woodland (HCH12946)

- 3.5.162 This small HLC area comprising woodland is located around 800m south-west of Moore. It is first depicted as such on the Keckwick tithe map of 1844 and has remained largely unchanged since despite extensive industrial development immediately to the west. No heritage assets are recorded within this HLC area and the only archaeological features present on LiDAR DTM imagery relate to pits associated with former mineral extraction which are commonly found throughout this part of the Study Area.
- 3.5.163 Within this HLC area there is **medium** potential for archaeological remains due to the relative lack of ground disturbance. Aside from probable extraction pits, the nature of any potential remains is unknown.

20th Century Fieldscapes (HCH12928)

- 3.5.164 This HLC area is located immediately south of the Manchester Ship Canal. It is wholly comprised of modern industrial and commercial units. This replaced former agricultural land enclosed by both regular and irregular boundaries. This previous land-use has been totally eradicated by modern development. There is therefore **negligible** potential for archaeological remains in this HLC area.

Settlement (HCH12947)

- 3.5.165 This HLC area encompasses the settlement of Moore, which includes a Conservation Area around the historic core, along with outlying extensions to the south-west and south-east (DCH1429). The settlement of Moore was established in the 19th century and developed alongside the L&NWR Railway. Its place name suggests the former character of the landscape in this area was common or moorland, which probably relates to its use in the medieval period and possibly earlier. The Bridgewater Canal also runs through Moore (MCH21049). The canal was built between 1759 and 1761 to link collieries in the area. No heritage assets associated with the canal are recorded in this HLC area.
- 3.5.166 Due to the development within the village and its late inception, there is **low** potential for archaeological remains within this HLC area. Any possible remains would be confined to gardens and other open areas and may consist of stray finds associated with the historic development of the village; any such remains are likely to be of **low** sensitivity as assets of local importance.

Communications - Bridgewater Canal (HCH997, HCH10327)

- 3.5.167 These HLC areas comprise the Bridgewater Canal (MCH21049), built between 1759 and 1761 to link the Duke of Bridgewater's collieries at Worsley with Manchester (Ashmore 1982: 20). The canal remains in use but following the decline in the coal industry it is now mainly used for leisure activities. Numerous bridges and locks remain in use along the canal, including the Grade II listed Acton Grange Bridge (NHLE 1135981) and Thomason's Bridge (NHLE 1312953). Within the current Study Area, the canal bisects a long swathe of agricultural land comprising enclosed fields.
- 3.5.168 Within these HLC areas there is **medium** potential for archaeological remains relating to the construction and use of the Bridgewater canal. These may comprise the remains of wharfs which have since been removed, and also possible small finds associated with the day-to-day use of the canal; such remains would be of **low** sensitivity as assets of local importance. Due to the extensive ground disturbance caused by the construction of the Bridgewater canal there is **negligible** potential for any earlier archaeological remains within these HLC areas.

Ancient Fieldscapes (HCH12932) and Post Medieval Fieldscapes (HCH12938)

- 3.5.169 These HLC areas are located immediately south of the Manchester Ship Canal and north of the Conservation Area of Moore (DCH1429). They currently comprise agricultural fields enclosed by straight boundaries. Some boundaries depicted on the Moore tithe map of 1840 remain intact, with the hedgerows that define them also retaining the reverse 'S' morphology indicative of former medieval furlongs which have been reused to enclose open fields in the post medieval period. These hedgerows may meet the criteria to be considered important under the Hedgerow Regulations. By the mid-19th century these areas were part of an extensive pattern of enclosed fields which stretched north to the Mersey and Irwell Canal which was constructed in the early 18th century. This field pattern was bisected by the construction of the Manchester Ship Canal between 1887 and 1894 (MCH24520), which led to a steady rise in industrial activity in the area. Despite the large-scale changes on the northern fringes of these HLC areas, no related features are known. Although the survival of early field boundaries indicates the areas may have been part of medieval open fields, evidence for ridge and furrow is yet to be identified.
- 3.5.170 No heritage assets are recorded within these HLC areas, but cropmarks of buried ditches have been identified in HCH12938 on Google Earth 2018 imagery. Some of these relate to boundaries present by the 19th century that have since been removed, whereas others do not, and could be evidence of prehistoric or Romano-British settlement and land-use. More tangible evidence for this activity has been identified 500m east of these HLC areas.
- 3.5.171 Within these HLC areas there is **high** potential for the survival of buried medieval and post medieval ridge and furrow and former field boundaries. These would be of **low** sensitivity as assets of local importance. There is **high** potential for the remains of prehistoric or Romano-British settlement and land-use in the form of buried ditches and pits. These would be of **medium** sensitivity as assets of regional importance.

20th Century Recreation (HCH12933)

- 3.5.172 This HLC area is located directly south of the Manchester Ship Canal and around 500m north of Moore village. The area currently comprises recreational land, with a football pitch occupying the western portion, rugby pitches in the south, and farm buildings and horse stables occupying the remainder of the area. The northern portion of the area contains the upstanding remains of an anti-aircraft battery which was in use during WWII and the Cold War (MCH9854). The concrete structures of the battery remain largely intact. The sports pitches lie upon former enclosed fields which are first depicted on the Moore tithe map of 1840. All but one of these boundaries has since been removed.
- 3.5.173 Within this HLC area there is **high** potential for the remains of activity associated with the WWII anti-aircraft battery, which may take the form of discarded small objects associated with operatives stationed on the site, and possible building remains associated with the site going out of use. These would be of **low** sensitivity as finds of local importance. There is **medium** potential for the remains of former post medieval field boundaries in the areas currently occupied by sports pitches. These would be of **low** sensitivity as assets of local importance.

Post Medieval Fieldscapes (HCH13259, HCH13246, HCH13258)

- 3.5.174 These HLC areas are located immediately south of the Manchester Ship Canal, and currently comprise enclosed farmland around Grange Green Farm and the village of Walton. The line of a now-disused railway marks the north-west boundary of HCH13246 and HCH13258. A large amount of boundary loss has occurred from the pattern depicted on the Acton Grange tithe map of 1836. The remains of some removed boundaries have been identified as cropmarks on Google Earth 2018 imagery, particularly within HCH13246.
- 3.5.175 Many more cropmarks have been identified within these HLC areas, amongst which some can clearly be characterised as the buried remains of rectilinear prehistoric or Romano-British settlement enclosures. These are arranged around a network of linear cropmarks which are likely to represent associated field systems as many project from the settlement enclosure. These features are not recorded in the HER and as such are likely to be newly discovered through this assessment. A stray find of a Roman coin is recorded in the vicinity of the cropmarks (MCH12907), which bolsters the dating for these features. The discovery of these features directly addresses the North West Regional Research Framework Agenda, relating to Research Question PH23.
- 3.5.176 Within these HLC areas there is **high** potential for the buried remains of former prehistoric or Romano-British settlement and land-use. The remains would comprise buried ditches, gullies and pits, along with small finds. These remains would be of **medium** sensitivity as assets of regional importance. There is also **high** potential for the buried remains of post medieval field boundaries. These would be of **low** sensitivity as assets of local importance.

Communications (HCH1901)

- 3.5.177 This HLC area comprises the Manchester Ship Canal (MCH24520). Built between 1887 and 1894, the canal bisected a pattern of enclosed fields depicted on tithe

maps from the 19th century. Alongside the canal cut, construction included numerous locks and bridges, including the Acton Grange Viaduct (MCH8891) and the Grade II listed Moore Lane Swing Bridge (NHLE 1135930). The construction of the canal enabled sea-going vessels to access new docks at Salford from Eastham in the west (Ashmore 1982: 21). On completion it was the largest river navigation in the world. The canal led to a steady increase in industry along its route, some of which remains to the present day, although its industrial and economic importance has waned since the 1970s, when the canal was no longer deemed large enough to carry modern container vessels.

- 3.5.178 Within this HLC area there is **high** potential for structures directly associated with the Manchester Ship Canal, including the cut itself, along with locks and bridges which remain in use. These would be of **high** sensitivity as assets of national importance.

Woodland (HCH12941, HCH13132, HCH13250, HCH13112)

- 3.5.179 These HLC areas comprise small blocks of woodland surrounded by a mix of agricultural fields and former industrial activity. The areas have retained their present character from that shown on early 19th century tithe maps, which show they were formerly part of larger portions of woodland which have since been replaced by areas of industrial activity. There are no heritage assets recorded within these areas, and analysis of LiDAR DTM imagery has revealed no traces of archaeological features beneath the tree canopy, although a series of depressions identified in HCH12941 are suggestive of former marl pits which are likely to predate the woodland. The areas of woodland appear to be encased within a wider pattern of enclosed fields which suggests they were planted in the post medieval period on former agricultural land.
- 3.5.180 Within these HLC areas there is **low** potential for archaeological deposits pre-dating the post medieval period. These may take the form of former field boundaries associated with previous land use. These would be of **low** sensitivity as assets of local importance.

Woodland (HCH13251)

- 3.5.181 This HLC area is currently occupied by reclaimed open ground which was formerly the site of a surface mine in the late 20th century. As a result of extensive ground disturbance associated with the quarry, the archaeological potential for this area is assessed as **negligible**.

Communications (HCH13124)

- 3.5.182 This HLC area is wholly occupied by the former route of the Runcorn and Latchford Canal. This stretch of the canal was taken out of use by the late 19th century following construction of the Manchester Ship Canal. It has been used as a public footpath and cycle route since this time.
- 3.5.183 Due to the extensive disturbance caused by the construction of the canal there is **negligible** potential for archaeological remains in this HLC area.

Former Industry (HCH13127, HCH13128, 13130)

- 3.5.184 These HLC areas are located immediately north of the Manchester Ship Canal, and their character is closely related to its construction. The areas HCH13127 and HCH13128 have now been incorporated into Moore Nature Reserve, having formerly comprised a Sand Quarry in the 20th century. HCH13130 is currently occupied by Arpley Landfill Site, having formerly been part of Walton Dredging Deposit Ground in the late 20th century. All three areas were formerly composed of enclosed fields up until the 20th century and had undergone little change in their character up to this point from the field patterns depicted on early 19th century tithe maps.
- 3.5.185 Within these HLC areas there is **negligible** potential for archaeological remains due to the extensive disturbance caused by 20th and 21st century industrial development.

Water Bodies (HCH12940)

- 3.5.186 This HLC area comprises the former Moore Quarry which has since been left to flood and is now an irregularly shaped lake surrounded by woodland. The quarry was dug from the 1960s to 1980s, replacing former enclosed fields. Due to the disturbance caused by quarrying, there is **negligible** potential for archaeological remains within this HLC area.

Industry (HCH13131, HCH13252, HCH13364, 13365, HCH13369, HCH13632)

- 3.5.187 These HLC areas are located along the south banks of the River Mersey, and at their nearest point are around 600m south-west of Warrington. They are mostly occupied by former dredged land which is now being used as agricultural land and is part of the Arpley Landfill Site in the south-west. The dredging replaced a pattern of enclosed fields which remained present until the early 20th century.
- 3.5.188 Due to the extensive industrial development during the 20th century, there is **negligible** potential for archaeological remains within these HLC areas.

20th Century Fields (HCH13650)

- 3.5.189 This HLC area is located around 650m south-west of Warrington and sits along the eastern bank of the River Mersey. The area is currently occupied by agricultural land which has undergone extensive boundary loss from the pattern depicted on the Warrington tithe map of 1838 and is now composed of a single large field under arable agriculture. The area is located in a wider area of extensive industrial and urban development. No heritage assets are recorded in this area, and no potential archaeological features have been identified on available remote sensing imagery. The area is located around 1.2km from the Roman Site at Wilderspool, a Scheduled Monument (NHLE 1006769), but remains associated with this are not expected to extend into this HLC area. The area is located upon tidal flat deposits including sandy deposits, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period.

- 3.5.190 Within this HLC area there is **medium** potential for early prehistoric lithics associated with Mesolithic activity which would carry medium sensitivity and regional importance. There is **low** potential for the remains of former field boundaries which were removed in the 20th century. Any remains of this nature would be of **low** sensitivity as assets of local importance. There is **low** potential for the presence of buried remains relating to the Roman Site at Wilderspool. Any remains of this nature would carry **high** sensitivity as assets of national importance.

Industry (HCH13649)

- 3.5.191 This HLC area is located immediately south of Bank Quay industrial estate along the River Mersey. It is currently occupied by an animal rescue centre in the north and open scrubland to the south. Part of the scheduled Bank Quay transporter Bridge (NHLE 1006768) occupies the far north-west corner of this area. The area has remained largely undeveloped; however, according to historic OS mapping, the enclosed fields which characterised the area during the 19th century were removed and replaced with open marshland during the 1920s. Throughout most of the 20th century the area is depicted on OS mapping as mudflats, with Crossfields High Level Sidings forming the northern boundary. The current animal rescue centre occupies the former location of the sidings. No heritage assets are recorded in this HLC area, and no archaeological features have been identified on remote sensing imagery.
- 3.5.192 Within this HLC area there is **low** potential for the buried remains of former field boundaries removed in the early 20th century. These would be of **low** sensitivity as assets of local importance.

Water bodies-River Mersey (HCH12902, HCH13633)

- 3.5.193 These HLC areas represent the River Mersey, which runs from Stockport in the east to the Irish Sea west of Liverpool (Encyclopaedia Britannica, no date), and a diversion which ran immediately south of Warrington. The river has held great importance throughout human history; strategically, economically, and culturally. Within the current Study Area lay the lowest possible fording point in the west, which led to the establishment of a Roman settlement at Wilderspool, now a Scheduled Monument (NHLE 1006769) and discussed above (HCH13650). Over the last two centuries the route of the river has been altered within the current Study Area, most notably through the construction of the Manchester Ship canal.
- 3.5.194 Within these HLC areas there is **medium** potential for waterlogged deposits relating to human activity over long periods due to the river's close association with settlement and industry. Remains may relate to settlement such as that found at Wilderspool, and isolated features including waterlogged boats. Any archaeological features discovered would be of variable sensitivity depending on their nature and preservation.

Communications (HCH13107)

- 3.5.195 This HLC area represents the St Helen's Canal, also known as the Sankey Canal (MCH8842). It was built in 1757 for a river navigation following the Sankey Brook,

from which time it became an important transport link for coal traffic to Liverpool and the salt works along the River Weaver (Canal and River Trust, no date).

- 3.5.196 Within this HLC area there is **high** potential for archaeological remains relating to the canal's history. Features may include the remains of vessels and stray finds discarded during voyages along its route. These would be of **low** sensitivity as assets of local importance. There is **negligible** potential for archaeological remains pre-dating the construction of the canal due to the high levels of disturbance.

20th Century Industry (HCH13129)

- 3.5.197 This HLC area, located between the River Mersey to the north and the Manchester Ship Canal to the south, is currently occupied by Arpley Landfill Site. Prior to this the area was used for dredging in the 20th century which replaced a pattern of enclosed fields and marshland as depicted on the Acton Grange tithe map of 1838. A small portion in the far west of this area has escaped modern development and retains its character of enclosed fields. This portion is also close to a nearby cropmark complex thought to represent a prehistoric or Romano-British settlement and field system (MCH8890).
- 3.5.198 Within this HLC area there is **high** potential for the remains of post medieval boundaries which may survive as buried deposits in the west of the area; such remains would be of **low** sensitivity as assets of local importance. There is also **medium** potential for the buried remains of ditches and pits relating to the prehistoric or Romano-British settlement and field system recorded around 400m to the west. The latter would be of **medium** sensitivity as assets of regional importance. Due to the extensive levels of disturbance, there is **negligible** potential for archaeological remains within the remainder of this HLC area.

Post Medieval Fieldscapes (HCH13215) and Woodland (HCH13132)

- 3.5.199 These HLC areas are situated between the River Mersey and the line of the former Runcorn and Latchford Canal. They are currently occupied by secondary woodland which has been established on former enclosed fields bounded by straight hedgerows which are depicted on the Moore tithe map of 1844. Most of these boundaries have been retained within the present character. The boundaries are straight and regular which indicates they were installed through parliamentary enclosure. In addition, the tithe apportionment lists most fields as 'Moss', implying former open common or pasture prior to enclosure which is likely to have occurred between the late 18th and early 19th century in these areas. There are no heritage assets recorded in these areas, and no potential archaeological features have been identified through analysis of available remote sensing imagery. The proximity of the HLC areas to a cropmark complex thought to represent a prehistoric or Romano-British settlement and field system (MCH8890) implies the presence of further associated remains within these areas.
- 3.5.200 Within this HLC area there is **medium** potential for the remains of prehistoric or Romano-British settlement and land-use in the form of buried pits and ditches. These would be of **medium** sensitivity as assets of regional importance.

Ancient Landscapes (HCH13123)

- 3.5.201 This HLC area occupies land immediately east of the River Mersey and around 100m north of the Manchester Ship Canal. It currently comprises a pattern of enclosed fields which, aside from limited boundary loss, has retained its character from that depicted on the Norton tithe map of 1844. Moss Side Farm is located along the eastern boundary of the HLC area, the farmhouse of which is a locally listed building (DCH12702). The pattern of enclosure within this HLC area is indicative of piecemeal enclosure of possible former marsh along the banks of the River Mersey. Only one boundary depicted on the tithe map in this area displays the reverse 'S' shape suggestive of former medieval furlongs reused in later enclosures. Nevertheless, the presence of the current field system on tithe mapping suggests some extant hedgerows may meet the criteria to be considered important under the Hedgerow Regulations.
- 3.5.202 A cropmark complex thought to represent a settlement and field system (MCH8890) is located in the central portion of this area. The probable settlement enclosure is rectangular in shape which suggests late Iron Age or Romano-British occupation. The enclosure is oriented on a different angle to the surrounding existing fields, which further suggests its antiquity, while the linear cropmarks to the north identified on 2015 and 2016 Google Earth imagery are more closely aligned to the current field pattern, and thus could be of a different date and unrelated to the settlement enclosure. The presence of the settlement enclosure suggests associated features relating to trackways and field systems await discovery within this area, particularly due to the lack of extensive disturbance. This HLC area is also located upon tidal flat deposits associated with the nearby river Mersey. Areas such as this have been known to produce evidence for prehistoric activity, including lithics dating to the Mesolithic period elsewhere in northwest England (NWERRF 2020).
- 3.5.203 Within this HLC area there is **high** potential for the remains of prehistoric or Romano-British settlement and land-use in the form of buried ditches and pits, and also small finds. These would be of **medium** sensitivity as assets of regional importance. There is **medium** potential for the remains of early prehistoric activity in the form of lithic scatters. Evidence of this nature would carry **low/medium** potential as finds of regional importance.

Non-improved Land (HCH12920, HCH839)

- 3.5.204 This HLC area comprises tidal flats and marsh along the south bank of the River Mersey. The eastern portion of the area is now occupied by Arpley Landfill Site, but the western portion has retained its historic character which has remained as such since at least the early 19th century, where it is depicted on the Norton tithe map of 1844 as being part of Norton Marsh. The area has undergone a degree of drainage during the 20th century, as evidenced on OS mapping.
- 3.5.205 No heritage assets are recorded in this HLC area, but the relatively undisturbed nature of the eastern portion, coupled with the underlying geology and soils consisting of tidal flat deposits, would suggest a **high** potential presence of waterlogged deposits and ecofacts relating to past human activity. These may relate to early prehistoric activity, which would be of **medium** sensitivity as assets of regional importance.

Industry (HCH13081, HCH13082, HCH13083)

- 3.5.206 These HLC areas are situated north of the River Mersey and around 2km west of Widnes. The areas are almost wholly occupied by industrial activity, including Fiddler's Ferry power station (MCH24609) with associated spoil heaps and settling ponds. St Helen's Canal separates the power station in the north from the spoil heaps and settling ponds in the south. The power station was built during the 1960s, replacing a former pattern of enclosed fields and marsh.
- 3.5.207 Three heritage assets are recorded within these areas, the site of a medieval manor (MCH8499), and windmill (MCH8500) are recorded in (HCH13082). The former relates to a wider area of general land governance in the medieval period for the parish of Cuerdley, and the latter relates to the general location of a windmill within Cuerdley parish recorded in the 13th century. The third heritage asset recorded within these areas is the former site of a linear bank known as Cromwell's Bank (MCH8591), an earthwork likely related to flood defences from the medieval period onwards. It survived as an earthwork until the construction of the power station and is clearly marked on historic OS mapping. Within these HLC areas there are pockets of undeveloped land which retain their former character as enclosed fields, particularly within HCH13081. These pockets of undisturbed land contain no recorded heritage assets, and no archaeological features have been identified on available remote sensing imagery. Directly north of this HLC area numerous linear cropmarks have been identified on 2018 Google Earth imagery which could relate to multiple phases of human activity dating from prehistory to the post medieval period.
- 3.5.208 Within the undeveloped portions of these HLC areas there is **high** potential for the buried remains of former settlement and land-use dating from prehistory through to the post medieval period. Features would likely take the form of ditches and pits. If these features were found to be of pre-medieval date, they would be of **medium** sensitivity as assets of regional importance; any such remains dating to the medieval or post medieval period would be of low sensitivity as assets of local importance. Due to extensive industrial development, there is **negligible** potential for archaeological deposits within the remainder of these HLC areas.

20th Century Landscapes (HCH13111, HCH13080, HCH13069, HCH13065, 12954, 12890, 12880, 12871, 12867, 12865, 12858, 4876, 4766)

- 3.5.209 These HLC areas occupy a wide swathe of enclosed agricultural land between the M62 in the north, and Fiddler's Ferry power station in the south. The agricultural character of these areas has been retained but a large amount of boundary loss has occurred from the pattern depicted on the 1st edition OS map. The large fields which characterise these HLC areas are largely the result of agricultural developments from the late 19th century onwards which replaced an earlier pattern of enclosure depicted on the tithe maps of Bold Heath, Cuerdley and Rainhill. Many of these removed boundaries survive as buried ditches visible as cropmarks on Google Earth 2018 imagery, along with the buried remains of medieval ridge and furrow. Numerous extraction pits of varying sizes have been identified on LiDAR imagery across these HLC areas. The HLC areas are all located on clay soils overlying sandstone bedrock. These pits are of unknown date and could be representative of mineral extraction over very long periods.

- 3.5.210 A scheduled heavy Anti-Aircraft (HAA) Gunsite (NHLE 1019531), known as Station H17 and Barrows Green gunsite in military records, is located immediately south of HCH12890. The site includes the functional core of the gunsite with a command post, radar platform, four gun emplacements, a generator building and ancillary buildings situated 380m east of South Lane Farm. The gunsite was commissioned by February 1940 and manned by units of the Royal Artillery but was not selected as one of the 192 HAA gunsites which were retained after WWII as part of the Nucleus Force which formed part of the defences of the country during the Cold War. The buildings no longer survive above ground, apart from a water tank in the southern side of the site beside the main road. This area has been disturbed by later buildings including a modern bungalow which has been built over the south-eastern end of the domestic camp area (Historic England, no date). It is not thought that the remains of the site extend into any of the above HLC areas, but stray finds and discarded munitions may be located within its vicinity.
- 3.5.211 No tangible evidence for medieval activity is recorded within these HLC areas, but the scheduled Cranshaw moated site (NHLE1011888) is located immediately west of HCH13069. The site is likely to have been established in the 13-14th centuries and would have represented a prestigious aristocratic residence from which control of lands around it could be exerted. The moated site, which would have contained a high-status residence, would have been the foci of local control in the area. Although there would have been an economic and symbolic link between the moated site and the wider landscape, this will have left little trace aside from the removed field boundaries and possible remains of ridge and furrow which demarcated economic units in the landscape during the medieval period.
- 3.5.212 A cropmark enclosure (MCH8824) is recorded in the southern portion of HCH13080, within what is currently a golf course. It is possible that elements of this feature survive as below ground deposits as golf courses typically protect archaeological features due to the relative lack of disturbance. The exception to this is where bunkers and ponds are established, but this is largely not the case in the area in which the cropmark is recorded. Among the numerous linear cropmarks identified on Google Earth imagery, some clearly do not share common orientations with field boundaries depicted on tithe or later OS mapping; thus implying that these examples relate to prehistoric or Romano-British settlement and land-use.
- 3.5.213 Within these HLC areas there is **high** potential for the survival of boundaries dating from the prehistoric through to the post medieval period. These would survive as buried ditches, or in some cases, as upstanding earthworks visible on LiDAR imagery. Any which are found to be pre-medieval in date would be of **medium** sensitivity as assets of regional importance. There is also **high** potential for medieval ridge and furrow, which has been identified as cropmarks within parcel HCH12871. Features of this type would be of **low** sensitivity as assets of local importance. There is also **high** potential for the survival of prehistoric or Romano-British settlement activity which would take the form of buried ditches and pits. These would be of **medium** sensitivity as assets of regional importance. There is also **high** potential for the presence of stray artefacts relating to the Anti-Aircraft gunsite within adjacent HLC areas HCH12890 and HCH4876. These may take the form of discarded munitions and may carry **high** sensitivity for national

importance depending on levels of preservation and association with the scheduled monument.

Commercial (5134)

- 3.5.214 This small HLC area is located around 180m north of the M62. It is currently occupied by a commercial unit in the north and scrubland which was once a former bowling green and football pitch in the south. The commercial unit, which is unoccupied at the time of writing, replaced a recreational area associated with the former Sutton Manor Colliery (MME7917), located immediately north and east and which closed in the late 20th century. The now disused bowling green and football pitch was also associated with the colliery. No heritage assets are located within this HLC area, but cropmarks of former field systems have been identified on Google Earth 2018 imagery 250m to the south.
- 3.5.215 Within this HLC area there is **low** potential for archaeological remains beneath the former bowling green and football pitch. These may comprise buried ditches relating to former field systems similar to those identified 250m to the south. These would be of variable sensitivity depending on their provenance. If they were found to be of possible pre-medieval date, they would be of **medium** sensitivity as assets of regional importance, but if medieval or later would be of **low** sensitivity as assets of local importance.

20th Century Communications (20821, 20822)

- 3.5.216 These HLC areas comprise the M62 motorway which was built in the 1970s and bisected a pattern of enclosed fields. The extensive development relating to the construction of the motorway entails that there is **negligible** potential for the survival of archaeological deposits within these HLC areas.

Residential (12860)

- 3.5.217 This small HLC area is located immediately north of Warrington Road, the A57. It is occupied by Old Brook Hall which is depicted on the Bold Heath tithe map of 1840. The current farmhouse is thought to have been built around 1700 but was largely rebuilt in 1906. Prior to this the area may have been the location of a moated site which acted as the seat of an estate dating back to at least the 13th century (MME7914). The remainder of the HLC area is now occupied by modern barns and hard standing, with an area of woodland immediately west of the farmhouse. LiDAR DTM imagery was unavailable for this area, thus the wooded area could not be analysed for possible traces of the moat.
- 3.5.218 Within this HLC area there is **high** potential for the possible remains of a moated site which pre-dates the current farmhouse and associated structures. This is most likely to be encountered in undeveloped areas such as the immediate surroundings of the farmhouse. Any remains of this nature would be of **medium** sensitivity as assets of regional importance.

Woodland (12990)

- 3.5.219 This small HLC area is located immediately south of the M62 motorway. It is occupied partly by the B5419 road and Union Bank Lane, both of which are

flanked by stands of trees and scrubland. The B5419, also known as Jubilee Lane, is depicted on Yates' map of 1786, and on the Bold Heath tithe map of 1840 it is shown as surrounded by a pattern of regular enclosed fields. The proximity of the area to the M62 entails a degree of ground disturbance in the north. There are no heritage assets recorded within this area, but cropmarks of former field systems have been identified in the fields immediately to the south.

- 3.5.220 Within this HLC area there is **medium** potential for the buried remains of former field systems which could date to any point between late prehistory and the post medieval period. If related to the former, any remains would be of **medium** sensitivity as assets of regional importance.

Disused Industry (13197)

- 3.5.221 This HLC area is located immediately north of the M62 motorway and around 800m south-west of Clock Face. It is the site of a former spoil and slurry heap associated with the former Sutton Bank Colliery and is now occupied by scrubland and recently planted stands of young trees. Prior to its association with the colliery, the area contained agricultural fields which are present on the Bold Heath tithe map of 1840. It is unlikely any traces of its former character survive in this area.
- 3.5.222 Within this HLC area there is **low** potential for archaeological remains due to the probable ground disturbance related to its use in the 20th century as a spoil heap associated with Sutton Bank colliery.

Field Systems (12853, 12857, 13180, 13182, 13183, 13184, 13185, 13186, 13198, 13425, 13426, 13436)

- 3.5.223 These HLC areas occupy a swathe of enclosed fields from the M62 motorway in the south, to the Liverpool and Manchester railway line in the north. The areas currently comprise arable fields with small pockets of secondary woodland, such as that in the western half of 13184. The areas are bisected by the modern St Helen's Linkway road which runs north to south. The areas have retained their agricultural character, but a large amount of boundary loss has occurred from the pattern depicted on the Rainhill tithe map of 1843.
- 3.5.224 This swathe of agricultural land is flanked by areas of urban and industrial development which proliferated during the 20th century but began during the post medieval period. An example of this is the location of a brick kiln (MME7671) within parcel 13182. LiDAR imagery shows the disturbance caused by shallow extraction of clay associated with this site. Numerous other areas of extraction have been identified on LiDAR imagery within these HLC areas.
- 3.5.225 Some of the removed boundaries have been identified as both low earthworks on LiDAR imagery and as cropmarks on Google Earth imagery. Some removed boundaries display the reverse 'S' shape indicative of former medieval furlongs which were used to enclose former open fields in the post medieval period. This implies some areas, in particular 13186, were once part of a medieval open field system probably associated with the nearby settlement of Rainhill which was mentioned in 13th century documentary sources (Farrer and Brownhill 1907: 368).

3.5.226 St Ann's Well, a Scheduled Monument (NHLE 1019449) is located within 13425. It survives as a well-preserved example of a shallow square basin with steps leading down to the water. It was believed to have been associated with a burial ground which was destroyed in the 19th century, however the exact whereabouts and nature of its destruction are unknown. There is no recorded evidence for prehistoric activity within these HLC areas, however due to the relative lack of ground disturbance and the underlying soils and geology comprising clay on coal measures which is not an uncommon context for prehistoric or Romano-British settlement and land-use, the possibility of remains of this nature cannot be discounted.

3.5.227 Within these HLC areas there is **high** potential for the remains of former medieval and post medieval ridge and furrow and enclosure boundaries. These survive in both upstanding and buried states and would be of **low** sensitivity as assets of local importance. There is **low** potential for the remains of features associated with St Ann's well including a possible burial ground. Any remains of this nature may carry **high** sensitivity as assets of national importance depending on levels of preservation and association with the scheduled monument. There is **low** potential for the remains of archaeological features relating to prehistoric or Romano-British settlement and land-use. These would most likely survive as buried ditches and pits, and if found would be of **medium** sensitivity as assets of regional importance.

Industrial and Commercial (5363, 19493, 19497, 19883, 19884, 1879, 18787, 18791, 19589, 19878, 19879, 19880, 19884, 19886, 19883, 19896)

3.5.228 These HLC areas occupy areas of 20th century industrial and commercial development south of St Helen's. These developments largely replaced patterns of enclosed fields which had undergone changes in the 19th century which are evidenced on tithe and early OS mapping. Developments in HLC areas 19883, 19884 and 19493 were built upon Brick and Pipe Works which were established in the middle to late 19th century, according to historic OS mapping. The sites of Phoenix colliery (MME14875), Peasley Cross Colliery (MME14873) and other former coal shafts (MME14835; MME14875) and a former railway (MME20170) are also recorded in the Merseyside HER within these areas. Other heritage assets recorded across the HLC areas relate to former buildings present on early OS mapping which have since been demolished, including Jockey's Houses (MME7754) within HLC area 19493.

3.5.229 Due to extensive levels of historic and modern development, there is **negligible** potential for archaeological remains within these HLC areas.

Farmhouse (13427)

3.5.230 This HLC area is wholly occupied by Home Farm which is located on the north side of Chapel Lane between Rainhill Stoops and St Helens Linkway. The farmhouse (MME7677) is an 18th century structure which may be that shown on Yates' map of 1786. A range of 19th century buildings (MME7700) adjoin the farmhouse, with the remainder of present structures dating to the 20th century. The remainder of this area comprises hard standing and a small garden plot associated with the farmhouse. No further heritage assets are located within this HLC area.

- 3.5.231 There is **low** potential for archaeological remains within this area due to a lack of recorded evidence within the area and its surroundings.

Field System (13465)

- 3.5.232 This HLC area is located immediately east and north of the modern St Helens Linkway bypass which was built in the late 20th century. It is currently occupied by scrubland which in the recent past has been used for arable agriculture. A review of LiDAR imagery shows possible artificial ground immediately north and east of the area which may be related to the construction of the modern road. Historic mapping shows that the area has been part of a wider pattern of enclosed fields on the outskirts of Rainhill Stoops from at least the early 19th century, with a former field boundary being removed from the area during the 20th century. No heritage assets are recorded within this area.
- 3.5.233 Within this area there is **high** potential for the buried remains of former field boundaries which can be seen on 19th century mapping. These would be of **low** sensitivity as assets of local importance.

Modern Housing Development (5497, 19065, 19496, 19584, 19585, 19586, 19587, 5514, 18762, 18763, 19062, 19063)

- 3.5.234 These HLC areas represent modern urban development known as Sutton Heath and south of the town of St Helens. The HLC areas were occupied by enclosed fields and isolated farms prior to modern development which began in the 1970s. In addition, the site of Sutton Heath colliery occupied part of HLC area 19065. These features are no longer extant. No heritage assets relating to the medieval period or earlier are located within these HLC areas.
- 3.5.235 Due to extensive levels of historic and modern development there is **negligible** potential for archaeological remains within these HLC areas.

Field system (18766)

- 3.5.236 This HLC area is located immediately west of the modern housing development of Lea Green and south of the modern housing development of Sutton Heath. It currently comprises large arable fields bisected by a farm track which provides access to the existing Elton Head Farm which is recorded in the Merseyside HER (MME14945). A large amount of boundary loss has occurred in this HLC area from the pattern depicted on the Sutton tithe map of 1838. Many of these survive as buried ditches which have been identified on Google Earth 2021 imagery. Archaeological fieldwalking undertaken in the eastern portion of this HLC area led to the discovery of numerous small finds relating to prehistoric activity in the form of struck flints (MME14814), as well as medieval and post medieval pottery and industrial waste (MME14813). The groups of struck flints may be indicative of prehistoric activity within, or close to, this HLC area. The medieval and post medieval finds are likely to be either the product of agricultural waste spreading in the post medieval period or could be associated with the occupation at Elton Head Farm. Many of the removed field boundaries shown on tithe mapping display the reverse 'S' morphology consistent with medieval furlongs which were reused in later enclosure of former open fields. This would imply parts of this HLC area were

occupied by open fields associated with the nearby settlement of Rainhill. No evidence for ridge and furrow ploughing has so far been identified to support this claim, but the relative lack of ground disturbance implies the likelihood of buried remains within this HLC area.

- 3.5.237 An archaeological watching brief in the east and south of the HLC area identified two undated ditches which do not relate to any recorded boundaries on historic mapping (MME15547) (Oxford Archaeology North 2007). These could therefore relate to any time between prehistory and the post medieval period, the latter of which cannot be discounted as boundaries were regularly established and removed during this period.
- 3.5.238 Within this HLC area there is **high** potential for the remains of medieval ridge and furrow and post medieval boundaries. These would survive as buried deposits and would be of **low** sensitivity as assets of local importance. There is also **high** potential for further evidence relating to early prehistoric activity in the form of flint scatters which may be located within ploughsoil, or possibly associated with pits cut into the subsoil and bedrock. Any remains of this nature would carry **medium** sensitivity as assets of regional importance.

Detached Housing (19506)

- 3.5.239 This HLC area is located at the junction of Sherdley Road and The Score, which provides access to Sherdley Hall Farm. The area is currently occupied by a large, detached dwelling and garden first depicted on the 1:10,560 OS map of 1906. Prior to this the area was part of a large, enclosed field with a band of woodland along the eastern side of Sherdley Road which remains largely in place. No heritage assets are recorded within this HLC area.
- 3.5.240 Within this HLC area there is **low** potential for archaeological remains within the garden area to the north due to its relatively undisturbed present character. The nature of any remains is unknown.

Recreational and Ornamental (18743)

- 3.5.241 This HLC area contains the former Rainhill Hospital in the north and associated ornamental parkland to the south. The hospital was initially built as Lancashire County Lunatic Asylum in 1851 and is a locally listed building (DME2228). It was built on former enclosed agricultural land, as depicted on the Sutton tithe map of 1838. The building was amalgamated with the National Health Service as Rainhill Mental Hospital in 1948 and, following most of its service units moving to other locations, the building was demolished in 1992. The site was sold off for residential use in the 2000s. The ornamental parkland to the south consisted of wooded paths and a small chapel, now demolished, in the south-east. This area is currently still wooded, and LiDAR DTM imagery shows the paths to be largely overgrown, but elements such as the ornamental circular path which lay immediately south of the hospital appear to still be intact.
- 3.5.242 Within this HLC there is **high** potential for the remains of ornamental parkland in the south, which would comprise paths and possible flower beds. Buried remains of the chapel may also survive in the south-east of the area. Any features of this character would be of **low** sensitivity as assets of local importance. There is

negligible potential for archaeological remains in the north of the area due to extensive development.

Nature Reserve (19491); Rough Ground (19581, 19505, 19498) and Allotment Gardens (19588, 19583)

- 3.5.243 These HLC areas represent portions of open green space which sit within extensive areas of modern industrial, commercial and residential development to the south of St Helens. The areas comprise a mix of rough land, woods, allotments, and nature reserves. By the later 19th century, these areas were heavily populated by collieries and other industrial enterprises such as the Greengate Brick and Tile Works. Despite this, a review of historic mapping suggests these areas have not been subjected to extensive ground disturbance.
- 3.5.244 Prior to the late 19th century, the landscape in which these HLC areas are located was one of enclosed fields south of St Helens, which until the mid-19th century was still a relatively small settlement compared to what it had become by the end of that century. Although the boundaries depicted on the Sutton tithe map have long since been removed, elements may survive as below ground deposits. No heritage assets are recorded within these HLC areas, and no potential archaeological features have been identified on remote sensing imagery.
- 3.5.245 Within these HLC areas there is **medium** potential for the survival of buried post medieval field boundaries. Any remains of this nature would be of **low** sensitivity as assets of local importance.

East Corridor

Post Medieval/20th Century Fieldscapes (HCH1007, HCH1010, HCH1214, HCH1220, HCH1302, HCH1303, HCH1304, HCH1305, HCH1306, HCH1326, HCH1358, HCH1361, HCH1365, HCH1505, HCH9394, HCH9395, HCH9399 HCH9416, HCH1218, HCH1217, HCH9426)

- 3.5.246 These HLC areas occupy a wide swathe of agricultural land between Lower Whitley in the south-west and the M6 motorway in the north-east. The areas comprise large, enclosed fields and dispersed farmsteads dating to the 18th and 19th centuries, and all lie upon loamy and clayey soils (Soilscapes, no date). A large amount of boundary loss has occurred within these HLC areas from the pattern depicted on early 19th century tithe mapping. These changes occurred throughout the 20th century, but some can also be seen on the 2nd edition OS map. Many of these removed boundaries remain visible as low earthworks and have been identified on LiDAR imagery.
- 3.5.247 Some boundaries shown on tithe mapping within these HLC areas display the reverse 'S' shape indicative of former medieval furlongs which have been reused to enclose former open fields. These are most commonly found around the villages of Lower and High Whitley, which were both occupied in the medieval period. This would therefore imply that these areas were part of open field agriculture within this period, although no clear evidence of ridge and furrow has been identified on available remote sensing imagery. Other areas of enclosure within these HLC areas may be the result of piecemeal enclosure of former

common land, such as those found in the vicinity of Whitley Reed (MCH25376), an area of marsh which was not enclosed until the mid-19th century under Parliamentary Act, and Park Moss which is described on the Crowley tithe map as heath.

- 3.5.248 Very few heritage assets are recorded within these HLC areas, however numerous historic farmsteads are located close by. Many of these are Grade II listed such as Parkmoss Farm (NHLE 1329836) and Crowley Green Farm (NHLE 1320315). These dispersed farms stand testament to landscape development in the wider area during the post medieval period and are closely tied to enclosure and agricultural improvement. Flanking these HLC areas are the villages of Lower and High Whitley to the north and Arley to the south, all of which are Conservation Areas. The place-names of these settlements all contain the Old English element *ley*, which derives from the word *lēah* and means clearing in woodland (Dodgson 1981b: 124). This evidence suggests that the wider area around these settlements had been woodland until the early medieval period. The presence of further places bearing this element, including Crowley and Frandley, the latter of which lies just beyond these HLC areas, bolsters the idea of a former historic landscape context of woodland.
- 3.5.249 These HLC areas contain very little recorded evidence of prehistoric activity, which is confined to small finds such as a stone axe close to Antrobus in HCH1358 (MCH8431). Despite this, the presence of a scheduled bowl barrow (NHLE 1011166) in HCH1285 which abuts these HLC areas, alongside the relative lack of ground disturbance across all HLC areas in this group, suggests that buried features may await discovery. Relatively few cropmarks have been identified within these HLC areas due to inadequate conditions, so this claim cannot be substantiated further. The southwest fringe of HCH1285 and eastern portion of HCH9395 are located upon underlying alluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.250 Within these HLC areas there is **high** potential for the remains of removed post medieval boundaries which may survive as earthworks or buried ditches. These would be of **low** sensitivity as assets of local importance. There is **medium** potential for prehistoric evidence of settlement and land-use owing to the presence of a bowl barrow just beyond these HLC areas, and the relative lack of ground disturbance. Any remains of this nature would be of **medium** sensitivity as assets of regional importance. In addition, there is **medium** potential for lithic scatters dating to early prehistory within HCH1285 and HCH9395. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance. potential for lithic artefacts dating to early prehistory. Any remains of this nature would carry medium sensitivity as finds of regional importance.

Post Medieval Landscapes (HCH1285)

- 3.5.251 This HLC area is situated immediately east of the village of Lower Whitley, a Conservation Area (DCH1394). It currently comprises a pattern of large, enclosed fields on an underlying geology of sand and gravel soils to the north and clay soils to the south (Soilscapes, no date). The current field pattern is the result of boundary loss and reorganisation of land parcels in the late 19th and 20th

centuries. Many removed boundaries have been identified as low earthworks on LiDAR imagery. Some of the removed boundaries depicted on the Lower Whitley tithe map of 1845 display the reverse 'S' shape indicative of former medieval furlongs which have been reused to enclose areas of former open fields which would have been associated with Lower Whitley in the medieval period. No traces of ridge and furrow have yet been identified on available remote sensing imagery to bolster this claim.

- 3.5.252 The remains of a possible moat are situated in the vicinity of this HLC area (MCH7845). Only two sides of this are now visible to the north of Whitley Hall Farm. A former Elizabethan Hall known as Whitley Hall (MCH7738) stood within the dry area surrounded by the possible moat. The structure is depicted on the Lower Whitley tithe map but was demolished soon after and does not appear on 1st edition OS mapping.
- 3.5.253 A scheduled bowl barrow is located in the northern portion of this HLC area (NHLE 1011166) on the sand and gravel deposits. This survives as a low mound which can be seen on the ground and is visible on LiDAR imagery. Flint tools and a fragment of bone, all thought to have come from the mound, have been found through fieldwalking in close proximity to the barrow in recent years (Alexander 1977: 48). This feature sits in isolation with no other prehistoric activity recorded within the HLC area or its vicinity. No similar features have been identified close by on LiDAR imagery, which shows two large extraction pits immediately south-east of the barrow.
- 3.5.254 Within this HLC area there is **high** potential for further remains relating to prehistoric activity. This may relate to settlement and land-use associated with the scheduled barrow or could comprise further barrows which have been ploughed flat and now exist as buried deposits. Evidence of this nature would be of **medium/high** sensitivity as assets of regional/national importance. There is also **high** potential for the upstanding and buried remains of former post medieval boundaries, and **medium** potential for medieval ridge and furrow, particularly close to the village of Lower Whitley. Any remains of this nature would be of **low** sensitivity as assets of local importance.

Water Bodies (HCH1256)

- 3.5.255 This HLC area represents two separate bodies of water, one roughly 350m west of Higher Whitley and the other within Higher Whitley Conservation Area (DCH1396). These are the result of former mineral extraction which took place in the mid-20th century on former enclosed fields.
- 3.5.256 Due to extensive ground disturbance, there is **negligible** potential for archaeological remains within this HLC area.

Ancient and Post Medieval Fieldscapes (HCH1322, HCH1328)

- 3.5.257 These HLC areas are located around 550m north-east of Higher Whitley and occupy enclosed agricultural land upon sand and gravel deposits (BGS, no date). Some boundary loss has occurred within these areas from the pattern depicted on the Higher Whitley tithe map of 1844, but the general pattern remains the same in comparison with other HLC areas in the vicinity. Some removed boundaries have

been identified as low earthworks on LiDAR imagery. The HLC areas fit into a pattern of enclosed fields and dispersed farmsteads, including the Grade II listed Firtree Farm (NHLE 1086969) and Fogg's Farmhouse (NHLE 1139132) which are situated just beyond the northern boundary of HCH1328.

- 3.5.258 No heritage assets are recorded within these HLC areas, and the only features identified on remote sensing imagery relate to post medieval boundaries. However, due to the favourable soils and relative lack of ground disturbance, it is possible that buried archaeological remains relating to medieval and earlier activity may be present. The lack of suitable aerial imagery within these HLC areas hampers further investigation. The areas are located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.259 Within these HLC areas there is **high** potential for the remains of former post medieval boundaries which survive both above and below ground. These would be of **low** sensitivity as assets of local importance. There is **medium** potential for the survival of medieval and earlier archaeological remains including early prehistoric lithic scatters due to the relative lack of ground disturbance and favourable underlying soils which would be conducive to settlement; any remains would be of variable sensitivity depending on their nature.

Ancient Fieldscapes (HCH1364)

- 3.5.260 This small HLC area comprising enclosed fields is located next to Peelhall Farm (MCH17196) and Payne's Farm (NHLE 1139175) in a swathe of post medieval and 20th century enclosed fields. It is currently partly occupied by detached housing which was present by the early 19th century, being depicted on the Antrobus tithe map of 1844. It is possible that these houses were built on former enclosed fields, the boundaries of which were used to define the properties in the 19th century. The character of this HLC area has changed little from that depicted on the tithe map, and as such the hedgerows which define these boundaries may meet the criteria to be considered important under the Hedgerow Regulations.
- 3.5.261 Aside from the historic buildings mentioned above, no further heritage assets are recorded in this HLC area. Traces of medieval ridge and furrow have been identified as cropmarks in fields directly west of this area, and it could therefore be possible that in the back gardens of the properties further similar evidence awaits discovery.
- 3.5.262 Within this HLC area there is **high** potential for the buried remains of medieval ridge and furrow. This would be of **low** sensitivity as an asset of local importance.

Woodland (HCH1369)

- 3.5.263 This HLC area is occupied by a small area of secondary woodland around 1km north-west of Arley. It is located on a discrete area of underlying peat which is surrounded by loamy clayey soils (soilscares, no date). The area is depicted as enclosed heathland on the Crowley tithe map of 1844. Historic OS mapping shows the area has been occupied by scrub until the mid-20th century when woodland is depicted. No heritage assets are recorded in this area, and LiDAR DTM imagery is

not available, so it is not possible to determine whether any archaeological features survive within this area. The underlying peat would entail the rich preservation of potential archaeological artefacts and ecofacts if they did exist in this area.

- 3.5.264 Within this HLC area there is **medium** potential for the survival of archaeological artefacts and ecofacts although none are presently recorded, and the area is currently under dense woodland. Any remains present may potentially be of **medium** sensitivity as assets of regional importance.

20th Century Fieldscapes (HCH9417)

- 3.5.265 This HLC area is located immediately north-east of the M6 motorway and occupies a discrete area of underlying peat deposits which is known historically as 'Sink Moss' (MCH25379). The area is bounded to the north, east and south by Moss Road which defined the limits of the wetlands presumably at the time it was enclosed, as shown on the High Legh tithe map of 1847. The area was investigated between 1993 and 1997 through the North West Wetlands Survey (Leah *et al.* 1997) through analysis of historic mapping. This showed the area of wetland was greatly reduced from the extent shown on Burdett's map of 1777. Traces of former drainage have been identified on historic aerial photographs (MCH23704), but no other archaeological features are recorded in this area. With relatively little ground disturbance within this area, however, it is possible that, were archaeological artefacts and ecofacts to be present, they may be well preserved in the peat layers.
- 3.5.266 Within this HLC area there is **medium** potential for buried archaeological remains and ecofacts. Where present, artefacts and ecofacts may be well preserved owing to the underlying peat deposits. Any remains of this nature would be of **medium** sensitivity as assets of regional importance.

Industry (HCH9209)

- 3.5.267 This small HLC area, located around 1km south of Broomedge, is occupied by industrial units built in the late 20th century on a former enclosed field. No heritage assets are recorded in this area and the level of ground disturbance suggests **negligible** potential for archaeological features.

Post Medieval and 20th Century Fieldscapes (HCH13382, HCH9408, HCH9429, HCH9436, HCH9439, HCH9440, HCH9441, HCH9442, HCH9445, HCH9462, HCH9465, HCH9466, HCH9360, HCH9444)

- 3.5.268 These HLC areas occupy a wide swathe of enclosed agricultural land between Sink Moss in the south-west and the Bridgewater Canal in the north-east. The enclosed fields which occupy these areas are largely the result of late post medieval and 20th century developments. The present character of these areas is largely the result of boundary loss from the field pattern depicted on early 19th century tithe mapping. Traces of narrow post medieval ridge and furrow have been identified as earthworks immediately north-west of High Legh (MCH24532), and some removed boundaries have been identified as low earthworks on LiDAR imagery and cropmarks on historic aerial photographs (MCH7001). Many

boundaries depicted on tithe mapping remain extant, and therefore may meet the criteria to be considered important under the Hedgerow Regulations. Marl pits (MCH24431) are recorded in HCH9429, and more have been identified on LiDAR imagery in HCH9360 and HCH9466. These reflect the underlying geology and soils, which consist of mudstone and loamy clay (BGS, no date).

- 3.5.269 Dispersed farms and houses are situated in and close to these HLC areas, including the Grade II* listed Swineyard Hall (NHLE 1115517) and the scheduled moated site (NHLE 1009585) immediately south-west of HCH9429, and the Grade II listed Cooper's Square (NHLE 1139517) immediately north of HCH9429. These buildings encapsulate changes in tenure and agriculture throughout the post medieval period.
- 3.5.270 There is little direct evidence of medieval or earlier activity within these HLC areas, but the settlement of High Legh is located immediately east of HCH9444. The parish of High Legh was first recorded in the Domesday Book, which also recorded a church which has never been located (Open Domesday, no date). The earliest structure within the current settlement is the Grade II* listed Chapel of St Mary (NHLE 1139516), dated to the early 16th century, but the place name element 'Legh' which derives from the Old English 'Lēah', meaning a clearing in woodland, hints at earlier origins (Dodgson 1981b: 45).
- 3.5.271 The North Cheshire Ridge Roman Road (MCH9506), now the modern A50, bisects these HLC areas, running roughly north-west to south-east. No related evidence, such as quarry pits or drainage ditches, has been recorded within these HLC areas, but the relative lack of ground disturbance could entail that associated features may be present within HCH9445, HCH9429 and HCH9408, although disturbance caused by construction of modern road layers may have had some impact on potential features of this nature.
- 3.5.272 Within these HLC areas there is **high** potential for the remains of post medieval boundaries and ridge and furrow which survive as both above and below ground features. These would be of **low** sensitivity as assets of local importance. There is also **high** potential within HCH9445, HCH9429 and HCH9408 for archaeological remains relating to the North Cheshire Ridge Roman Road. Any such remains would be of **medium** sensitivity as assets of regional importance.

20th Century Landscapes (HCH9358)

- 3.5.273 This HLC area is located immediately north of the M56 motorway and south-east of the village of Broomedge. The area is currently occupied by three large, enclosed fields which are the result of 20th century development of the area. In the 19th century the area is depicted as the grounds of Agden Hall, which is recognised as a non-designated Park and Garden (Cheshire Gardens Trust, no date). Very little now remains of this parkland, aside from the low earthworks of former ponds visible on LiDAR imagery and the former line of an avenue which is retained as a field boundary. Prior to it being parkland, the area was part of a wider pattern of enclosed fields, some of which have been identified as low earthworks on LiDAR imagery. The Agden tithe map of 1843 shows the development of the area into parkland underway, with former enclosure boundaries still in place and yet to be removed. No heritage assets are recorded within this area, and its current use as arable farmland, which seems to have been

established by the mid-20th century, led to the removal of former areas of trees and the aforementioned group of ponds, which may have been former marl pits.

- 3.5.274 Within this HLC area there is **high** potential for the survival of former field boundaries which pre-date the 19th century and the area's parkland character. These would be of **low** sensitivity as assets of local importance.

Post Medieval/20th Century Fieldscapes (HCH10322, HCH10324, HCH13379, HCH13380, HGM4507, HGM4595, HGM4496, HGM5738, HGM5691)

- 3.5.275 These HLC areas occupy the wide swathe of enclosed farmland between Agden in the south and Partington in the north. The field patterns are the result of post medieval enclosure, both piecemeal and parliamentary, and some boundary loss which has occurred in the 20th century. Some of these removed boundaries have been identified as low earthworks on LiDAR and cropmarks on Google Earth imagery. The underlying geology and soils comprise sandstone and loamy clays, with some areas of mudstone and sand, such as within HGM4507. Close to these HLC areas are numerous dispersed farms, including the Grade II listed Burford Farmhouse (NHLE 1226461), which stand testament to landscape developments in the post medieval period, with agrarian control moving away from villages to new farms. The Greater Manchester HER lists the site of the former Heath Farm (MGM8814), which is located around 80m east of the Preliminary Order Limits. The area in which the farm was located is now scrubland with some mature trees, and it is possible that the remains of the farm lie within this area.
- 3.5.276 There is a small amount of historic industrial activity within these HLC areas and their vicinity, such as the site of a water mill in HGM4595 (MGM4543) which is no longer extant, and the site of Agden Salt works (MCH7022) along the Bridgewater Canal; this operated during the early 20th century before closing in 1962 and the site being turned into a boatyard.
- 3.5.277 Dunham Woodhouses Conservation Area is located immediately east of HGM4595. The village's history is closely aligned with the nearby Dunham Massey estate a little further to the east, which is a Registered Park and Garden (NHLE 1000853) containing multiple Listed Buildings including the Grade I listed Dunham Hall (NHLE 1356512), the name of which was first mentioned in the Domesday Book (Trafford Council 2020; Open Domesday, no date).
- 3.5.278 Activity in the Roman period within these HLC areas is restricted to a hoard found by chance through ploughing close to the Agden Brook (MCH7468). Other small finds within these HLC areas include undated spindle whorls (MGM17790) in HGM4507.
- 3.5.279 Multiple linear and rectangular cropmarks are recorded within these HLC areas, such as MGM9071 within HGM5738. These features were primarily recorded through a large-scale analysis of aerial imagery in and around Dunham Massey Estate for the National Trust (Oxford Archaeology North 2016). Most cropmarks are undated and may either relate to removed field boundaries shown on tithe mapping or prehistoric or Romano-British settlement and land-use. The latter is under-represented in terms of tangible evidence within this region of the Study Area.

- 3.5.280 These areas are predominantly located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.281 Within these HLC areas there is **high** potential for the buried remains of prehistoric or Romano-British settlement and land-use which would take the form of ditches and pits. These would be of **medium** sensitivity as assets of regional importance. There is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance. There is also **high** potential for upstanding and buried remains of removed post medieval boundaries which would be of **low** sensitivity as assets of local importance, and for the remains of Heath Farm which would also be of **low** sensitivity as an asset of local importance.

Gas Valve Compound (HGM4503)

- 3.5.282 This small HLC area is located immediately north of the now disused Warrington and Stockport L&NWR line, and around 550m north-west of Dunham Woodhouses. It is wholly occupied by a gas valve compound which was constructed in the 1980s, replacing former agricultural land which was part of a wider pattern of enclosed fields. No heritage assets are recorded within this HLC area.
- 3.5.283 Due to ground disturbance, there is **negligible** potential for archaeological remains within this HLC area.

Stretches of former L&NWR railway (HGM4513, HGM4516) and east of A6144 (HGM4668).

- 3.5.284 These HLC areas are occupied by stretches of the former L&NWR Warrington and Stockport line, and the Cheshire Lines Railway. These lines have been dismantled and are now used as a cycling route.
- 3.5.285 Due to extensive ground disturbance associated with the former railways there is **negligible** potential for archaeological remains in these HLC areas.

Historic Farms (HGM4572, HGM4586, HGM4743, HGM5687, HGM55693, HGM5735, HGM5736)

- 3.5.286 These HLC parcels are occupied by historic farmsteads which, in the main, have their origins in the 19th century. Carr Green Farm (MGM8750) and Higher Carr Green Farm (MGM8746) lie in the central portion; Bridge Farm (MGM8748) within HGM4572; Box Edge Farm (MGM8744) and Holly Cottage (MGM8743) within HGM4586; Asphodel Farm within HGM4743; Townsend Farm (MGM8807), Yewtree House Farm (MGM8817) and Boxtree Cottages (MGM3964), along with the site of the former Boxtree Farm (MGM8815) within HGM5687; Peterhouse Farm (MGM9045) and Orchardhouse Farm (MGM9046) and Barnslane Farm (MGM8838), Boundary Farm which includes The Nursery (MGM9091) within HGM5735; and Gate House Farm (MGM8745) within HGM5736.

- 3.5.287 Within this HLC areas there is **medium** potential within the garden areas for archaeological remains which are most likely to comprise small finds associated with the historic occupation of both properties dating back to the early 19th century. These would be of **low** sensitivity as assets of local importance.

Agglomerated Fields (HGM4576)

- 3.5.288 This HLC area is located immediately east of the village of Warburton and around 1km south of Partington. It currently comprises a pattern of enclosed agricultural land which is the result of drained former mossland. Some boundary loss has occurred from the field pattern depicted on the Warburton tithe map of 1838. Some of these have been identified as cropmarks on 2009 Google Earth imagery. As the name suggests, prior to enclosure and drainage at some point in the post medieval period, this area was likely used for common grazing in the medieval period and perhaps prior to this. The presence of field names such as 'Big Rough' and 'Moss Rough' on the tithe map adds further weight to this claim as, although by this point the area had been enclosed and drained to a degree, it was still deemed unsuitable for arable agriculture, and the field names likely represent the former use of the area prior to enclosure.
- 3.5.289 Within this HLC area there is **high** potential for the buried and upstanding remains of post medieval boundaries. These would be of **low** sensitivity as assets of local importance.

Drained and enclosed wetland (HGM5653)

- 3.5.290 This HLC area is located immediately south of Carrington chemical works. It comprises former marsh known historically as Carrington Moss which was drained in the later 19th century, as evidenced on the 2nd edition OS map of the area. The underlying geology contains layers of peat which are likely to remain intact despite extensive drainage (soilscapes, no date; University of Salford 2020; Friends of Carrington Moss, 2021). Aside from some boundary loss in the 20th century, the character of this area has remained largely unchanged since being enclosed. There are no recorded heritage assets relating to archaeological features within this HLC area, although the layers of peat have the potential to contain well preserved artefacts and ecofacts.
- 3.5.291 Within this HLC area there is **high** potential archaeological artefacts and ecofacts within underlying peat layers. Any remains would be of variable sensitivity depending on their nature.

Industry (HGM4659, HGM4738)

- 3.5.292 These HLC areas are located south of Carrington and east of Partington, on the north-eastern tip of the Study Area. They are almost wholly comprised of 20th century industrial development, including a large gas works in HGM4659 and HGM4738. These industrial areas were built upon former enclosed fields, with part of the gas works built on an area of former marshland historically known as Carrington Moss. The entire former character of these areas has been lost through extensive ground disturbance caused by the works, although the gas works has now been decommissioned.

- 3.5.293 Within these HLC areas there is **negligible** potential for archaeological remains due to extensive ground disturbance caused by 20th century industry.

South Corridor

Ancient Fieldscapes (HCH1246)

- 3.5.294 This HLC area is predominantly comprised of agricultural fields bounded by hedgerows. The area itself is bound by the A533 and A49 to the south and east, and Marsh Lane to the north; with satellite imagery showing a small sub-rectangular area of hardstanding having recently been constructed across the boundary of two fields in the west of the HLC area. Agricultural land comprising large arable fields bounded by a mix of irregular and straight hedgerows occupies part of the north-east of this area. This land may be associated with two historic but still operational farmsteads, Done's Green Farm (MCH7902), and Nook Farm (MCH17240), which lie outside the HLC boundary. An industrial area also lies adjacent to the south-eastern boundary.
- 3.5.295 The 1841 tithe maps of Dutton and Bartington show the area as being comprised of irregularly enclosed fields of varying sizes, with records indicating their use as a mixture of arable, pasture and meadow land. Numerous small ponds are also located throughout the area, along with four small buildings recorded as a cottage and outbuildings in the south-eastern corner; these buildings are no longer extant and no traces of their footprint were identifiable on LiDAR imagery. The irregular nature of the field boundaries, and the reverse 'S' shape of some, is likely representative of the piecemeal enclosure of former open fields, perhaps as early in date as the late medieval period. Whilst the straightening of some boundaries and amalgamation of fields into larger units, which OS mapping indicates began in the late 19th century, has resulted in a degree of boundary loss and change to the field pattern shown on the tithe maps, much of the character of the former fieldscape remains intact today. Probable traces of ridge and furrow associated with the later medieval open-field system of agriculture have been identified on LiDAR imagery in north-eastern areas of the parcel, however no further features are present across the remainder of the HLC area, thus suggesting subsequent heavy ploughing has reduced the potential for remains of below ground deposits.
- 3.5.296 This survival of a number of field boundaries shown in the 1841 tithe maps may also suggest that a number of the extant hedgerows present within the area may be deemed important under the Hedgerow Regulations. This includes the hedgerows present along the boundary between the former townships of Dutton and Bartington, the division of which lay partially within the southern area of this HLC. Tithe mapping indicates the township boundaries followed the course of a tributary of the Dean brook which ran laterally through southern parts of this HLC area; the western half of this watercourse survives today.
- 3.5.297 No heritage assets are recorded within the HLC itself, however Done's Green Farm (MCH7902), a 17th century timber framed cottage lies just beyond the north-eastern boundary of the HLC area, with a possible 17th century outbuilding recorded at Nook Farm (MCH17240) nearby to the north-west of the area.

- 3.5.298 A number of features have, however, been identified through the LiDAR survey undertaken for this DBA, including several historic mineral extraction pits and a right-angled drainage channel being recorded in the western half of the area; buried remains associated with these features would be of **low** heritage sensitivity. Faint traces of former field boundaries which correspond with those depicted on tithe mapping are also noted across the area.
- 3.5.299 Within this HLC area there is **high** potential for buried remains associated with medieval and post medieval agricultural, including ridge and furrow and relict field boundaries, which would be assets of local importance and of **low** sensitivity.

20th Century Fieldsapes (HCH1275)

- 3.5.300 This HLC area is predominantly comprised of large, sub-rectangular arable fields delineated by hedgerows; land and outbuildings associated with Dane Manor Farm and Hill Farm are also located in the north-west and east of the parcel, respectively. The area is bound by the A533 to the north, and Warrington Road and residential areas to the east. The western edge of the parcel is bordered by woodland which lines the Dean Brook, adjoining a second area of woodland which forms the south-western boundary. The south-eastern boundary of the parcel follows the course of the Trent and Mersey Canal.
- 3.5.301 Two Conservation Areas are partially located within this area. Bartington Conservation Area (DCH1395) is located along the eastern boundary of the parcel along Warrington Road, with parts of its northern extent located within the HLC parcel. Six Grade II Listed Buildings are located within the Conservation Area, none of which are located within the HLC area. Along its south-eastern edge, this HLC parcel adjoins part of the boundary of the Trent and Mersey Canal Conservation Area (DCH8686); completed in 1777, the canal was the first major inland waterway created as part of Britain's canal network which would become the principal means of communications and transport from the late 18th century through to mid-19th century (Staffordshire Borough Council 2014: 5). Two Grade II listed mileposts (NHLE 1320411; 13299862) are located within the Conservation Area, just beyond the HLC boundary.
- 3.5.302 The field pattern as it appears today is largely the product of 20th century developments, with OS mapping and LiDAR imagery indicating various stages of reorganisation to field boundaries having occurred during this period. Prior to this, the 1841 Bartington tithe map indicates a slightly more irregular layout which was likely the product of piecemeal enclosure of formerly open land. A number of these earlier boundaries have been retained in the current fieldscape, particularly in the south and east of the HLC area; as such, existing hedgerows in these locations may potentially be deemed important under the Hedgerow Regulations.
- 3.5.303 The 1841 tithe map also depicts a number of buildings and structures within this HLC area, including a group of buildings in the north-western corner where Dane Manor Farm is presently located, and in the east of the area and beyond, where a group of small plots and structures form the settlement of Bartington. At the northern extent of this grouping two cottages are shown within the HLC area boundary; these structures are no longer extant by the time of the 1897 OS map and no potential remnants are visible on LiDAR imagery of the area.

- 3.5.304 In the south of the area, a cropmark of a possible post medieval sand gravel or marl (clay and chalk) pit (MCH24730/14380) is recorded, with a second marl pit noted in the east of the area on the 1897 OS map and visible on LiDAR imagery.
- 3.5.305 Within this HLC area there is **high** potential for the remains of medieval, post medieval and 20th century agricultural activities, primarily in the form of relict field boundaries, with **medium** potential for the remains of medieval and post medieval ridge and furrow; these assets would be of **low** sensitivity and of local importance.

20th Century Fieldsapes (HCH1520, HCH13043)

- 3.5.306 These HLC areas comprises arable fields situated at the north-eastern junction of the A49 and A533, with a small group of residential properties also located in the south-eastern corner of HCH13043. The current layout is the result of later 20th century developments, with OS mapping from the late 19th century onwards showing the gradual amalgamation of smaller field units into the larger ones seen today.
- 3.5.307 Burnett's map of 1794 indicates enclosure boundaries have remained largely constant, with the land within used possibly as an area of common pasture. A large pond or pit feature is also depicted towards its centre in HCH13043. Historically part of the township of Little Leigh, which place-name evidence suggests 'lēah' derives from Old English meaning woodland clearing, indicates the likely open nature of land within the area during the medieval period. By the time of the 1840 Little Leigh tithe map, the areas have been subdivided into enclosed fields of varying sizes delineated by straight field boundaries, characteristic of parliamentary enclosure. All bar one of these plots are named 'common', again implying this area may formerly have been used as common grazing land during the medieval period. A number of these former field boundaries are identifiable as cropmarks on modern satellite imagery.
- 3.5.308 No heritage assets are recorded within these HLC areas, however LiDAR analysis of the area has revealed a circular historic extraction pit in the south of HCH13043, with satellite imagery also revealing a number of curvilinear cropmarks in this same vicinity and others to the north. HCH1520 is located immediately east of Bartington, which has its roots in the medieval period. This raises the possibility that medieval or earlier settlement remains may survive as buried deposits in the western portion of this area.
- 3.5.309 Within these HLC areas there is **high** potential for the archaeological remains relating to the historic development of Bartington and Little Leigh. These may comprise buried post holes, pits and ditches, along with small finds which would be of **medium** sensitivity as assets of regional importance. There is also **high** potential for buried post medieval field boundaries which would be of **low** sensitivity as assets of local importance.

20th Century Fieldsapes (HCH1275, HCH1533, HCH1578, HCH1581, HCH1584, HCH1587, HCH1731)

- 3.5.310 These HLC areas occupy a swathe of enclosed agricultural land between the villages of Little Leigh in the east and Acton in the west, with the village of Bartington located immediately east of HCH1275. The present field pattern is

largely the result of boundary removal during from the late 19th century onwards. Many former boundaries have been identified as low earthworks and cropmarks on LiDAR and Google Earth imagery. The tithe maps for these areas show a dense pattern of enclosures, some of which have boundaries displaying the reverse 'S' shape indicative of former medieval furlongs reused in piecemeal enclosures. This would imply the presence of medieval open fields within these areas

- 3.5.311 The former open fields within these HLC areas were probably associated with the nearby villages of Bartington, Acton and Little Leigh, which are all mentioned in Domesday book as containing ploughland (Open Domesday, no date). Faint traces of ridge and furrow have been identified as low earthworks on LiDAR LRM imagery within these HLC areas to support this theory.
- 3.5.312 As mentioned above, HLC area HCH1275 sits directly adjacent to the village of Bartington, which is mentioned in Domesday, and contains Old English elements (*tun*) in its name (Dodgson 1981a). Recent research elsewhere in England has found the presence of early medieval settlement remains located around the periphery of medieval villages (Wright 2015). It could therefore be the case that similar remains await discovery in the eastern portion of HCH1275.
- 3.5.313 Evidence for possible prehistoric or Romano-British activity can be found in the form of cropmarks within HCH1275 (MCH24437) and HCH1578 which were identified on Google Earth 2018 imagery. These appear to relate to rectangular and sub-circular enclosures, along with nearby parallel linear boundaries. Together, these are likely to represent the remains of settlements and field systems. HCH1533 and HCH1581 are located upon underlying alluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.314 Within these HLC areas there is **high** potential for the remains of prehistoric or Romano-British activity. These remains would be present as buried ditches and pits and would be of **medium** sensitivity as assets of regional importance. There is also **high** potential for the remains of medieval ridge and furrow and post medieval boundaries which survive as buried and upstanding features. These would be of **low** sensitivity as assets of local importance. There is **medium** potential for the remains of early medieval settlement activity within HCH1275. These remains would likely take the form of buried ditches, post-holes and pits, and if found would be of **medium** sensitivity as assets of regional importance. There is **medium** potential in HCH1533 and HCH1581 for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Woodland (HCH1527)

- 3.5.315 This small HLC area is occupied by woodland immediately north of Bartington Farm, a Grade II Listed Building (NHLE 1329861). It has remained part of the grounds associated with the Farm since at least the early 19th century, as can be evidenced through the Bartington tithe map of 1841. No heritage assets are recorded in this area and no potential archaeological features have been identified on LiDAR DTM imagery.

- 3.5.316 Within this HLC area there is **medium** potential for archaeological remains relating to the historic use of the farm. These may comprise the buried remains of former otherwise unknown buildings and small finds. Any remains of this nature would be of **low** sensitivity as assets of local importance.

Post Medieval Fieldscapes (HCH1526)

- 3.5.317 This HLC area is located immediately north of the River Weaver, and roughly 100m south of Bartington Hall, a locally listed building (DCH10139). The area is currently occupied by scrubland with sporadically spaced trees. The area has been used as a dredging disposal site from the 1980s onwards, which largely removed former field boundaries which had been in place since at least early 19th century, as evidenced on the 1841 Bartington tithe map. No heritage assets are recorded within this area, although cropmarks of possible prehistoric or Romano-British activity have been identified immediately north of the area on 2018 Google Earth imagery. It is possible that further buried remains of similar character may be located within this HLC area, and its location along the banks of the River Weaver makes it a good candidate for historic human settlement and land-use. This area is located upon underlying alluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.318 The levels of disturbance to any potential archaeological remains within this area are dependent on the nature of recent dredging disposal.
- 3.5.319 Within this HLC area there is **medium** potential for the buried remains of prehistoric or Romano-British settlement and land-use, which would likely take the form of ditches and pits, and for lithic scatters of early prehistoric. Any remains of this nature would be of **low/medium** sensitivity as assets of regional importance.

Ancient Fieldscapes (HCH1575, HCH1581)

- 3.5.320 These HLC areas are located between of the village of Acton and the River Weaver. They are currently occupied by enclosed fields, which aside from a small amount of boundary loss in the 20th century, have remained unchanged since the pattern depicted on the 1841 tithe map of Acton. Due to the preservation of the general field pattern in these areas, some existing hedgerows may meet the criteria to be considered important under the Hedgerow Regulations. Many of the removed boundaries remain visible as cropmarks and low earthworks, particularly in the northern portion of HCH1575 (MCH11090). The presence of some boundaries on the tithe map displaying the reverse 'S' indicative of former medieval furlongs implies that at least portions of these HLC areas were formerly part of medieval open fields which were likely associated with Acton. Faint traces of ridge and furrow visible as low earthworks on LiDAR LRM data further strengthens this theory.
- 3.5.321 No other heritage assets are recorded within these HLC areas, however HCH1575's proximity to Acton, a known medieval village mentioned in Domesday (Open Domesday, no date) suggest the potential for early medieval settlement remains to be present within the southern portion of this area.

- 3.5.322 There is no direct evidence for prehistoric or Romano-British activity within these HLC areas, but cropmarks representing this have been identified on Bing satellite imagery directly north of HCH1581. This, alongside the proximity to the River Weaver, entails the possibility for similar evidence within these HLC areas. The north-eastern portion of the area is located upon underlying alluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.323 Within these HLC areas there is **high** potential for the presence of buried remains relating to prehistoric or Romano-British settlement and land-use. These would comprise buried ditches, post holes and pits, along with some small finds, and would be of **medium** sensitivity as assets of regional importance. There is also **high** potential for the buried and upstanding remains of medieval ridge and furrow and post medieval boundaries, which would be of **low** sensitivity as assets of local importance. There is **medium** potential for the buried remains of early medieval settlement. These remains may comprise pits, ditches and post holes, and would be of **medium** sensitivity as assets of regional importance. There is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Post Medieval Settlement (HCH1223)

- 3.5.324 This HLC area is occupied by the western portion of the village of Weaverham which is a Conservation Area (DCH1393). Most of the buildings within this area date to the 19th and early 20th centuries, with some present on the Weaverham tithe map of 1838 and others on the 2nd edition OS map of 1888. This part of Weaverham is located around 300m west of the settlement's historic core, also a Conservation Area (DCH1402) which contains numerous listed and locally listed buildings, including the Grade I listed St Mary's Church (NHLE 1287233) which is of 15th and 16th century date. Weaverham is mentioned in Domesday as containing around 18 households in 1086, and its placename implies early medieval origins (Dodgson 1971: 202). This HLC area is more likely to have been part of agricultural land associated with Weaverham in the medieval and much of the post medieval periods, however.
- 3.5.325 There is **medium** potential for archaeological remains within the remaining undeveloped portions of this HLC area, such as gardens. These may include the buried remains of ridge and furrow and former boundaries, along with small finds associated with the historic development of Weaverham. Any features of this nature would be of **low** sensitivity as assets of local importance.

Post Medieval/20th Century Landscapes (HCH1600, HCH1609, HCH1724, HCH1726, HCH1733)

- 3.5.326 These HLC areas are located west of the village of Weaverham and are bisected by the L&NWR railway line. They occupy an area of underlying clay and sandstone deposits which are surrounded by more sandy soils to the north and south. The identification of former clay and marl pits within these HLC areas shows that these soils and their underlying geology were exploited in the past, although no exact dating can be assigned to these activities. The HLC areas

currently occupy a swathe of enclosed agricultural land used for a mixture of arable and pasture, the boundaries of which are largely the result of changes to field patterns from the late 19th century onwards. The changes mainly take the form of boundary loss from the field pattern depicted on the tithe maps for Weaverham and Onston. Many of these former boundaries have been identified as low earthworks and cropmarks on LiDAR and satellite imagery, while other existing boundaries have survived from at least the early 19th century. It is possible therefore that the latter may meet the criteria to be considered important under the Hedgerow Regulations.

- 3.5.327 Some of the boundaries present by the 19th century display the reverse ‘S’ shape indicative of former medieval furlongs that have been reused in post medieval piecemeal enclosure. This leads to the suggestion that at least some portions of these HLC areas were formerly part of medieval open fields, probably associated with Weaverham or Onston, both of which are mentioned in Domesday as containing ploughlands (Open Domesday, no date).
- 3.5.328 HLC area HCH1733 is located immediately west of the Conservation Area of Weaverham (DCH1402), a known medieval settlement with Old English elements within its name (*ham*) (Dodgson 1971: 202). Recent research on medieval villages beyond the Study Area, along with the relative lack of ground disturbance, leads to the possibility that early medieval settlement remains may await discovery within this HLC area (Wright 2015). The Cotebrook to Cuddington Roman road (MCH8018) is recorded as running through HCH1726, however no traces of this have been identified and its route within and around the Study Area remains speculative (Roman Roads Research Association 2018b).
- 3.5.329 Aside from the chance discovery of a Bronze Age axe in ploughsoil within HCH1609, there is no evidence of prehistoric or Romano-British activity recorded within these areas.
- 3.5.330 Within these HLC areas there is **high** potential for the buried and upstanding remains of medieval ridge and furrow and post medieval boundaries. These would be of **low** sensitivity as assets of local importance. There is **medium** potential for the presence of the speculative route of the Cotebrook to Cuddington Roman road and associated features such as roadside settlements, although no physical traces of these features have been recorded. If found, these would be of **medium** sensitivity as assets of regional importance.

Ancient Fieldscapes (HCH1607)

- 3.5.331 This HLC area is located between the settlements of Onston and Weaverham. It is currently occupied by enclosed agricultural fields which, aside from the loss of some internal boundaries during the 20th century, have retained the pattern depicted on the Weaverham tithe map of 1839. Some removed boundaries have been identified as low earthworks on LiDAR imagery, and the presence of hedgerows along boundaries present since at least the early 19th century entail these may meet the criteria to be considered important under the Hedgerow Regulations. Some boundaries shown on the tithe map display the reverse ‘S’ morphology indicative of former medieval furlongs reused in later piecemeal enclosure. This, along with traces of ridge and furrow visible as low earthworks identified on LiDAR imagery, suggests that this area may have been part of

medieval open fields associated with Weaverham. No heritage assets are recorded within this area.

- 3.5.332 Within this area there is **high** potential for the remains of medieval ridge and furrow and post medieval boundaries. These would be of **low** sensitivity as assets of local importance.

20th Century Fieldscapes (HCH1729)

- 3.5.333 This HLC area is located around 150m west of Gorstage, formerly Hefferton Grange. It is currently covered in secondary woodland, although LiDAR imagery shows traces of the boundaries that were in place by the late 19th century remain extant. An overhead line runs roughly north-west to south-east through this HLC area, along which open ground has been maintained. No heritage assets are recorded within this HLC area, but its location close to the Cuddington Brook entails the potential for prehistoric settlement, and its proximity to known medieval settlements holds potential for former land-use such as open fields or common. The woodland which has been in place since the early 21st century may have led to the partial disturbance of any potential archaeological remains.
- 3.5.334 Within this HLC area there is **medium** potential for archaeological remains which may take the form of prehistoric settlement comprising primarily buried ditches and pits. If found, these would be of **medium** sensitivity as assets of regional importance.

Post medieval Ornamental (HCH1735)

- 3.5.335 This HLC area occupies former parkland associated with Hefferston Grange, a Grade II* Listed Building (NHLE 1287121). The area is recognised as a Historic Designed Landscape by the Cheshire Gardens Trust. The area is historically closely linked to Hefferston Grange, built in 1741 but incorporating parts of a former house dated to 1700. It was originally built as a country house before becoming a sanatorium between 1921 and 1948, and later a hospital. The gardens are clearly depicted on early OS mapping as incorporating Grange Brook and numerous sporadically spaced trees to create a parkland setting. The 1938 OS map shows six long rectangular buildings occupying the western portion of the site, which are marked with 'Sanatorium'. These buildings remained in place until the late 20th century when this part of the area and that around the hospital building itself was redeveloped for housing. Archaeological excavations during the 1970s in this HLC area investigated the possibility of a moat surrounding Hefferston Grange (ECH5220), but this was instead found to be part of a ha-ha associated with the house in the 18th century. An associated walkover survey of the area also identified areas of ridge and furrow (Curzon 1976).
- 3.5.336 Within this HLC area there is **high** potential for the presence of parkland features which are not recorded on historic mapping, particularly within the south-west and north-east portions which have seen the least modern development. These features may take the form of former paths and ponds. There is also **high** potential for upstanding and buried remains of ridge and furrow and post medieval boundaries. All these potential remains would be of **low** sensitivity as assets of local importance.

Modern communications (HCH1406)

- 3.5.337 This HLC area comprises the modern A49 road which was built in the late 20th century incorporating into its route Grange Lane, which has been in place since at least the early 19th century due to its inclusion on tithe mapping. The new road was built upon former pattern of enclosed fields which had undergone a steady process of boundary removal from the mid-20th century onwards.
- 3.5.338 Due to extensive ground disturbance caused by the construction of this stretch of the A49, there is **negligible** potential for archaeological remains within this HLC area.

Communications (HCH16)

- 3.5.339 This HLC area is occupied by the modern A556 road which traverses a landscape of enclosed fields south of Hartford in the current Study Area. Due to extensive ground disturbance associated with the road's construction there is **negligible** potential for archaeological remains in this area.

Industry (HCH98)

- 3.5.340 This HLC area is occupied by a former mineral extraction site which had been in intermittent use from at least the early 19th century. Due to significant ground disturbance related to this there is **negligible** potential for archaeological remains in this area.

Post medieval/20th Century Fieldscapes (HCH96, HCH15056, HCH15158, HCH1589, HCH1739, HCH1740, HCH4251, HCH544, HCH552, HCH97)

- 3.5.341 These HLC areas occupy a swathe of enclosed agricultural land between the villages of Hartford in the east and Cuddington in the west. The current character of these areas is largely the result of post medieval enclosure and boundary loss in the 20th century. Many of the removed boundaries have been identified as low earthworks on LiDAR imagery, and some of the existing hedgerows which form boundaries present on the 1838 Weaverham tithe map may meet the criteria to be considered important under the Hedgerow Regulations. The presence of 'moss' in some of the field names depicted on the tithe map suggests some portions within these HLC areas may have been part of shared common land in the medieval period.
- 3.5.342 Linear cropmarks within HCH5056 have been interpreted as the possible remains of fishponds associated with the nearby monastic grange of Earnslow (DCH10749). These can clearly be seen as pronounced earthworks on LiDAR imagery, although their definition as fishponds is yet to be confirmed (MCH24506). Other recorded heritage assets within and around these HLC areas are confined to post medieval farmhouses such as the Grade II listed Sandiway Bank Farmhouse (NHLE 1228575) and the locally listed Earnslow Grange (DCH10749), along with chance finds in ploughsoil such as a bronze brooch thought to be of Roman date (MCH8165) found in HCH1739. These areas are located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).

- 3.5.343 Within these HLC areas there is **high** potential for the upstanding and buried remains of fishponds associated with Earnslow Grange, post medieval boundaries, and for buried chance finds from any period. These would be of **low** sensitivity as assets of local importance. There is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Industry (HCH549, HCH551)

- 3.5.344 These HLC areas, which are located immediately east of the Conservation Area of Sandiway (DCH1391), are mostly occupied by modern open-cast quarrying. This has been taking place across these areas since the late 20th century, and replaced former enclosed agricultural land, some of which has been reinstated following completion of quarrying in some parts of the areas. Small areas remain undisturbed at the time of writing, such as the south-west corner of HCH549, but no heritage assets are recorded nor features identified on available remote sensing imagery within these discrete areas.
- 3.5.345 Due to extensive ground disturbance caused by mineral extraction, there is **negligible** potential for archaeological remains within these HLC areas.

Non improved land (HCH553)

- 3.5.346 This small HLC area, located between a modern opencast quarry to the west and Hartford village to the east, is wholly occupied by mature woodland known as Littledale's Gorse which has been in place since at least the mid-19th century, as evidenced through historic OS mapping. It is described on the 1838 Weaverham tithe map as 'moss', which shows that by the early 19th century the area had not been brought into arable cultivation in line with surrounding fields, probably due to the presence of peat in the underlying strata (BGS, no date). It could be the case that this area represents a surviving remnant of a much larger area of peatland in the pre-modern period that has since been drained for land to be utilised in other ways. No heritage assets are recorded within this HLC area, and no features have been identified beneath the canopy on LiDAR DTM imagery. However, the presence of peat layers carries the potential for archaeological artefacts and ecofacts.
- 3.5.347 Within this HLC area there is **medium** potential for the presence of archaeological artefacts and ecofacts within underlying peat layers. Their sensitivity would depend on the nature of the find but would likely be of local or regional importance.

Ancient Fieldscapes now modern housing (HCH1606)

- 3.5.348 This small area is located around the site of Forest Hill farm (HCH1606), which has been demolished and replaced with modern housing. The area is located immediately north of the line of Watling Street, a major Roman Road which connected Chester with the Roman town and salt production site at Nantwich (Nevell and Fielding 2005; Newman 2016: 30), before carrying on to the fort at Manchester (Roman Roads Association 2018a). No traces of the road can be seen on available remote sensing imagery in this area, and parts of the route may lie beneath the road depicted on 19th century mapping.

- 3.5.349 Due to extensive modern development, there is **low** potential for archaeological remains in the form of small finds associated with historic land use within this HLC area. This potential is confined to remaining open areas such as gardens; any such remains are likely to be of **low** sensitivity as assets of local importance.

Ancient Fieldscapes (HCH543)

- 3.5.350 This small HLC area is located immediately east of Sandiway golf course and contains enclosed fields which have remained largely unchanged from the pattern depicted on the 1838 Weaverham tithe map. This entails that most of the hedgerows present within these areas may meet the criteria to be considered important under the Hedgerow Regulations. No heritage assets are recorded within this HLC area however the north-west portion is located on a discrete area of underlying peat which has remained untilled. Numerous small, raised mounds have been identified on LiDAR imagery which could not be further characterised through a site visit. Further larger mounds are visible in other parts of the area, although these may be representative of natural phenomena.
- 3.5.351 Within this HLC area there is **high** potential within the underlying peat for archaeological artefacts and ecofacts. There is also **high** potential for upstanding archaeological features in the area overlying the peat layers, although the identified remains cannot be characterised at this time. If present, any features or remains are likely to be of **medium** sensitivity as assets of regional importance.

Recreation/Golf Course (HCH187)

- 3.5.352 This HLC area is occupied by the Sandiway golf course, and a large area of mature woodland known as Pettypool Wood in the south-west. It is located immediately south of Watling Street. The golf course was built in the 1950s, replacing former parkland known as Pettypool Park of which a large pond, the Petty Pool, has been retained and incorporated into the modern golf course. The parkland was probably established over former enclosed fields, the boundaries of which can still be seen on LiDAR imagery as low earthworks. In addition, blocks of ridge and furrow have been identified within the golf course, showing that the area was once under arable cultivation, which by the straight, narrow shape of the ridges is likely to be post medieval in date. Pettypool Wood is depicted on the 1848 Over Whitegate tithe map and has retained its extent and character since this time. No heritage assets are recorded within this HLC area. Analysis of LiDAR DTM imagery revealed a large three-sided bank within Pettypool Wood which is not shown on historic mapping and cannot be characterised at this stage. Traces of drainage and paths are also visible in the woodland depicted on historic mapping.
- 3.5.353 Within this HLC area there is **high** potential for the upstanding remains of post medieval ridge and furrow and former boundaries. These would be of **low** sensitivity as assets of local importance.

Woodland (HCH92, HCH110, HCH116, HCH119, HCH128, HCH132, HCH89, HCH91, HCH93, HCH94, HCH142, HCH143)

- 3.5.354 These HLC areas are occupied by mature woodland and tracks along the River Weaver and associated streams and brooks. The areas broadly encircle the historic Vale Royal Park. These areas are all depicted as plantation woodland on the 1848 Over Whitegate tithe map, implying they were areas of managed woodland by this time. The areas of woodland, in the main, occupy land steep in relief which presumably held no other economic purpose than managed woodland in the past. Some of the areas were undoubtedly incorporated into the ornamental parkland of Vale Royal, including HCH116 and HCH119. The site of the former Bradford Mill is recorded within HCH132, the traces of which have been identified on LiDAR DTM imagery. Aside from probable former marl pits within the northern portion of HCH132, no further potential archaeological features have been identified on LiDAR DTM imagery.
- 3.5.355 Within these HLC areas there is **high** potential for buried archaeological remains due to the relative lack of ground disturbance caused by human actions. The remains of Bradford Mill and former marl pits in HCH132 are the only tangible archaeological features currently known, however. Any remains of this nature would carry **low** sensitivity as assets of local importance. Sensitivity cannot be assigned to currently unknown archaeological remains.

Modern Settlement (HCH64)

- 3.5.356 This HLC area is occupied by modern housing development south of the village of Hartford, which is a Conservation Area (DCH1392) and some of which is incorporated into this HLC area. The housing development replaced a former pattern of enclosed fields which, aside from the insertion of the L&NWR railway line in the mid-19th century, had retained its character from that depicted on the 1845 Hartford tithe map. The settlement of Hartford lies along the Roman road of Watling Street and has its roots in at least the medieval period. It is mentioned in Domesday as having two ploughlands and 12 households (Open Domesday, no date), and its place name contains Old English elements 'heorot' (hart) and 'ford' (Dodgson 1971: 188). Housing development in this HLC area began in 1973, eventually encompassing the whole area and encircling the once isolated Grade II listed 'The Riddings' (NHLE 1287229) and overlying its former parkland which had been in place since the mid-19th century, as evidenced through historic mapping. No archaeological excavations are recorded within this HLC area, and no archaeological features are recorded that pre-date the field system that preceded the housing development.
- 3.5.357 Within this HLC area there is **low** potential for stray archaeological artefacts within the remaining open, undeveloped areas such as gardens. Any finds of this nature are likely to be of **low** sensitivity as assets of local importance.

Recreation (HCH95)

- 3.5.358 This HLC area is located immediately south of the modern A556 road and the village of Hartford. It is currently occupied by secondary woodland and a small area of open ground used as a community picnic area. The area has been used in this way since the 1980s, before which the area was part of a pattern of enclosed

fields that had been bisected by the A556. No heritage assets are recorded within this HLC area, and no possible archaeological features have been identified on LiDAR DTM imagery. However, the ground is relatively undisturbed in this HLC area, so as yet undiscovered buried remains may survive.

- 3.5.359 Within this HLC area there is **medium** potential for buried archaeological remains, which if found are most likely comprise former field boundaries and stray small artefacts. These would be of **low** sensitivity as assets of local importance.

Recreation (HCH113) and Ornamental (HCH118)

- 3.5.360 These HLC areas currently comprise Vale Royal golf course (HCH113) and are situated immediately west of the Vale Royal complex of Listed Buildings and Scheduled Monument (HCH118). The latter area also includes the historic avenue leading up to Vale Royal Abbey. The present character of a golf course has been in place since the 1990s when it replaced former ornamental parkland associated with the Grade II* mansion (NHLE1160862) which was built in the 1540s on the site of the former Vale Royal Abbey, a Scheduled Monument (NHLE 1016862). The grounds are depicted as pasture on the 1848 Over Whitegate tithe map, while an estate map of 1616 shows the area as part of a complex of gardens, orchards and small wooded parks forming at least 8 enclosures, some walled and some divided by canals (MCH8371).
- 3.5.361 Vale Royal was a Cistercian Abbey established in the 13th century and dissolved in 1538 by King Henry VIII. Many of the abbey buildings, including the church, were pulled down, with elements of the cloister being reused in the later mansion built during the 1540s and modified in subsequent centuries. Archaeological investigations were undertaken in the 1990s ahead of the proposed golf course and housing development between the two areas. This led to the discovery of features associated with the abbey immediately north of the scheduled area, including a possible cellar or undercroft, the possible remains of the claustral range, and a wide ditch which may have formed part of the boundary of the monastic precinct (Lancaster University Archaeology Unit 1996). Very little was recorded in the remainder of the HLC area that was otherwise unknown. The site of fishponds (MCH8181) and a 19th century ha-ha (MCH8182) are recorded in HCH113, the latter of which survives as an earthwork incorporated into the modern golf course. Within HCH118, a group of low mounds (MCH8407) were recorded in what is now the eastern extent of the golf course. These were deemed to have been degraded by ploughing but their character could not be defined further.
- 3.5.362 Linear cropmarks have been identified immediately south of the Scheduled Monument (MCH24509). These have been interpreted as former boundary ditches of unknown date, but which do not correspond with any depicted boundaries on historic mapping. They could therefore represent boundaries associated with the medieval abbey, or perhaps earlier land-division.
- 3.5.363 Within these HLC areas there is **high** potential for the buried remains of the 13th century Cistercian abbey. These are focused within the eastern portion of the HLC area and would be of **high** sensitivity as assets of national importance. There is also **high** potential in HCH118 for the buried remains of former boundaries

associated with either the medieval abbey or earlier occupation of the site. These would be of **medium** sensitivity as assets of regional importance.

Water Bodies (HCH108)

- 3.5.364 This HLC area is located around 160m south of Moulton and comprises a large pond which is likely the result of former historic mineral extraction. A pit is depicted on early OS mapping and other traces of historic mineral extraction have been identified on LiDAR imagery in the vicinity.
- 3.5.365 Within this HLC area there is **low** potential for archaeological remains which may comprise small finds associated with previous land use such as pottery spread through nightsoiling. These would be of **low** sensitivity as assets of local importance.

Woodland (HCH147)

- 3.5.366 This HLC area, located along the eastern bank of the River Weaver south of Moulton, is currently occupied by a mix of woodland, scrub, and a large pond which is a remnant of the former line of the River Weaver prior to a new cut which was constructed in the mid-19th century. It is the former site of lime beds associated with Newbridge Salt Works, which ceased operation in the mid-20th century. Much of the woodland is a survival of that depicted on the Moulton tithe map of 1841, when the remainder of the area is shown as meadow flanking the former route of the River Weaver. No heritage assets are recorded in this area, but it is located upon underlying alluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.367 Within this HLC area there is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance. There is **low** potential for earthworks relating to the former lime beds. Any remains of this nature would be of **low** sensitivity as assets of local importance.

Industry (HCH148)

- 3.5.368 This HLC area is occupied by the former National Salt Works located along the River Weaver. It comprises part of the Over and Winsford Area of Archaeological Potential (DCH12608), designated as such for its industrial importance as the site of the former Meadowbank Mine and Saltworks (MCH8270) which was opened in 1844. It is not known whether these were also the sites of salt production in the Iron Age or Roman period, evidence for which has been recorded 4km east at Middlewich (Dodds 2005), but no placenames in the vicinity are thought to be consistent with the typical model currently followed (Nevell and Fielding 2005: 67). Since the 1990s many of the historic structures have been removed, but the mine itself remains the only rock-salt mine still open in Cheshire.
- 3.5.369 Due to extensive ground disturbance, there is **negligible** potential for archaeological remains relating to historic structures in this HLC area.

Recreation (HCH161)

- 3.5.370 This HLC area is occupied by the former site of the Bostock Salt Works (MCH8435) and Moulton Hall Salt Works (MCH8383), both of which are no longer extant. The area now contains a mixture of open grassland, woodland, and a small residential development. The area incorporates part of the Over and Winsford Area of Archaeological Potential (DCH12608). Moulton Hall Works was established in 1858 on former enclosed fields adjacent to the River Weaver. It ceased operation during the 1930s and all buildings were removed, but earthworks and footings of buildings survive in the undeveloped areas of the site. Bostock Salt Works was established around 1877, but as with Moulton Hall Works, most of the buildings had been cleared by the 1930s and 1940s. Again, it is likely that traces of these buildings will survive both above and below ground due to the relative lack of subsequent disturbance, aside from the modern housing estate in the south of the area. It is not known whether these were also the sites of salt production in the Iron Age or Roman period, evidence for which has been recorded 4km east at Middlewich (Dodds 2005), but no placenames in the vicinity are thought to be consistent with the typical model currently followed (Nevell and Fielding 2005: 67).
- 3.5.371 Within this HLC area there is **high** potential for buried and upstanding remains of structures associated with the two salt works which occupied the site prior to the mid-20th century. Any remains of this nature would be of **low** sensitivity as assets of local importance. There is **low** potential for the remains of medieval or earlier remains of salt workings in this area as, although it is located 4km from recorded Roman workings at Middlewich, there is no evidence suggesting similar works here.

Settlement (HCH174)

- 3.5.372 This HLC area is occupied by a small 20th century residential development known as Meadow Bank, around 1.8km north of Winsford. The housing replaced former agricultural land in the 1930s. No heritage assets are recorded within this area, but the buried remains of former field boundaries may survive in gardens associated with the properties.
- 3.5.373 Within this HLC area there is **low** potential for the presence of former field boundaries within gardens. Any remains of this nature would be of **low** sensitivity as assets of local importance.

Settlement (HCH483)

- 3.5.374 This HLC area is occupied by modern housing on the southern edge of Davenham. The housing replaced former enclosed fields in the late 20th century. No heritage assets are recorded within this HLC area, but numerous small finds relating to a wide range of historic periods have been found in fields nearby.
- 3.5.375 Within this HLC area there is **medium** potential for archaeological small finds within gardens associated with the modern houses. These are likely to be of **low** sensitivity as assets of local importance.

Communications (HCH50)

- 3.5.376 This HLC area is occupied by the modern A553 road which in the current Study Area bisects a landscape of enclosed fields close to Davenham and Bostock Green. Due to extensive ground disturbance associated with the construction of the road there is **negligible** potential for archaeological remains in this HLC area.

Industry (HCH582)

- 3.5.377 This small HLC area is occupied by small industrial units around Eaton House, immediately south-west of Davenham. The units were built on former gardens and paddocks associated with Eaton House. No heritage assets are recorded in this area, but numerous stray finds have been identified in surrounding fields including the Davenham Hoard of Elizabethan coins found in 2000 (MCH9381), a possible tip of a Bronze Age sword (MCH9037), a Roman hairpin (MCH12542), a fourth century coin (MCH14474), an early medieval pinhead (MCH14468), along with coins dated to the medieval and post medieval period. No archaeological features are recorded within the vicinity of these isolated finds.
- 3.5.378 Within this HLC area there is **medium** potential for small finds within the remaining garden area. Any remains of this nature would likely be of **low** sensitivity as assets of local importance.

Post medieval Fieldscapes (HCH112, HCH125, HCH126, HCH127, HCH138, HCH181, HCH192, HCH193, HCH194, HCH329, HCH358, HCH360, HCH87, HCH201)

- 3.5.379 These HLC areas occupy a swathe of enclosed agricultural land between Vale Royal Abbey in the west and the village of Bostock in the east. The L&NWR Grand Junction railway line bisects some of the areas, and an industrial area of salt workings is located immediately south of HCH181. Aside from some internal boundary loss in the late 19th and 20th centuries, the overall field pattern within these areas has remained largely unchanged from that depicted on the tithe maps of Eaton (1838) and Moulton (1840). Some of the removed boundaries have been identified as low earthworks on LiDAR imagery, while some existing hedgerows may meet the criteria to be considered important under the Hedgerow Regulations. Some boundaries present on the tithe maps display the reverse 'S' shape indicative of former medieval furlongs which have been reused in later piecemeal enclosure of open fields. These open fields were most likely associated with the nearby settlements of Davenham and Moulton, both of which are mentioned in Domesday as containing ploughlands (Open Domesday, no date). The village of Moulton is located immediately east of HCH112 and south of HCH87. Recent research has found evidence for early medieval settlement remains around the edges of medieval settlements, which could also be the case in these two HLC areas.
- 3.5.380 A scheduled bowl barrow (NHLE 1011123) is located on the summit of a glacial mound around 160m north-east of Moultonbank Farm. Despite limited plough damage, the barrow survives reasonably well and represents a rare unexcavated survival of this type of monument in Cheshire. No similar features have been identified in the monument's vicinity on LiDAR LRM imagery and no cropmarks have been identified which may represent similar buried remains. This absence of

evidence should not be taken as evidence for absence, and similar features may lie undetected in the vicinity of the Scheduled Monument.

- 3.5.381 LiDAR analysis has also revealed the presence of numerous disused extraction pits throughout these areas. These cannot be accurately dated but are lasting evidence of historic extraction of sand and clay. Metal detecting within HCH112 has led to the discovery of numerous stray finds including the Davenham Hoard of Elizabethan coins found in 2000 (MCH9381), a possible tip of a Bronze Age sword (MCH9037), a Roman hairpin (MCH12542), a fourth century coin (MCH14474), an early medieval pinhead (MCH14468), along with coins dated to the medieval and post medieval period. No archaeological features are recorded within the vicinity of these isolated finds. Large parts of these areas are located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.382 Within these HLC areas there is **high** potential for the remains of further bowl barrows. These would be of **high** sensitivity as assets of national importance. There is also **high** potential for the remains of removed post medieval field boundaries and stray small finds such as those found through metal detecting in HCH112. These would be of variable sensitivity dependent on the nature of the finds. There is **medium** potential for the remains of early medieval settlement activity in HCH87 and HCH112, which lie immediately adjacent to the village of Moulton. Any remains would likely to comprise ephemeral traces of buried post holes, pits and ditches, and would be of **medium** sensitivity as assets of regional importance. There is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Woodland (HCH197, HCH202, HCH331, HCH338, HCH339)

- 3.5.383 These HLC areas are occupied by small stands of woodland situated around the village of Bostock Green and Whatcroft Hall. Most of these areas are depicted on the Bostock tithe map of 1838, aside from the southernmost area within HCH197 which is not depicted until the late 19th century. No heritage assets are recorded within these areas, and LiDAR DTM imagery is unavailable for these areas, so no potential archaeological features have been identified.
- 3.5.384 Within these HLC areas there is **low** potential for archaeological remains which are most likely to comprise stray artefacts associated with historic occupation and land use within the area. Any remains of this nature would be of **low** sensitivity as assets of local importance.

Natural Waterbodies (HCH18)

- 3.5.385 This HLC area is occupied by the River Weaver, or Weaver Navigation, and the River Dane (otherwise known as Dean) in the south-east portion of the Study Area, close to Vale Royal, and the River Bollin close to Warburton.
- 3.5.386 The history of the Weaver Navigation is described above in HCH998, but in this part of the Study Area the river was rerouted and canalised close to Vale Royal in the 18th century. There has been a lock at Vale Royal for over 250 years, starting

with a single timber structure in the original course of the River Weaver (Britain's Waterways, 2017). The Grade II listed locks currently present represent the gradual modernisation of the lock system in this area, comprising a small lock, gates and swing bridge (NHLE 1139183), a sluice, channel, and swing bridge (NHLE 1160896), all built in 1860, and lock, lock gates and swing bridge (NHLE 1330209) built in 1890. Other designated heritage assets within or close to this HLC area relate to the River Weaver and comprise a Grade II listed railway viaduct (NHLE 1160610) 380m north-east of Vale Royal locks, and a Grade II listed boundary post (NHLE 1160887) around 180m south of the locks.

3.5.387 The River Dane (or Dean) is located around 3km east of the River Weaver, and in the current study are flows close to the Conservation Area of the Trent and Mersey Canal (DCH8686) and directly adjacent to the Grade II* listed Whatcroft Hall (NHLE 1138463). No other heritage assets are recorded within or close to the river in the Study Area, however it would have provided an attractive location for settlement and land-use from prehistory onwards, and waterlogged deposits relating to previous activity may survive in the river bed.

3.5.388 Within this HLC area there is **high** potential for the remains of the original timber lock in the River Weaver at Vale Royal which was replaced by the current structures in the 19th century. Any remains of this nature would be of **medium** sensitivity as assets of regional importance. There is **medium** potential for the presence of waterlogged deposits relating to previous human activity on or in the vicinity of both rivers. These could, for example, include well preserved timbers; such remains would be of **medium** sensitivity as assets of regional importance.

Post Medieval ornamental parkland (HCH182)

3.5.389 This HLC area is occupied by the Grade II* listed Bostock Hall (NHLE1138416) and its associated ornamental parkland in the south-east of the Study Area. The area contains a large portion of the Bostock Conservation Area (DCH1380). An historic driveway connects the hall and parkland with the nearby village of Bostock Green, also included in the Conservation Area. The parkland comprises a walled garden (MCH23754), ornamental paths, areas of woodland, a large pond, and open pasture with sporadically spaced mature trees. Beyond this, but included in the HLC area, are enclosed fields. Aside from a small amount of boundary loss from the late 19th century onwards, the character of this HLC area has remained largely unchanged from that depicted on the Bostock tithe map of 1838. Bostock Hall was built around 1775 with alterations made in the mid to late 19th century, along with further Grade II listed structures including stables and lodges. These can be found in **Appendix 6C**. The northern and eastern fringes of this HLC area is located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).

3.5.390 Within this HLC area there is **high** potential for the remains of a former road surface associated with the ornamental avenue leading to Bostock Hall and associated parkland. As this is located within a Conservation Area, it would be of **high** sensitivity as an asset of national importance. There is **high** potential for the remains of former traces of ornamental gardens and parkland, which would carry high sensitivity as assets of national importance. There is **medium** potential for

lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance. There is **negligible** archaeological potential for as yet unknown structural remains associated with Bostock Hall, as no buildings are recorded on early maps which cannot be seen on the ground today.

Settlement - Bostock Green (HCH199)

- 3.5.391 This HLC area is occupied by the historic settlement of Bostock Green, which has been designated as a Conservation Area (DCH1380). The extent of the settlement has remained unchanged since its depiction on the 1838 Bostock tithe map. Most of the present buildings in the village date to the 19th century and were built for the Bostock Estate workers (Bostock 2007), including the Grade II listed The Smithy (NHLE 1310575). The rest of the houses within the village are locally listed (see **Appendix 6C**). The linear layout of the village is indicative of its medieval roots as a nucleated planned settlement, likely surrounded by an open field agricultural system. Bostock is included in the Domesday survey as a small settlement of five households with two ploughlands (Open Domesday, no date). It is likely that at least some of the village plots which survive today are survivals from medieval tofts, or crofts, and therefore remains of occupation in this period may underlie undeveloped areas beyond the current buildings. In addition, the name Bostock contains Old English elements, including 'stoc' which corresponds with a 'secondary settlement' (Dodgson 1970: 202). It is therefore possible that an early medieval settlement phase may underlie parts of this HLC area.
- 3.5.392 This area is located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.393 Within this HLC area there is **high** potential for the remains of former phases of occupation which pre-date the current buildings. These may date to the post medieval, medieval and possibly early medieval periods, and could comprise elements of previous structures which survive as ditches, pits and postholes. Any remains of this nature would be of **medium** sensitivity as assets of regional importance. There is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Ancient/Post Medieval Fieldscapes (HCH203, HCH204, HCH330, HCH332, HCH334, HCH46)

- 3.5.394 These HLC areas comprise enclosed agricultural land roughly between Bostock in the west and Drakelow Hall in the east. Aside from a small amount of boundary loss, the field patterns within these areas retain much of their character as depicted on the Whatcroft tithe map of 1838 and the Rudheath tithe map of 1841. Therefore, many of the hedgerows which define the boundaries within these areas may meet the criteria to be considered important under the Hedgerow Regulations. The removal of boundaries within these areas took place from the late 19th century onwards, many of which have been identified on Google Earth imagery as low earthworks and cropmarks. Within these areas are numerous earthwork remains of extraction pits of unknown date, but which are shown on

tithe mapping. These are most commonly found in the easternmost areas of this group, which is underlain by clay soils on mudstone geology, whereas HCH46 in the western portion of the group is underlain by alluvium.

- 3.5.395 The scheduled moated site at Drakelow Hall (NHLE 1020100) is located within HCH204. Alongside the rectangular moat are four adjacent fishponds. Moats in this context are believed to have been built to promote status and wealth rather than for defence, and would have formed focal points of control, both physically and metaphorically in the landscape. Hints of this focus can be seen in the historic field pattern, which appears to radiate from the moated site. This leads to the suggestion that at least some elements of the field pattern present by the 19th century had been established around the time of the moated site, most likely in the 13th to 14th centuries.
- 3.5.396 HCH46 is located upon underlying alluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.397 Within this HLC area there is **high** potential for waterlogged deposits within the moated site and fishponds at Drakelow Hall. These would be of **medium** sensitivity as finds of regional importance due to their association with the scheduled moated site. There is also **high** potential for upstanding and buried remains of post medieval field boundaries. These would be of **low** sensitivity as assets of local importance. There is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Ornamental (HCH327)

- 3.5.398 This HLC area is occupied by the Grade II* listed Whatcroft Hall (NHLE 1138463) and associated ornamental parkland (MCH24377). The character of this area has remained largely unchanged since its depiction on the Whatcroft tithe map of 1838. The parkland is bounded to the north and west by the Trent and Mersey Canal, a Conservation Area (DCH8686), part of which is included in this HLC area and includes locally listed buildings Whatcroft Hall Lodges (DCH10092). The northern portion of the park is mainly pasture and small standings of woodland, whereas south of the hall a possible medieval moat is incorporated into the grounds (MCH8227). This feature has also been interpreted as an ornamental pond, and its true provenance is currently unknown. Whatcroft was a medieval manor, so it would be entirely plausible for a moated residence to be sited in this area (Ormerod 1882: 260-261). The most likely interpretation is that it was a medieval moated site which was remodelled to form part of the gardens associated with Whatcroft Hall which was built in the late 18th century. It is also believed that a medieval village was situated within this HLC area (Ormerod 1882: 261) (ECH1405), however no physical traces of this have been identified.
- 3.5.399 Within this HLC area there is **high** potential for the presence of waterlogged deposits relating to past human activity within the possible medieval moat. Any remains within this context would be of variable sensitivity depending on their nature and level of preservation. There is **medium** potential for buried remains associated with the possible site of a medieval village which may have held some

association with the possible moated site. Any remains of this nature would be of **medium** sensitivity as assets of regional importance.

Communications - Trent and Mersey Canal (HCH37)

- 3.5.400 This HLC area is occupied by a stretch of the Trent and Mersey Canal in the south-east of the Study Area. It is designated as a Conservation Area (DCH8686) with numerous associated heritage assets located along its route, such as a Grade II listed milepost (NHLE 1244514) roughly 140m south of the Preliminary Order Limits. Completed in 1777, the Canal was the first major inland waterway created as part of Britain's canal network which would become the principal means of communications and transport from the late 18th century through to the mid-19th century (SBC 2014, 5). Within this part of the Study Area, the route of the Canal flows close to the River Dane (Dean), and forms the current northern and western boundary of ornamental parkland associated with Whatcroft Hall, a Grade II Listed Building.
- 3.5.401 Within this HLC area there is **medium** potential for the presence of waterlogged deposits relating to the historic use of the Canal. These may include well preserved timbers relating which would most likely be of **low** sensitivity as assets of local importance.

Spurs

Runcorn Spur

20th Century Industry (HCH12731)

- 3.5.402 This HLC area, located directly north of the Weaver Navigation Canal, is wholly composed of existing and former 20th century industrial sites, including Rocksavage Power Station and other smaller units. Large-scale industry began to develop from the 1960s onwards, with the two agricultural fields in the eastern portion of the area being used as coal dumps and flooded as lagoons, before reverting to the current character of open scrub. Despite the recent developments, the extents of these fields have remained largely intact since at least the early 19th century as is evidenced on the tithe map for Clifton dated to 1844. Prior to the 20th century, the area was largely agricultural land, with the earliest depicted industry being the Weston Bone and Charcoal Works which was located on the banks of the Weaver Navigation and is no longer extant. The only heritage asset included within this HLC area is the possible location of a Bronze Age inhumation vessel discovered around 1974 (MCH5995). The Rocksavage Power Station now occupies the supposed site of this discovery.
- 3.5.403 Due to the lack of tangible recorded heritage assets, and the substantial disturbance from 20th century industry, the potential for this HLC area is assessed as **negligible**.

20th Century Fields (HCH12734)

- 3.5.404 This HLC area comprises agricultural land bounded by the A557 road to the north, Rocksavage power station to the south, and woodland to the west and east.

Analysis of historic maps suggests the area has remained in agricultural use from the early 19th century, as evidenced on the tithe map for Clifton dated to 1844. It is therefore possible that the remnants of the hedgerow which forms a field boundary running west to east through the area could be deemed important under the Hedgerow Regulations. No heritage assets are recorded within this HLC area, however low linear earthworks which could represent the remains of ridge and furrow were identified through remote sensing analysis. These remains could be associated with the nearby settlement of Weston.

- 3.5.405 Despite a lack of recorded evidence, the presence of possible ridge and furrow entails **medium** potential for medieval or post medieval remains within this HLC area, assets which would be of local importance and **low** sensitivity.

20th Century Communications (HCH12735)

- 3.5.406 This HLC area comprises the modern roads of Rocksavage Way and the A557 Weston Point Expressway, built in the 1960s and 1970s. Its previous character consisted of enclosed fields which remained largely intact from those depicted on early 19th century tithe mapping until the construction of the roads.
- 3.5.407 Due to the significant disturbance caused by the communications development, the potential for this HLC area is assessed as **negligible**.

Post Medieval communications (HCH1175, HCH12939, HCH13086, HCH13109)

- 3.5.408 These HLC areas comprise the L&NWR Frodsham Branch Railway which opened in 1873, and the Warrington and Garston Line and the Cheshire Lines Railway, which both opened in the 1860s. The lines are extant. No heritage assets are recorded in these HLC areas, and the disturbance caused by the construction of the railway entails the potential for earlier archaeological remains is **negligible**.

20th Century Industry (HCH12730, HCH12736)

- 3.5.409 These HLC areas are wholly populated by modern industry. The River Weaver Navigation forms the southern boundary of the areas, with the Weston Point Expressway forming the northern boundary, and further industrial units forming the western and eastern boundaries. The first large-scale post medieval industry in this area was the Weston Chemical Works, first depicted on the tithe map for Weston dated to 1846. This occupied a small plot in the southern portion of the HLC area, and was surrounded by large, enclosed fields characterised by irregular boundaries. No heritage assets are recorded within these HLC areas, and only a road running north to south remains from the original field pattern of the early 19th century.
- 3.5.410 Due to the substantial disturbance caused by the development of modern industry, the archaeological potential for these HLC areas is assessed as **negligible**.

Golf Course (HCH12818, HCH12819, HCH12737)

- 3.5.411 These HLC areas are located directly north of Rocksavage Way by-pass road, on the southern outskirts of Runcorn. The areas' previous character consisted of enclosed agricultural land, with a mix of irregular and regular fields. The

boundaries of these fields were removed during the development of the golf course, which historic mapping suggests occurred in the 1970s. Despite the removal of the hedgerows, parts of the field boundaries survive as low earthworks visible on LiDAR imagery. Furthermore, the remains of possible ridge and furrow can be discerned in HCH12818 and the western portion of HCH12737. This suggests the area was under arable agriculture at some point in the medieval and/or post medieval periods. One heritage asset is recorded in HCH12818, the possible site of a post medieval watermill (MCH5996); no further information is available for this HER entry, and no traces of building foundations could be identified on remote sensing imagery.

- 3.5.412 The areas' current character as a golf course is likely to have preserved buried archaeological deposits, such as the remains of former ridge and furrow ploughing. The archaeological potential for this area is therefore assessed as **medium** for the remains of medieval and post medieval ridge and furrow and field boundaries. These would be of **low** sensitivity as assets of local importance.

20th Century Settlement (HCH12697, HCH12817)

- 3.5.413 These HLC areas comprise a mix of 20th century housing estates on the southern outskirts of Runcorn, with the Heath Business Park occupying part of the north of the area. The current character of the area began to develop in the 1950s, before which it consisted of enclosed regular-shaped fields which were the result of enclosure in the mid-19th century. The eastern portion of the areas is shown as largely unenclosed on the tithe map for Clifton dated to 1844, suggesting that the area in this period was in the process of being further enclosed. No heritage assets are recorded in these HLC areas, and very little undisturbed ground now survives.
- 3.5.414 Due to the significant disturbance caused by modern urban development, the archaeological potential for this area is assessed as **negligible**.

20th Century Recreation (HCH12886)

- 3.5.415 This HLC area of open grassland is located on the south-west outskirts of Runcorn. The area has remained largely undisturbed despite widespread surrounding urban and industrial development. Some surviving field boundaries within the area are shown on the 1846 tithe map for Weston. Those in the north of the area are irregular in nature suggesting an early date, perhaps associated with piecemeal enclosure which could be as early in date as the late medieval period. No heritage assets are recorded in this area, but some former field boundaries have been identified surviving as low earthworks visible on LiDAR imagery.
- 3.5.416 Due to the relative lack of modern disturbance, the archaeological potential for this HLC area is assessed as **medium** for the survival of aspects of medieval and post medieval agriculture including field boundaries and ridge and furrow, which would be of local importance and **low** sensitivity.

Recreation (HCH12880)

- 3.5.417 This HLC area comprises open grassland and is located on the south-west outskirts of Runcorn. It is currently divided into roughly rectangular fields which

were formed from the mid-20th century onwards. Prior to this the area was the location of stone quarrying (MCH10077; MCH10076; MCH10075) which is depicted on the tithe map for Weston dated to 1846 but expanded over much of the area during the late 19th and early 20th centuries. The entire area is therefore heavily disturbed.

- 3.5.418 Due to the substantial ground disturbance caused by post medieval quarrying, the archaeological potential for this HLC area is assessed as **negligible**.

20th Century Settlement (HCH12821)

- 3.5.419 This HLC area comprises a mix of settlement largely dating to the 19th and 20th centuries, and open ground associated with former quarrying. It is located between the southern outskirts of Runcorn to the north, and the village of Weston to the south. Two existing buildings within the area are depicted on the Weston tithe map of 1846, comprising two cottages and a yard owned by William Banks, and a large house set within parkland called The Birches. These buildings are likely to date to the 18th century and are of local historical importance. Prior to this, the area was the location of quarrying (MCH10076) and enclosed fields. No other heritage assets are recorded in this area.
- 3.5.420 Due to significant disturbance caused by quarrying and settlement from the 19th century onwards, the archaeological potential for this area is assessed as **low**.

20th Century Settlement (HCH12815)

- 3.5.421 This HLC area, which partly incorporates the Conservation Area of Weston (DCH1436), is almost wholly composed of 20th century urban development, with a small portion of open grassland in the south. Prior to the 1930s, the character of this area was enclosed fields with irregular boundaries. These are likely to represent the piecemeal enclosure of former open fields associated with the village of Weston, the historic core of which is situated immediately to the south-west. Aside from a hedged boundary which separates playing fields associated with Weston Primary School from a small area of grass/scrubland to the south, the entire historic character of these fields has been lost. The remaining hedgerow is part of a boundary depicted on the 1846 Weston tithe map, and therefore may be deemed important under the Hedgerow Regulations.
- 3.5.422 The Conservation Area of Weston is partly located in this HLC area. Weston's historic core, containing numerous historic buildings including the Grade II* listed Parish Church of St John the Evangelist, is situated just beyond this HLC area, and much of the Conservation Area in this HLC area comprises woodland and scrub which overlies the locations of former buildings and associated enclosures which, aside from Cavendish Farm, appear to have been demolished in the 1980s. Faint traces of the footings associated with these buildings have been identified on LiDAR imagery.
- 3.5.423 There is **high** potential for the remains of former buildings and associated enclosures to the west of Cavendish Farm. These are likely to take the form of demolition layers, building footings and foundations, and the possible remains of ditches or post holes used to enclose the surrounding plots. The remains would be of local importance and therefore be of **low** sensitivity. The archaeological

potential for the remainder of the HLC area is assessed as **low** due to disturbance caused by 20th century urban development.

20th Century Settlement (HCH12719)

- 3.5.424 This HLC area, located to the north-west of Weston village, comprises a mix of modern and historic settlement, and some open ground. Blocks of 20th century settlement in the western portion of the area overlie former enclosed fields which had remained in place since at least the early 19th century, as evidenced on the Weston tithe map of 1846. Weston Point Pre-School and associated playing fields occupy the northern portion of the area, with 19th century housing and 20th century industrial units located in the south-east of the area. The open ground in the east of the area contains the remains of former terraced houses and plots which are depicted on the 1846 tithe map and also on later 19th century OS mapping. The remains of these plots have been identified on LiDAR imagery as low mounds and comprise rectangular blocks which are now covered by heavy scrub which meant they could not be identified on the ground during a site walkover. Part of the open ground in this location was used for quarrying, as is shown on the tithe map, so it is likely that the houses and plots in this area are connected to this industry at the time. Historic OS mapping shows that the plots were gradually amalgamated through the early 20th century, with the houses demolished in the 1960s.
- 3.5.425 The archaeological potential of this area is assessed as **high**, specifically in the area of former housing and associated plots in the east of the area which are of local historic importance and **low** sensitivity. Archaeological remains are likely to include demolition layers from the housing and building footings, floors, foundations, and possibly cellars. The project centre line is projected to traverse this area. The potential for the remainder of the area is assessed as **low** due to disturbance caused by 19th, 20th and 21st century urban development.

20th Century Recreation (HCH12718)

- 3.5.426 This HLC area is an area of open grassland and scrub used for recreation in the east, and hard standing to the west. It is located to the north-west of Weston village and surrounded by modern development on all sides. Prior to this, the area was characterised by enclosed fields, with small ponds situated in the south-west and north-east. The far south of the area was divided into small rectangular garden plots in the early 19th century, as depicted on the Weston tithe map of 1846. These are not shown on any later maps, and the area in question is now overlain by a car park. By the early 20th century, part of the area in the north-west was used as a football ground and associated recreation fields. This use has largely been retained into the present, despite the development of the A557 road in the 1980s which forms the eastern boundary of the HLC area. No heritage assets are recorded in this area.
- 3.5.427 The archaeological potential in the east of the HLC area is assessed as **low**, although there has been a relative lack of development and disturbance. Any remains in this area may include the remains of former field boundaries associated with its former character and would be of **low** sensitivity. The archaeological potential in the west of the area is assessed as **low** due to modern ground

disturbance, although its composition as hard standing carries the possibility that potential below ground deposits may remain undisturbed.

Woodland (HCH13264)

- 3.5.428 This small area of woodland is located around 300m south of the village of Higher Walton. It is bounded to the north by the Bridgewater Canal. The woodland was planted during the early 20th century before which the area was recorded as marsh on the 2nd edition OS map and as part of agricultural fields on the Higher Walton tithe map of 1840. No heritage assets are recorded in this area and no potential archaeological features have been identified on LiDAR DTM imagery.
- 3.5.429 Within this HLC area there is **low** potential for the buried remains of former field boundaries which were present in the early 19th century. Any remains of this nature would be of **low** sensitivity as assets of local importance.

Warrington Spurs

Industry (HCH13248, HCH13249, HCH13254, HCH13256, HCH13722, HCH13370, HCH13613)

- 3.5.430 These HLC areas are located along the banks of the Manchester Ship Canal and the River Mersey and are wholly composed of existing industrial units. These areas gained their current character through association with the transport links developments in the form of the Manchester Ship Canal and the London and North Western Railway in the 19th century and were formerly occupied by enclosed fields.
- 3.5.431 Due to extensive industrial development, there is **negligible** potential for archaeological remains within these HLC areas.

Settlement (HCH12864, HCH12865, HCH12868, HCH12870, HCH13372, HCH13376, HCH13460, HCH13467)

- 3.5.432 These HLC areas are located close to the Manchester Ship Canal and the town of Warrington. They are largely the result of urban development from the late 19th century onwards and closely tied with the expansion of Warrington which enjoyed an economic boost as a result of the construction of the Manchester Ship Canal and the Warrington and Stockport Railway. These areas of settlement replaced former patterns of enclosed fields and dispersed farms. In close proximity to these HLC areas are the Conservation Areas of Latchford (DCH1320), Stockton Heath (DCH8688), Ackers Road/Marlborough Crescent (DCH8689) and Victoria Road/York Drive (DCH8690). These Conservation Areas illustrate specific areas of urban development around Warrington in the 20th century and are characterised by specific architectural traits. In particular, Latchford is located immediately adjacent to the proposed route of the works, although the Listed Buildings contained within the Conservation Area are situated over 150m to the south-east.
- 3.5.433 The westernmost HLC areas of this group are located close to the site of the scheduled Roman Settlement at Wilderspool (NHLE 1006769), which now lies beneath areas of urban and industrial development. Archaeological excavations

from the late 18th century have revealed the site to have been a civil settlement housing a large community engaged in industrial activity, with its location closely associated to the fording of the River Mersey in this area (Gifford and Partners 1992). Excavations have mainly preceded impending development, including the Manchester Ship Canal and Greenhall's Brewery. Although the majority of land within these HLC areas is occupied by housing, any undisturbed areas such as gardens and playing fields may contain further evidence associated with the Roman settlement. Despite extensive development, layers containing Roman remains have been located over 150m from the scheduled site (L-P Archaeology 2013), entailing the likelihood of further discoveries across these HLC areas, in particular HCH12868, HCH12864 and HCH12870.

- 3.5.434 An isolated Bronze-Age burial discovered at a location close to Louchers Lane (MCH8568) represents the only tangible evidence for prehistoric activity within these areas. It does demonstrate, however, the possibility of further remains being discovered within these HLC areas.
- 3.5.435 Within these HLC areas there is **high** potential for archaeological remains relating to the Roman Settlement at Wilderspool. These may comprise the buried remains of ditches, pits, and structures, along with associated small finds such as coins and tools. These would be of **high** sensitivity as assets of national importance. Any remains of this nature are more likely to be discovered within HLC areas HCH12868, HCH12864 and HCH12870. Within all HLC areas there is **medium** potential for isolated prehistoric remains which may take the form of burials, and pits. The location of these HLC areas on Tidal Flat deposits strengthens the possibility of peat deposits being present containing archaeobotanical evidence relating to prehistoric activity. Any such remains would be of **medium** sensitivity as assets of regional importance.

Open ground (HCH12871, HCH12876)

- 3.5.436 These HLC areas are occupied by the former route of the River Mersey before it was rerouted close to Warrington in the 18th century. They are currently occupied by open green space used for recreation which is surrounded on all sides by 19th and 20th century housing. The areas have never been built on. The southern portion of HCH12871 incorporates the Warrington Area of Archaeological Potential (DCH12614), assigned as such for being the location of the scheduled Roman Settlement at Wilderspool (NHLE 1006769), which grew along the southern banks of the River Mersey. The southern part of the area also incorporates Latchford Conservation Area (DCH1320) which represents the site of a Victorian Brewery and contains the Grade II listed Wilderspool House and attached garden wall and railing (NHLE 1389394). A Bronze Age axe is recorded as being found in this area (MCH8806), but this sits in isolation with no further similar finds yet discovered.
- 3.5.437 Despite the close proximity to the scheduled Roman settlement at Wilderspool, these HLC areas would be of **low** potential for associated buried remains due to their being the former route of the River Mersey which was infilled in the late 18th century. Any possible archaeological remains would be related to waterlogged deposits surviving beneath the layers of deposited silt used to infill the river, but if found would be of **high** sensitivity as assets of national importance if related to the scheduled Roman settlement.

Communications (HCH13363)

- 3.5.438 This HLC area represents the line of the former Mersey & Irwell Navigation, also known as Latchford Canal (MCH16567), which has since been filled. It was operational between 1804 and the late 19th century, when the construction of the Manchester Ship Canal rendered its route no longer required. It did, however, play a role in the construction of the Manchester Ship Canal as it was used to carry much of the material for the building of Salford Docks. The line of the canal survives infilled in the area of the Site and is currently used as a towpath. Roman remains associated with the scheduled settlement at Wilderspool (NHLE 1006769) were encountered during the construction of the canal in the early 19th century, however nothing survives within the HLC area due to the levels of disturbance.
- 3.5.439 Within this HLC area there is **negligible** potential for archaeological features due to the extensive levels of disturbance caused by the construction of the canal.

Settlement (HCH13715, HCH13376, HCH13372, HCH13723)

- 3.5.440 These HLC areas are located north of the Manchester Ship Canal and represent part of the urban expansion of Warrington in the 20th century. They are currently occupied by housing dating from the early 20th to the 21st century. The current character of these areas replaced a mixture of enclosed fields in HCH13372 and 13376, but some buildings in HCH13715 have been retained and are locally listed, including Woodbine Terrace (DCH13126) and Latchford House (DCH13111). These were present until the early 20th century on OS mapping. No further heritage assets are recorded within these HLC areas to suggest former activity prior to their character as enclosed fields, although the isolated discovery of a log boat of possible early medieval date is recorded 25m north of HCH13376. The boat was found during construction works in the 1930s in a silted-up creek which ran to the River Mersey through former marsh land (MCH8766). The creek had been overlain by Poacher's Lane which formerly crossed the area. This indicates that further assets of this nature and preservation may await discovery in these HLC areas, particularly beneath any remaining open areas such as gardens and other green spaces.
- 3.5.441 Within these HCL areas there is **medium** potential for the discovery of isolated, waterlogged, archaeological features such as the log boat discussed above. These are most likely to survive in less developed areas such as gardens. Any such finds are likely to be of **medium** sensitivity as assets of regional importance.

Clock Face Spur

Modern road (HCH20824)

- 3.5.442 This HLC area is occupied by the modern St Helens Linkway road built in the late 20th century. Extensive ground disturbance related to the construction of the road entails **negligible** potential for archaeological remains in this HLC area.

Industrial and Commercial (13212, 13215, 13217)

- 3.5.443 These HLC areas occupy areas of 20th century industrial and commercial development south of St Helens. These developments largely replaced patterns of

enclosed fields which had undergone changes in the 19th century as evidenced on tithe and early OS mapping.

- 3.5.444 Due to extensive levels of historic and modern development, there is **negligible** potential for archaeological remains within these HLC areas.

Woodland (13216)

- 3.5.445 This HLC area represents the remains of Micklehead Green Moated Site, a Scheduled Monument (NHLE 1012329). It is currently surrounded by commercial and urban development to the south of St Helens and the modern settlement of Sutton Manor. The trees which now cover this area are largely the result of the site's disuse since the mid-20th century. Within this area the earthworks of the moat survive on the north, west and south sides of the Scheduled Monument, and are currently water-filled. The area was in occupied use until the 1960s as the site of St Michael's House (MME7933), a 17th century manor house which was demolished in 1961 (Wainwright 2020). The footings of the house and its surrounding ornamental wall survive within the wooded area. Archaeological excavations undertaken in the 1980s and 1990s suggested that the moat may have been a post medieval construction (Lewis 1991: 89) which would suggest it and the house may be contemporary, however this would be a surprising development given the consensus on the dating of moated sites which are known to typically date to between the 13th and 14th centuries. The construction of St Michael's House will have significantly impacted any remains of underlying medieval buildings in this particular area, however the northern portion of the HLC area does not appear to have been built upon according to historic OS mapping, thus medieval remains may survive as below ground deposits here. The waterlogged nature of the moat poses the possibility of waterlogged deposits being present in these contexts.
- 3.5.446 Within this HLC area there is **high** potential for medieval and post medieval settlement remains which are likely to survive as upstanding and buried deposits, along with the potential survival of waterlogged deposits in the water-filled moat. Any features of this nature would be of **medium** sensitivity as assets of regional importance.

Field Systems (13230, 13253, 13437, 13228)

- 3.5.447 These HLC areas consist of enclosed fields located between the M62 motorway in the south and the St Helen's Linkway road in the west. The areas currently comprise arable fields with small pockets of secondary woodland. The areas have retained their agricultural character, but a large amount of boundary loss has occurred from the pattern depicted on the Rainhill tithe map of 1843. Some of the removed boundaries have been identified as both low earthworks on LiDAR imagery and as cropmarks on Google Earth imagery.
- 3.5.448 To the north and east, these areas are flanked by urban and industrial development which proliferated during the 20th century but began during the post medieval period. LiDAR imagery has identified an historic extraction pit within HLC area 13437.

- 3.5.449 Within these HLC areas there is **high** potential for the remains of former field boundaries; these would be of **low** sensitivity as assets of local importance.

Residential (5249)

- 3.5.450 This small HLC area is located along the western limits of Sutton Manor. The area contains semi-detached housing built in the late 19th century on former enclosed agricultural land which also contained the Sutton Works School (MME17626), as shown on the 1st edition OS map of 1849. By the time of the 2nd edition OS map of 1880, however, the present houses had been built and the school demolished. No other heritage assets are recorded within this HLC area, but the back gardens which occupy the southern half remain relatively undisturbed.
- 3.5.451 Within this HLC area there is **medium** potential for archaeological remains in the garden areas to the south which have remained relatively undisturbed. Any remains here are likely to take the form of stray small finds such as pottery sherds; these would likely be of **low** sensitivity as assets of local importance.

Residential (13226, 13227)

- 3.5.452 These HLC areas, located around 100m west of Sutton Manor, contain a mixture of woodland and agricultural land. It was formerly the site of Brook Cottage and associated grounds (MME7709), built in the 18th century. The house was demolished at some point between the 1930s and 1950s according to historic mapping, but elements of the grounds remain within agricultural land, such as a pond in the north-east corner of HLC area 13226 which is now covered in mature trees. HLC area 13227 is completely covered with mature trees, but in the late 19th century the northern portion of the area was the site of buildings associated with Sutton, or Brook, Smalt Works which were located immediately to the east. The works were in operation by the early 19th century, as evidenced through their depiction on Greenwood's Map of 1818 (National Library of Scotland). These buildings were demolished at some point during the 1940s according to OS mapping.
- 3.5.453 Although no buildings survive within these HLC areas, the relative lack of modern disturbance would imply there is **high** potential for below ground remains survive in the southern portion of 13226 and the northern portion of 13227. These would be of **low** sensitivity as assets of local importance.

Partington Spur

Industry (HGM4747, HGM7279, HGM4757)

- 3.5.454 These HLC areas are located south of Carrington and east of Partington, on the north-eastern tip of the Study Area. They are almost wholly comprised of 20th century industrial development, including a large chemical works in HGM4747. These industrial areas were built upon former enclosed fields and the entire former character of these areas has been lost through extensive ground disturbance caused by the works.

- 3.5.455 Within these HLC areas there is **negligible** potential for archaeological remains due to extensive ground disturbance caused by 20th century industry.

Northwich Spur

Industry (HCH1292)

- 3.5.456 This small HLC area comprises modern industry located around 300m north of the village of Bartington. It is currently occupied by a mix of hard standing for vehicles and warehouse units which replaced former enclosed fields in the late 20th century. No heritage assets are recorded in this HLC area, and no possible archaeological features were identified on historic aerial photography.
- 3.5.457 Within this HLC area there is **negligible** potential for archaeological remains due to extensive ground disturbance caused by modern industrial use.

20th Century Fieldscapes (HCH1509, HCH13043)

- 3.5.458 These HLC areas are comprised of large arable fields bounded by hedgerows, except at their north-eastern side. They are bound by the A533 to the south, and Ash House Lane to the west and north. Further agricultural land is present on the eastern side, with small commercial and residential properties present at the north-eastern and south-western borders, respectively.
- 3.5.459 The current layout of these HLC areas is the result of later 20th century developments, with OS mapping from the late 19th century onwards showing the gradual amalgamation of smaller fields. A plant breeding station was constructed in the north of HCH1509 in the 1970s, however satellite imagery indicates this was no longer present by the early 2000s.
- 3.5.460 The 1840 Little Leigh tithe map depicts that the areas were quite different in character, containing numerous smaller plots of varying sizes, with the reverse 'S' shape of some suggesting of the piecemeal enclosure of former open fields; a number of the fields in this area are named 'heath', implying the land may have served as common grazing land during the medieval period. Very little of this former character has been retained in the current layout, except a small portion of the south-eastern boundary whose curvilinear boundary is traceable on the tithe map. The hedgerows in this area may therefore meet the criteria to be deemed important under the Hedgerow Regulations. A homestead with two structures is also recorded in the north of the HCH1509, however these are no longer present by the time of the 1897 OS map, with no possible remains recognised on LiDAR imagery of the area.
- 3.5.461 No heritage assets are recorded within these HLC areas; however, satellite imagery has revealed a number of cropmarks which correspond with former field boundaries indicated on the 1840 tithe map, with LiDAR imagery also recording those of late 19th century date as shown on OS mapping. LiDAR imagery also locates a circular historic extraction pit towards the south of the area.
- 3.5.462 Within this HLC area there is **high** potential for the remains of medieval, post medieval and 20th century agricultural activities, primarily in the form of relict field

boundaries, with **medium** potential for the remains of medieval and post medieval ridge and furrow; these assets would be of **low** sensitivity and of local importance.

Post Medieval Fieldscapes (HCH1506)

- 3.5.463 This HLC area is predominantly comprised of agricultural land in both arable and pasture usage. In the north of the area, a riding school and paddocks, and several residential gardens are also encompassed within the HLC boundary. The area is bound by roads to its north, east and south, along which several larger residential properties are located, as well as a linear settlement of semi-detached properties on Ash House Lane. To the west, the area is bound by further agricultural land, the boundary also partly formed by a stream which runs an irregular course from the south-western corner of the area up through to the north-east.
- 3.5.464 The current field layout is largely delineated by hedgerows or tree lines, forming a network of fields of varying shapes and sizes, characterised by both irregular and straight field boundaries. A review of historical OS mapping indicates that this pattern was largely established by the late 19th century; while a degree of boundary loss has occurred during the 20th century, with the remains of some identifiable on LiDAR imagery, the earlier field pattern has largely remained intact through to the present day. Prior to the late 19th century, however, the 1840 Little Leigh tithe map indicates a quite different configuration to the layout of the area; across the majority of the area, field divisions are largely irregular and sinuous and characteristic of the gradual process of piecemeal enclosure. Some of the boundaries of this map display the reverse 'S' shape characteristic of former medieval furlongs, suggesting that the area may have been previously farmed under the medieval open field agricultural system; existing hedgerows in these areas may meet the criteria to be considered important under the Hedgerow Regulations. Faint traces of ridge and furrow marks are also visible on LiDAR imagery within the horse paddock field located in the north of the area. While the majority of these sinuous boundaries have been removed from the current layout, partial survival is evident in a few instances, along parts of the western boundary and the course of the stream channel which now flows through the area. In the south of the area, however, the field boundaries shown on the tithe map are much straighter, forming a number of sub-rectangular enclosures more characteristic of planned parliamentary enclosure; many of the plot names for these fields are recorded as 'common' and suggest these parts of the HLC area may have been used as common grazing land during the medieval period.
- 3.5.465 There are no heritage assets recorded within the HLC area, however a Baptist chapel (MCH10883) and burial ground (MCH10884) is recorded just beyond the north-east boundary along Ash House Lane. Though not depicted on the tithe map of 1840, an inscribed tablet indicates its original construction date of 1829, though the current building has since been enlarged and altered.
- 3.5.466 Three small historic extraction pits have been identified on LiDAR imagery within the area, the smallest of these, located approximately mid-way along the eastern boundary is mapped on OS mapping from 1897 through to the mid-20th century.
- 3.5.467 Within this HLC area there is **high** archaeological potential for the buried remains of medieval and post medieval ridge and furrow and former field boundaries. These would be of **low** sensitivity as assets of local importance. There is

negligible potential for remains associated with the Baptist chapel and burial ground within this HLC area.

Ancient Fieldscapes (HCH1512)

- 3.5.468 This HLC area is located approximately 250m east of the village of Little Leigh and is predominantly comprised of sub-rectangular agricultural fields, in both arable and pasture usage. Its southern boundary follows the line of the A533 road with minor roads defining the eastern and western boundaries of the area. Its northern edge borders further agricultural land. A farmstead and associated buildings sit within the north of the parcel.
- 3.5.469 The eastern boundary of the parcel also lies along the boundary between the former historic townships of Little Leigh and Barnton. The 1840 tithe map of Little Leigh shows the area as being comprised of irregularly enclosed fields of varying sizes. The irregular nature of the field boundaries, and the reverse 'S' shape of some, is likely representative of the piecemeal enclosure of former medieval open fields, perhaps associated with the medieval village of (Little) Leigh, which is recorded in Domesday as comprised of five households (Open Domesday, no date). Whilst the straightening of some boundaries and amalgamation of fields into larger units, which OS mapping indicates began in the late 19th century, has resulted in a degree of boundary loss and change to the field pattern shown on the tithe maps, some of the character of the former fieldscape remains intact. This survival of a number of field boundaries shown in the 1840 tithe map may also suggest that a number of the extant hedgerows present along these locations may be deemed important under the Hedgerow Regulations; this includes the hedgerows present along the boundary between the former townships of Little Leigh and Barnton.
- 3.5.470 There are no heritage assets recorded within the HLC area, however, a small timber-framed outbuilding (MCH17699) of post medieval date is recorded just beyond the southern boundary, opposite the A533; this structure is shown as part of a cluster of three small buildings shown in the tithe map, the other two having since been removed. Opposite this group, and directly adjacent to the southern HLC boundary, a sub-rectangular homestead and outbuilding are also shown; a residential property and gardens stand in this location today and may incorporate elements of the earlier main structure.
- 3.5.471 No further structures are recorded within the vicinity of this HLC area on the 1840 tithe map, however, by the late 19th century Heath Lodge (now Heath Lodge Farm) and gardens had been constructed on land to the east of Shutley Lane, in the north of the area.
- 3.5.472 Within this HLC area there is **high** archaeological potential for the buried remains of medieval and post medieval former field boundaries, some of which are identifiable on LiDAR imagery of the area. These would be of **low** sensitivity as assets of local importance.

Post Medieval Fieldscapes (HCH1511, HCH1488)

- 3.5.473 These HLC areas are located approximately 1km north-east of the village of Little Leigh and are primarily comprised of agricultural fields delineated by hedgerow-

lined boundaries. An equestrian centre is located in the north of HCH1511, while two large ponds, likely the result of former marl pits, are located towards its centre. The HLC areas are surrounded by further agricultural land on all sides except for an area of modern housing which is located immediately south and south-east of HLC1488.

- 3.5.474 The current field layout is comprised of a network of fields of varying shapes and sizes, characterised by both irregular and straight field boundaries. A review of historical OS mapping indicates that this pattern was largely established by the late 19th century. The remains of some removed field boundaries have been identified on LiDAR imagery, but the late 19th century field pattern has largely remained intact through to the present day.
- 3.5.475 The 1840 Little Leigh tithe map depicts a different field pattern within these areas, particularly HCH1511, comprising irregular and sinuous boundaries characteristic of the gradual process of piecemeal enclosure. Some of the boundaries of this map display the reverse 'S' shape characteristic of former medieval furlongs, suggesting that the area may have been previously farmed under the medieval open field agricultural system, perhaps associated with the medieval village of (Little) Leigh which is recorded in Domesday (Open Domesday, no date). The remains of some of the boundaries shown on the tithe map have been identified on LiDAR imagery and in a few locations across the area, the earlier boundaries have been retained in the current layout, including along part of the eastern boundary of the HCH1511, which is shown to have formed the boundary between the former historic townships of Little Leigh and Barnton. Existing hedgerows in these areas may meet the criteria to be considered important under the Hedgerow Regulations.
- 3.5.476 No heritage assets are recorded within these HLC areas. In addition to the former field boundaries discussed above, historic extraction pits have been identified on LiDAR imagery. The 1840 tithe map also records one small rectangular building within the north-west of HCH1511, just south of Shutley Lane and likely associated with the homestead located to the north, just beyond the HLC boundary. This building was no longer extant by the end of the 19th century and no remains of this structure or the associated homestead are visible on LiDAR or satellite imagery. In the south of HCH1511, historic OS mapping indicates a rectangular reservoir belonging to Northwich R.D.C Waterworks as having been constructed by the beginning of the 20th century, modern satellite imagery of the area indicates that this structure survives today.
- 3.5.477 HCH1488 is located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.478 Within these HLC areas there is **high** potential for the remains of medieval and post medieval field boundaries, with **medium** potential for the remains of medieval and post medieval ridge and furrow; these assets would be of **low** sensitivity and of local importance. In addition, there is **medium** potential for lithic scatters dating to early prehistory within HCH1488. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Ancient Fieldscapes (HCH1487, HCH1548)

- 3.5.479 These irregularly shaped HLC areas are located immediately north of the village of Barnton. The areas are predominantly comprised of irregularly-shaped agricultural fields with the western, northern and eastern boundaries of HCH1487 following the course of the former historic township boundary of Barton, as shown on the 1843 tithe map. A tributary of the Whitley Brook also runs along part of the northern boundary following the same alignment as the historic township boundary. Stone Heyes Lane runs vertically through HCH1487, just west of its centre. HCH1548 is located roughly 150m to the north and is immediately south of Houghlane Farm.
- 3.5.480 The areas are comprised of a network of relatively large fields of varying shapes, characterised by both irregular and straight field boundaries. A review of historical OS mapping indicates that this current pattern was established in the late 19th century and, aside from slight variations and removals to some of the boundaries during the 20th century, the pattern has remained largely unchanged through to the present day. It is likely that many removed boundaries will survive as buried ditches, although these have not been identified as yet due to a lack of suitable aerial imagery with which to capture archaeological cropmarks.
- 3.5.481 Some field divisions within these areas are largely irregular and sinuous and characteristic of the gradual process of piecemeal enclosure. Some of the boundaries of this map display the reverse 'S' shape characteristic of former medieval furlongs, suggesting that the area may have been previously farmed under the medieval open field agricultural system.
- 3.5.482 Stoneheys Farm (MCH17219) an early 18th century brick farmhouse is located just beyond the eastern boundary of this HLC area. The only heritage asset recorded in this HLC area is a findspot of a Roman brooch (MCH9367).
- 3.5.483 Within this HLC area there is **high** potential for the buried remains of medieval and post medieval ridge and furrow and former boundaries. These would be of **low** sensitivity as assets of local importance.

Ancient Fieldscapes (HCH1481, HCH1493, HCH1494, HCH1557)

- 3.5.484 These HLC areas are located immediately north of the village of Anderton, with Cogshall Lane forming their northern boundary. They comprise a pattern of irregular shaped fields within which a degree of boundary loss has occurred from the pattern depicted on the Anderton tithe map of 1845. Some of the removed boundaries remains visible as low earthworks which have been identified on LiDAR and Google Earth imagery. Despite the loss of some boundaries, others have been retained from the pattern depicted on the tithe map. This entails that some hedgerows within these areas may meet the criteria to be considered important under the Hedgerow Regulations. The irregular field pattern depicted on the tithe map is suggestive of piecemeal enclosure which took place throughout the post medieval period, and the presence of some boundaries displaying the reverse 'S' indicative of former medieval furlongs, along with field names such as 'town field' indicates these areas may have formed part of medieval open fields associated with Anderton.
- 3.5.485 There are no heritage assets recorded within this area, but the remains of historic mineral extraction have been identified on LiDAR imagery. As these areas are

largely situated on mudstone and clay, it is likely these are marl pits. The south-eastern portion of this HLC area is located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).

- 3.5.486 Within this HLC area there is **high** potential for the remains of medieval and post medieval ridge and furrow and former boundaries. These would be of **low** sensitivity as assets of local importance. There is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Modern Settlement (HCH15159, HCH985, HCH1881)

- 3.5.487 These HLC areas comprise modern housing situated to the north of Barnton and Anderton and represents the modern urban expansion of these settlements in the 20th century. These developments were mainly built upon former enclosed fields. Enclosures within HCH15159 are depicted on tithe and early OS mapping as strip fields, which are the representation of the piecemeal enclosure of former medieval open fields and are a rare example of this type of enclosure within the current Study Area. Elements of these removed boundaries, along with possible associated ridge and furrow may survive as buried ditches within playing fields situated in the north of HCH15159. There is also the possibility of former buried enclosure boundaries present across other HLC area in this group, which would be confined to remaining open areas such as gardens. Large parts of these areas are located upon underlying glaciofluvial sands and gravels, a context that elsewhere in northwest England has produced evidence of early prehistoric activity in the form of lithics dating to the Mesolithic period (NWERRF 2020).
- 3.5.488 Within these HLC areas there is **high** potential for the buried remains of medieval ridge and furrow and post medieval boundaries. These would be of **low** sensitivity as assets of local importance. There is **medium** potential for lithic scatters dating to early prehistory. Any remains of this nature would carry **low/medium** sensitivity as finds of regional importance.

Recreation (HCH1878)

- 3.5.489 This HLC area represents the site of the former salt works of Eureka, Anderton and British Company's (MCH10256; MCH10293; MCH10288), along with a brick works. Its current recreational character as a nature reserve is the result of developments from the early-20th century onwards when the salt works were decommissioned. Brine cisterns associated with the salt works have been retained within the nature reserve but all other structures have been removed. No upstanding remains of the many warehouses and buildings which occupied this HLC area are visible, but elements may survive as below ground deposits.
- 3.5.490 The salt works are first depicted on the Anderton tithe map of 1845 after which time the site underwent extensive development and extension including the construction of many of the warehouses which stood until the 1920s. The eastern portion of this HLC area contained buildings and brine pools which are depicted on

the tithe map, but by the late 19th century had been removed and the brine pools amalgamated to form a channel.

- 3.5.491 Within this HLC area there is **high** potential for the buried structural remains relating to multiple phases of salt works and brick works dating to at least the early 19th century. These would be of **low** sensitivity as assets of local importance. The extensive ground disturbance caused by the construction and operation of salt workings would suggest **low** potential for the survival of archaeological remains pre-dating this phase of land-use.

20th Century Fieldscapes (HCH1879)

- 3.5.492 This HLC area is located immediately south of the Trent and Mersey Canal, and directly east of the former British Company Salt Works site, which is now a nature reserve. The current character comprises enclosed agricultural land in the central portion with woodland and scrub surrounding. Part of a car park associated with the Trent and Mersey Canal is located in the west of this area, and the Grade II listed Uplands Farmhouse (NHLE 1329874) is located at its centre. The Marbury Brook flows through the centre of this HLC area in a roughly north to south direction.
- 3.5.493 Traces of former industrial activity are present within the HLC area, such as a leet which ran from Marbury Forcing Station just north of the area along the Trent and Mersey Canal to a pumping station which lay immediately to the east of the area. These are associated with the former salt works which were situated immediately south-west of this HLC area. While the buildings associated with this no longer survive, the leet remains as a tree-lined earthwork.
- 3.5.494 The present field pattern comprising long straight boundaries replaced a former layout of more irregular enclosures depicted on the Anderton tithe map of 1845. These look like the result of piecemeal enclosure of former common land during the post medieval period due to the lack of evidence for boundaries displaying the reverse 'S' shape indicative of former medieval furlongs or ridge and furrow displaying similar characteristics. Aside from a small area of post medieval ridge and furrow immediately east of Uplands Farm identified as earthworks on LiDAR imagery, no traces of the former field pattern present on the tithe map have been identified on available remote sensing. Despite this, the relative lack of ground disturbance within this HLC area suggests buried remains may survive.
- 3.5.495 Within this HLC area there is **high** potential for the remains of former industrial activity in the form of a leet which survives as an earthwork in the north-east portion of the area. These remains would be of **low** sensitivity as an asset of local importance. In addition, there is **medium** potential for the survival of buried post medieval boundaries and ridge and furrow. These would be of **low** sensitivity as assets of local importance.

20th Century Industry (HCH22, HCH19)

- 3.5.496 These HLC areas are almost wholly occupied by extant and former industrial structures. The present structures are representative of the industrial development of the area, which partly overlies the site of Brunner's salt works (MCH10254) which was established in 1873. The only structures associated with this phase that still

stand are a block of three storey warehouses north of Solway Road and a two-storey service block built in the early 18th century attached to Winnington Hall. Brunner's Works was established following the purchase of Winnington Hall (Ashmore 1982), which is located immediately south of the HLC area, and is a Grade I Listed Building (NHLE 1310245). The hall was originally built around 1600 and was extended in 1775. It is depicted on the Anderton tithe map of 1845 in an area of associated parkland, which gives an indication of the former land-use in these areas prior to development. Winnington Park, as it was known in the late 19th and 20th centuries, occupied much of HCH22 prior to being developed for industry in the early 20th century. The only remnants from this previous land-use are a recreation ground and pavilion (MCH16964) in the south of the area. A row of terraced houses is shown on late 19th century OS mapping along Faraday Road in the east of HCH22. This was demolished in the late 20th century and replaced with modern industrial units.

3.5.497 Much of HCH19 is depicted as enclosed fields with irregular boundaries on the 1845 tithe map. These had largely been removed by the late 19th century through the construction of a brick works, gravel pit and brine cisterns. Aside from the brine cisterns, this area is largely scrub and wasteland.

3.5.498 Within these HLC areas there is **high** potential for the remains of former industry. This may take the form of buried remains of former buildings in areas which have not been extensively redeveloped such as close to the eastern edge of HCH22 and to the south of HCH19. Due to extensive ground disturbance across all areas, there is **negligible** potential for archaeological remains predating the 19th century.

4. Summary of Archaeological Potential and Heritage Significance

4.1.1 A summary of the assessment of archaeological potential, combining information on known and likely archaeological remains and likely preservation, is presented in **Table 4.1**. A statement of heritage significance relating to those remains is also provided. HLC areas of **high** or **medium** potential are mapped on **Figure 6.4** and their significance is shown on **Figure 6.5**.

Table 4.1 Summary of archaeological potential and heritage significance

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
4766	High	Medium
4876	High	Medium
5134	Medium	Medium
5249	Medium	Low
5363	Negligible	Negligible
5497	Negligible	Negligible
5514	Negligible	Negligible
5515	Medium	Low
12853	High	Low
12856	High	Medium
12857	High	Low
12858	High	Medium
12860	High	Medium
12865	High	Medium
12867	High	Medium
12871	High	Medium
12880	High	Medium
12890	High	Medium

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
12954	High	Medium
12990	Medium	Medium
13180	High	Low
13182	High	Low
13183	High	Low
13184	High	Low
13185	High	Low
13186	High	Low
13197	Low	Negligible
13198	High	Low
13212	Negligible	Negligible
13215	Negligible	Negligible
13216	High	Low
13217	Negligible	Negligible
13226	High	Low
13227	High	Low
13228	High	Low
13230	High	Low
13253	High	Low
13421	Negligible	Negligible
13423	Medium	Low
13425	High	Low
13426	High	Low
13427	Low	Low
13436	High	Low

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
13437	High	Low
13465	High	Low
18472	Negligible	Negligible
18743	High	Low
18762	Negligible	Negligible
18763	Negligible	Negligible
18766	High	Low
18786	Medium	Low
18787	Negligible	Negligible
18790	Medium	Low
18791	Negligible	Negligible
19062	Negligible	Negligible
19063	Negligible	Negligible
19065	Negligible	Negligible
19491	Medium	Low
19492	Negligible	Negligible
19493	Negligible	Negligible
19496	Negligible	Negligible
19497	Negligible	Negligible
19498	Medium	Low
19505	Medium	Low
19506	Low	Low
19581	Medium	Low
19583	Medium	Low
19584	Negligible	Negligible

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
19585	Negligible	Negligible
19586	Negligible	Negligible
19587	Negligible	Negligible
19588	Medium	Low
19589	Negligible	Negligible
19598	Negligible	Negligible
19880	Negligible	Negligible
19883	Negligible	Negligible
19884	Negligible	Negligible
19886	Negligible	Negligible
20821	Negligible	Negligible
20822	Negligible	Negligible
20824	Negligible	Negligible
HGM4496	High	Medium
HGM4503	Negligible	Negligible
HGM4513	Negligible	Negligible
HGM4572	Medium	Medium
HGM4586	Low	Low
HGM4659	Negligible	Negligible
HGM4668	Negligible	Negligible
HGM4743	Low	Low
HGM4738	Negligible	Negligible
HGM4757	Negligible	Negligible
HGM5653	High	Medium
HGM5687	Medium	Low

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HGM5693	Medium	Low
HGM5691	High	Medium
HGM5735	Medium	Low
HGM5736	Medium	Low
HGM5738	High	Medium
HGM7279	Negligible	Negligible
HGM4747	Negligible	Negligible
HGM4595	High	Medium
HGM4516	Negligible	Negligible
HGM4576	High	Medium
HGM4507	High	Medium
HCH1007	High	Low
HCH1010	High	Medium
HCH1013	High	Low
HCH1026	Low	Low
HCH10322	High	Low
HCH10324	High	Low
HCH10327	Medium	Low
HCH108	Low	Low
HCH110	High	Low
HCH112	High	High
HCH113	High	High
HCH1138	Medium	Low
HCH1157	Medium	Medium
HCH1158	High	Medium

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH1159	Medium	Medium
HCH116	High	Low
HCH1161	High	Low
HCH1169	High	High
HCH1175	Negligible	Negligible
HCH1176	Negligible	Negligible
HCH1178	High	Low
HCH118	High	High
HCH1181	Low	Low
HCH1182	Negligible	Negligible
HCH1183	High	Low
HCH1184	Medium	Low
HCH1185	High	Low
HCH1186	High	Low
HCH119	High	Low
HCH1191	High	Medium
HCH1193	Medium	Low
HCH1194	Medium	Low
HCH1195	High	Medium
HCH1202	Medium	Low
HCH1208	Medium	Low
HCH1214	High	Low
HCH1217	High	Low
HCH1218	High	Low
HCH1220	High	Low

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH1223	Medium	Low
HCH1224	High	Medium
HCH1225	High	Medium
HCH1226	High	Medium
HCH1235	High	Medium
HCH1246	High	Low
HCH1247	High	Medium
HCH1248	High	Medium
HCH125	High	Medium
HCH1250	Medium	Low
HCH1255	High	Low
HCH1256	Negligible	Negligible
HCH1257	High	Low
HCH1259	High	Low
HCH126	High	Medium
HCH1261	High	Low
HCH12697	Negligible	Negligible
HCH127	High	Medium
HCH12730	Negligible	Negligible
HCH12731	Low	Low
HCH12734	Medium	Low
HCH12735	Negligible	Negligible
HCH12736	Negligible	Negligible
HCH12737	Medium	Low
HCH1275	High	Medium

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH12752	High	Medium
HCH1276	High	Medium
HCH1279	Medium	Low
HCH128	High	Low
HCH12815	Medium	Low
HCH12817	Negligible	Negligible
HCH12818	Medium	Low
HCH12819	Medium	Low
HCH1282	Low	Low
HCH1283	High	Low
HCH1285	High	Medium
HCH12864	High	Medium
HCH12865	High	Medium
HCH12868	High	Medium
HCH12870	High	Medium
HCH12871	Low	Medium
HCH12876	Low	High
HCH12902	Medium	Medium
HCH1292	Negligible	Negligible
HCH12920	High	Medium
HCH12928	Negligible	Negligible
HCH12929	High	Low
HCH12932	High	Medium
HCH12933	Medium	Low
HCH12934	Medium	Low

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH12935	Medium	Low
HCH12936	Medium	Low
HCH12937	High	Low
HCH12938	High	Medium
HCH12939	Negligible	Negligible
HCH12940	Negligible	Negligible
HCH12941	Medium	Low
HCH12942	Medium	Medium
HCH12946	Medium	Low
HCH12947	Low	Low
HCH12949	Medium	Medium
HCH12950	Medium	Medium
HCH12951	Medium	Medium
HCH12953	High	Medium
HCH12954	High	Medium
HCH12955	Medium	Medium
HCH12957	Medium	Medium
HCH12958	Medium	Medium
HCH12959	Medium	Medium
HCH12960	Medium	Medium
HCH12961	Medium	Medium
HCH12962	Low	Low
HCH12963	High	Medium
HCH12964	Medium	Low
HCH12965	Low	Low

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH12967	High	Medium
HCH12969	Medium	Low
HCH12970	Low	Low
HCH12971	High	Medium
HCH12972	High	Medium
HCH12973	Medium	Medium
HCH12974	High	Low
HCH12990	High	Medium
HCH13	Negligible	Negligible
HCH13009	High	Low
HCH13016	High	Low
HCH13017	High	Medium
HCH13019	Low	Low
HCH1302	High	Low
HCH13020	Low	Low
HCH1303	High	Low
HCH13038	High	Medium
HCH1304	High	Low
HCH13043	High	Low
HCH13044	High	Low
HCH13046	Low	Low
HCH1305	High	Low
HCH1306	High	Low
HCH13065	High	Medium
HCH13069	High	Medium

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH13072	Negligible	Negligible
HCH13073	Low	Low
HCH13080	High	Medium
HCH13081	High	Low
HCH13082	High	Low
HCH13083	High	Low
HCH13086	Negligible	Negligible
HCH13107	High	Low
HCH13109	Negligible	Negligible
HCH13111	High	Medium
HCH13112	Low	Low
HCH13123	High	Medium
HCH13124	Negligible	Negligible
HCH13125	Medium	Medium
HCH13127	Negligible	Negligible
HCH13128	Negligible	Negligible
HCH13129	High	Low
HCH13130	Negligible	Negligible
HCH13131	Negligible	Negligible
HCH13132	Medium	Low
HCH132	High	Low
HCH1322	High	Low
HCH13226	High	Low
HCH13229	Medium	Low
HCH13230	Medium	Low

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH13232	Medium	Medium
HCH13234	Low	Low
HCH13241	Low	Low
HCH13242	High	Medium
HCH13244	High	Medium
HCH13245	High	Medium
HCH13246	High	Medium
HCH13248	Negligible	Negligible
HCH13249	Negligible	Negligible
HCH13250	Medium	Low
HCH13251	Low	Low
HCH13252	Negligible	Negligible
HCH13254	Negligible	Negligible
HCH13256	Negligible	Negligible
HCH13258	High	Medium
HCH13259	High	Medium
HCH1326	High	Low
HCH13263	High	Low
HCH13264	Low	Low
HCH1328	High	Low
HCH13363	Negligible	Negligible
HCH13364	Negligible	Negligible
HCH13365	Negligible	Negligible
HCH13369	Negligible	Negligible
HCH13370	Negligible	Negligible

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH13372	Low	Low
HCH13376	Low	Low
HCH13379	High	Medium
HCH13380	High	Medium
HCH13382	High	Medium
HCH13460	High	Medium
HCH13466	Negligible	Negligible
HCH13467	High	High
HCH1358	High	Low
HCH1361	High	Low
HCH13613	Negligible	Negligible
HCH13632	Negligible	Negligible
HCH13633	Medium	Medium
HCH1364	High	Low
HCH13649	Low	Low
HCH1365	High	Low
HCH13650	Low	Low
HCH1369	Medium	Medium
HCH13715	Low	Medium
HCH13722	Negligible	Negligible
HCH13723	Low	Medium
HCH138	High	Medium
HCH1406	Negligible	Negligible
HCH142	High	Low
HCH143	High	Low

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH14389	Negligible	Negligible
HCH147	Low	Low
HCH148	Negligible	Negligible
HCH1481	High	Low
HCH1487	High	Low
HCH1488	High	Low
HCH1493	High	Low
HCH1494	High	Low
HCH15038	Negligible	Negligible
HCH1505	High	Low
HCH15056	High	Low
HCH1506	High	Low
HCH1509	High	Low
HCH1511	High	Low
HCH1512	High	Low
HCH15158	High	Low
HCH15159	High	Low
HCH1520	High	Medium
HCH1526	Medium	Medium
HCH1527	Medium	Low
HCH1533	High	Medium
HCH1548	High	Low
HCH1557	High	Low
HCH1575	High	Medium
HCH1578	High	Medium

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH1581	High	Medium
HCH1584	High	Medium
HCH1587	High	Medium
HCH1589	High	Low
HCH16	Negligible	Negligible
HCH1600	High	Medium
HCH1606	Negligible	Negligible
HCH1607	High	Low
HCH1609	High	Medium
HCH161	High	Low
HCH1724	High	Medium
HCH1726	High	Medium
HCH1729	Medium	Medium
HCH1731	High	Medium
HCH1733	High	Medium
HCH1735	High	Low
HCH1739	High	Low
HCH174	Low	Low
HCH1740	High	Low
HCH18	High	Low
HCH181	High	Medium
HCH1819	Low	Low
HCH182	High	Medium
HCH187	High	Low
HCH1878	High	Low

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH1879	High	Low
HCH1881	High	Low
HCH1897	Low	Low
HCH19	High	Low
HCH1901	High	Low
HCH1902	Medium	Low
HCH1904	High	Medium
HCH1907	Negligible	Negligible
HCH1908	Negligible	Negligible
HCH1909	High	Medium
HCH1910	Negligible	Negligible
HCH1911	Negligible	Negligible
HCH1913	Negligible	Negligible
HCH192	High	Medium
HCH193	High	Medium
HCH194	High	Medium
HCH197	Low	Low
HCH199	High	Medium
HCH2	Negligible	Negligible
HCH20	High	Low
HCH201	High	Medium
HCH202	Low	Low
HCH203	High	Medium
HCH204	High	Medium
HCH22	High	Low

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH237	Negligible	Negligible
HCH326	High	Medium
HCH327	High	Medium
HCH329	High	Low
HCH330	High	Medium
HCH331	Low	Low
HCH332	High	Medium
HCH334	High	Medium
HCH338	Low	Low
HCH3386	Low	Low
HCH3387	Negligible	Negligible
HCH339	Low	Low
HCH358	High	Medium
HCH360	High	Medium
HCH37	Medium	Medium
HCH3912	High	Medium
HCH3913	Medium	Medium
HCH3914	Medium	Medium
HCH3915	Negligible	Negligible
HCH4151	Medium	Low
HCH4152	Medium	Low
HCH4153	High	High
HCH4223	Negligible	Negligible
HCH4251	High	Low
HCH4357	Negligible	Negligible

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH46	High	Medium
HCH483	Medium	Low
HCH50	Negligible	Negligible
HCH543	High	Medium
HCH544	High	Low
HCH549	Negligible	Negligible
HCH551	Negligible	Negligible
HCH552	High	Low
HCH553	Medium	Medium
HCH582	Medium	Low
HCH64	Low	Low
HCH730	Low	Low
HCH839	High	Medium
HCH87	High	Medium
HCH89	High	Low
HCH91	High	Low
HCH92	High	Low
HCH9208	High	Medium
HCH9209	Negligible	Negligible
HCH93	High	Low
HCH9320	Negligible	Negligible
HCH9358	High	Low
HCH9360	High	Low
HCH9394	High	Low
HCH9395	High	Low

Unit of Assessment (HLC area)	Archaeological Potential	Heritage significance
HCH9399	High	Low
HCH94	High	Low
HCH9408	High	Low
HCH9416	High	Low
HCH9417	Medium	Medium
HCH9426	High	Low
HCH9429	High	Medium
HCH9436	High	Medium
HCH9439	High	Medium
HCH9440	High	Medium
HCH9441	High	Medium
HCH9442	High	Medium
HCH9444	High	Medium
HCH9445	High	Medium
HCH9462	High	Medium
HCH9465	High	Medium
HCH9466	High	Medium
HCH95	Medium	Low
HCH96	High	Low
HCH97	High	Low
HCH9758	High	Low
HCH98	Negligible	Negligible
HCH985	High	Low
HCH990	Medium	Low
HCH997	Negligible	Negligible

5. Conclusions

- 5.1.1 The following sections will describe in roughly chronological order the types of archaeological remains most likely to be encountered throughout the Study Area and more specifically within the Preliminary Order Limits. It will include reference to NWERRF questions highlighted in **Paragraph 1.3.2**, above, specifically questions: PH02, PH23, LM05 and LM34.
- 5.1.2 Peat deposits occur at various points throughout the Study Area, most notably at Ince Marshes, Sink Moss and Carrington Moss. Research has shown that these surviving areas of peat are greatly reduced from their pre-modern extents and were a feature of the landscape which was far more important to communities in the past than it is today as a fuel source and defining landscape feature (Higham 1993: 11), however significant areas remain in the location of the Site. The potential for further remains of this nature in areas containing peat deposits is assessed as **high** for archaeological remains which would be of **medium** sensitivity as assets of regional importance. This would address NWERRF question PH02.
- 5.1.3 Prehistoric barrows are recorded as cropmarks around Sutton Hall in the western corridor, with two known upstanding examples at Higher Whitley in the east corridor and Moulton in the south corridor. Both the latter are Scheduled Monuments. There is deemed to be **high** potential for further archaeological remains of this nature in these areas. These would be of **medium to high** sensitivity as assets of regional or national importance. In a heavily ploughed landscape as underlies much of the Study Area, it is possible that more features of this type await discovery as buried deposits. Indeed, work through this DBA has identified two previously unknown round barrows in the area around Sutton Hall. This addresses NWERRF question PH23.
- 5.1.4 The presence of prehistoric and/or Romano-British settlement and land-use is evidenced through cropmarks identified on aerial photography and remote satellite imagery such as Google Earth. The identification of these sites as cropmarks is therefore dependent on the ground conditions when the images are captured. In areas of the West and North corridors tangible evidence has been recorded, and within these areas there is **high** potential for further discoveries of this nature. These would be of **medium** sensitivity as assets of regional importance. In other parts of the Study Area the ground conditions on available imagery did not meet the criteria for cropmarks to be identified. This therefore creates a gap in the dataset for this type of feature, which may not represent evidence for absence, and these corridors may contain more evidence for similar sites and features; there is therefore **medium** potential for prehistoric settlements and fields in these areas. It has also been stated that many unenclosed prehistoric settlements may have occupied the landscape in which the Study Area sits (NWERRF 2019). Remains associated with this type of settlement would be much harder to detect through traditional remote sensing data due to their more ephemeral traces which would lack the large ditches associated with enclosed settlements. Instead, features such as this are more likely to be discovered by chance through archaeological excavation. The potential for archaeological remains relating to

unenclosed prehistoric settlements is assessed as **medium** in areas not subjected to ground disturbance. This relates to NWERRF question PH23.

- 5.1.5 Remains of ridge and furrow and boundaries relating to medieval and post medieval land-use are by far the most common feature type throughout the Study Area, reflecting agricultural landscape development trends over the last 1000 years. The identification of areas of ridge and furrow and former furlongs reused in later enclosures implies the presence of medieval open fields across many parts of the Study Area. The potential for further features of this type is assessed as **high** in agricultural areas. Remains of this nature would be of **low** sensitivity as assets of local importance. This goes some way to addressing NWERRF question LM05.
- 5.1.6 Moated Sites occur throughout the Study Area, including Elton, Drakelow Hall and Micklehead Green. These survive as prominent earthworks and carry the potential for waterlogged archaeological deposits within the moats themselves. No further moated sites have been identified through this assessment, and the potential for further discoveries of this nature in the Study Area is assessed as **low**, however the potential for features additional to existing moated sites is assessed as **high** and would be of **medium** to **high** sensitivity as assets of regional or national importance. This addresses NWERRF question LM34.
- 5.1.7 Historic canals, including the Manchester Ship Canal, the Weaver Navigation, Bridgewater Canal and Trent and Mersey Canal, are a prominent feature in the Study Area, and are closely linked to significant industrial development such as salt works at Anderton and south of Moulton, and Warrington. Features associated with canals occur throughout the Study Area, and include listed bridges, locks and sluice gates. The potential for archaeological traces relating to further features of this type is assessed as **low** to **medium**. Potential features of this nature would be of **low** to **medium** sensitivity as assets of local or regional importance.
- 5.1.8 **High** archaeological potential has been assigned to areas of historic salt mining where modern production has not eradicated remains of previous workings. The former works at Bostock and Moulton Hall are examples of sites where the remains of former workings may survive. The proximity of these sites to recorded salt mining sites dating to the medieval period and earlier should be noted, but there is no current evidence to support this. Therefore, the potential for medieval or earlier salt mining is assessed as **low**.
- 5.1.9 Small finds discovered by chance in ploughsoil are recorded throughout the Study Area. These range from stone axes to post medieval coins. There is **high** potential for further archaeological remains of this type in undeveloped areas of the Study Area. Small finds are deemed to be of **low** to **medium** sensitivity depending on the nature of the find.
- 5.1.10 In summary, **high** potential has most commonly been assigned to areas which contain traces of medieval ridge and furrow and post medieval boundaries which occur frequently throughout the remaining agricultural land in the Study Area. Areas assigned **high** potential and **high** sensitivity are those with known or potential presence of remains of possible national importance, including prehistoric funerary monuments and Roman settlement. Areas assigned **high** potential for assets of **medium** sensitivity are most commonly those containing cropmarks

representing probable traces of prehistoric or Romano-British settlement and field systems.

- 5.1.11 **Medium** potential has been assigned to those areas where evidence from similar contexts elsewhere suggests the possibility of archaeological remains being present. An example of this is the potential for early medieval settlement remains within areas located on the periphery of known medieval villages.
- 5.1.12 **Low** potential areas include modern housing developments, where there is the possibility for small finds and traces of archaeological features in remaining open areas such as gardens. The housing development south of Hartford in the south-east of the Study Area is an example of this.
- 5.1.13 Areas assigned **negligible** potential are confined to modern motorways, pre-modern railways, and modern industry due to the extensive ground disturbance associated with their construction
- 5.1.14 Broadly, there is a lack of upstanding earthworks throughout the Study Area. This may not represent evidence for absence of former archaeological features, which may have been ploughed flat within the large swathes of agricultural land that encompasses a large proportion of the Study Area. For example, the lack of known and recorded evidence for buried archaeological features representing prehistoric and Romano-British field systems and settlement within the north-east section may be due to a lack of general research in this area, and in the case of this work, inadequate ground conditions on Google Earth imagery in landscape and geological contexts similar to elsewhere in the Study Area where numerous cropmarks of this nature have been identified.

6. Bibliography

Alexander, M.E. (1977) 'Cheshire Archaeological Bulletin 1977' *Cheshire Archaeological Bulletin*, 5. P.48.

Archaeological Research Services (2017) *North West Rapid Coastal Zone Assessment*. Available online: <https://historicengland.org.uk/research/results/reports/62-2012> (Accessed May 2022).

Atterbury, P., and Darwin, A (1983) *Ordnance Survey Guide to the Waterways: North, Part 3*, London: OS-Nicholson.

Bostock History (2007) 'The Ancient Family and Township'. Available online: <http://bostock.net/History/village.htm> (Accessed May 2022).

British Geological Survey (BGS) (no date) 'Viewer'. Available online: https://mapapps.bgs.ac.uk/geologyofbritain/home.html?_ga=2.133680398.1060654158.1616703570-1444136630.1616703570 (Accessed May 2022).

Britain's Waterways (2017) 'Weaver Navigation'. Available online: <https://weaver.britainwaterways.co.uk/history/vale-royal-locks/11-history> (Accessed May 2022).

Canal and River Trust (no date) 'Sankey (St. Helen's) Canal'. Available online: <https://canalrivertrust.org.uk/enjoy-the-waterways/canal-and-river-network/sankey-sthelens-canal> (Accessed May 2022).

Cheshire Gardens Trust (no date) 'Cheshire's Non-Designated Parks and Gardens'. Available online: <http://www.cheshire-gardens-trust.org.uk/?page=Non-designated-Parks-and-Gardens&b=CHESHIRE%20EAST&d=Macclesfield%20BC> (Accessed May 2022).

Cheshire Gardens Trust (2011) *Research and Recording at Daresbury Hall*. Unpublished Report number R3490.

Cheshire Historic Towns Survey (2003) *Frodsham: Archaeological Assessment*. Available online: http://www.cheshirearchaeology.org.uk/wp-content/uploads/2013/06/HTS_Arch_Assess_Frodsham.pdf (Accessed May 2022).

Curzon, B. (1976) Excavation and Survey at Hefferston Grange. Unpublished report.

Daresbury District Heritage Group (no date) 'Moore'. Available online: <https://www.ddhg.org.uk/townships/moore/> (Accessed June 2022).

Dodds, L.J. (2005) 'Salt Making in Roman Middlewich: Part 2. Discovery and Rediscovery Excavations along King Street, 2001-2', in Nevell, M and Fielding, A.P, *Brine in Britannia: Recent Archaeological Work on Roman Salt Industry in Cheshire*. Available online: file:///C:/Users/david.astbury/Downloads/Nevell2005_Brine_in_Britannia_Roman_salt_monograph.pdf (Accessed May 2022).

Dodgson, J. McN (1970) *The Place-names of Cheshire: Part 2, The Place-names of Bucklow Hundred and Northwich Hundred*. Cambridge: Cambridge University Press.

Dodgson, J. McN (1971) *The Place-Names of Cheshire, Part 3, The Place Names of Nantwich Hundred and Eddisbury Hundred*. Cambridge: Cambridge University Press.

Dodgson, J. McN (1972) *The Place-Names of Cheshire, Part 4, The Place-Names of Broxton Hundred and Wirral Hundred*. Cambridge: Cambridge University Press.

Dodgson, J. McN (1981a) *The Place-Names of Cheshire: The Elements of Cheshire Place-names, A-G Pt. 5, Section 1, Part i*. Cambridge University Press.

Dodgson, J. McN (1981b) *The Place-names of Cheshire: The Elements of Cheshire Place-names, H-Y Pt. 5, Section 1, ii*. Cambridge University Press.

Elliott, G. (1973) 'Field Systems of Northwest England', in Baker, A.R., and Butlin, R.A. (eds.) *Studies of Field Systems in the British Isles*, Cambridge: Cambridge University Press, pp. 42-92.

Encyclopaedia Britannica (no date) 'River Mersey'. Available online: <https://www.britannica.com/place/River-Mersey-England> (Accessed May 2022).

Engineering Timelines (2020) 'Vyrnwy Aqueduct'. Available online: <http://www.engineering-timelines.com/scripts/engineeringItem.asp?id=388> (Accessed April 2022).

Farrer, W., and Brownhill, J. A History of the County of Lancashire, Vol.3. London.

Field, J. (1989) *English Field Name: A Dictionary*. London: Alan Sutton.

Friends of Carrington Moss (2021) 'Monthly Archives: January 2021'. Available online: <https://friendsofcarringtonmoss.com/2021/01/> (Accessed May 2022).

Gifford and Partners (1992) First Report on Archaeological Evaluation Work at Wilderspool, Warrington. Unpublished Grey Literature Report.

Gifford and Partners (1994) Archaeological Appraisal of Land at Sutton Hall Farm, Sutton Weaver, Runcorn, Cheshire. Unpublished grey literature report.

Giffords Consulting Engineers (2008) 'The Mersey Gateway Project: Cultural Heritage (Chapter 13)'. Available online: https://merseygateway.co.uk/wp-content/uploads/2011/Documents/Environmental_Statement/chapter_13/eschapter13.pdf (Accessed March 2022).

Hall, D., Wells, C.E., Huckerby, E. (1995) *The Wetlands of Greater Manchester*, Lancaster University Archaeological Unit.

Higham, N.J. (1993) *The Origins of Cheshire*, Manchester: Manchester University Press.

Historic England (2018a) *Medieval Settlements: Introductions to Heritage Assets*. Available online: <https://historicengland.org.uk/images-books/publications/iha-medieval-settlements/heag210-medieval-settlements/> (Accessed March 2022).

Historic England (2018b) *Prehistoric Barrows and Burial Mounds: Introductions to Heritage Assets*. Available online: <https://historicengland.org.uk/images-books/publications/iha-prehistoric-barrows-burial-mounds/heag217-prehistoric-barrows-burial-mounds/> (Accessed May 2022).

Inland Waterways Association (no date). 'Trent and Mersey Canal'. Available Online: <https://waterways.org.uk/> (Accessed April 2022).

L-P Archaeology (2013) *An Archaeological Watching Brief for Land at Greenhalls Complex, Warrington*. Unpublished grey literature report.

L-P Archaeology (2016) *Archaeological Monitoring of Frodsham Windfarm*, Unpublished grey literature report.

L-P Archaeology (2021) *Metal Detecting Survey & Evaluation Report: Delph Lane, Daresbury*. Unpublished grey literature report.

Lancaster University Archaeology Unit (1996) *Vale Royal Golf Course and Housing Developments, Cheshire: Archaeological Evaluation Report*. Unpublished Grey Literature Report.

Lancaster University Archaeology Unit (2000) *Land to the East of Manor Park, Runcorn, Cheshire. Archaeological Assessment*, Unpublished Grey Literature Report.

Leah, M.D., Wells, C.E., Appleby, C., and Huckerby, E. (1997) *The Wetlands of Cheshire (North West Wetland Survey 4)* University of Lancaster Monograph Series.

Lewis, J.M. (1991) 'Medieval Landscapes and Estates', *Merseyside Archaeological Society Journal*, 7. Pp. 87-103.

National Library of Scotland (no date) a. 'The county palatine of Chester'. Available online: <https://maps.nls.uk/counties/rec/10479> (Accessed April 2022).

Nevell, M., and Fielding, A. (2005) *Brine in Britannia: Recent Archaeological Work on Roman Salt Industry in Cheshire*. Available online: file:///C:/Users/david.astbury/Downloads/Nevell2005_Brine_in_Britannia_Roman_salt_monograph.pdf (Accessed May 2022).

Newman, P. (2016) *The Archaeology of Mining and Quarrying in England: Resource assessment and Research Agenda*. Available online: https://www.namho.org/documents/MINING_FRAMEWORK_Pt_one.pdf (Accessed May 2022).

North West England Regional Research Framework (NWERRF) (2020) Available online: <https://researchframeworks.org/nwrf/> (Accessed May 2022).

Open Domesday (no date). Available online: <https://opendomesday.org/> (Accessed April 2022).

Ormerod, G. (1819) *History of the Palatine and City of Chester*, London: Lackington, Hughes, Harding, Mavor, and Jones.

Ormerod, G. (1882) *History of the County Palatine and City of Chester, vol.2*. London: Lackington, Hughes, Harding, Mavor, and Jones. A

Oxford Archaeology North (2007) 'Elton Head Farm, St. Helens, Merseyside. Archaeological Watching Brief'. Unpublished Report.

Oxford Archaeology North (2009) 'Frodsham Rail Connection, Frodsham, Cheshire: Archaeological Desk-based Assessment, Walkover and Topographic Surveys, and Watching Brief'. Available online: https://archaeologydataservice.ac.uk/archiveDS/archiveDownload?t=arch-815-1/dissemination/pdf/oxfordar2-92284_1.pdf (Accessed March 2022).

Oxford Archaeology North (2016) *The Dunham Massey Estate, Trafford: Revised Aerial Survey and Archaeological Desk-based Assessment*. Unpublished Report prepared for the National Trust.

Pickering History (2011) 'Sutton Mill, Frodsham'. Available online: <https://pickeringhistory.com/sutton-mill/> (Accessed March 2022).

Railscot (no date) 'Grand Junction Railway'. Available online: https://www.railscot.co.uk/companies/G/Grand_Junction_Railway/ (Accessed April 2022).

Roman Roads Research Association (2018a) 'The Roman Road from Chester to Wilderspool'. Available online: <https://www.romanroads.org/gazetteer/cheshire/M701.htm> (Accessed April 2022).

Roman Roads Research Association (2018b) 'Possible Roman Roads'. Available online: <https://www.romanroads.org/gazetteer/cheshire/Mpossibles.htm> (Accessed May 2022).

Roman Roads Research Association (2018c) 'The Cheshire North Ridge Roman Road'. Available online: <https://www.romanroads.org/gazetteer/cheshire/M70aa.htm> (Accessed June 2022).

RSK (2017) *Plot 9, Biomass Renewable Energy Plant, Ince Resource Recovery Park: Letter Report for Archaeological Mitigation (Areas A and D)*. Unpublished report.

Salt Association (no date) 'The History of Salt'. Available online: <https://saltassociation.co.uk/education/salt-history/> (Accessed May 2022).

Soilscapes (no date). Available online: <http://www.landis.org.uk/soilscapes/> (Accessed April 2022).

Stafford Borough Council (2014) 'The Trent and Mersey Canal Conservation Area Appraisal'. Available online: <https://www.staffordbc.gov.uk/live/Documents/Planning%20Policy/Conservation/Conservation%20Areas/Conservation%20Areas%20List/Trent-and-Mersey-Canal-Conservation-Area-Appraisal-2014.pdf> (Accessed May 2022).

Trafford Council (2020) 'History of Dunham Woodhouses'. Available online: <http://www.traffordparishes.gov.uk/Dunham/dunham-massey-parish-council/history-of-dunham-woodhouses.aspx> (Accessed May 2022).

University of Salford (2020) *Historic Environment Assessment: GMSF Land Allocations, Trafford*. Unpublished Report prepared for Trafford Council.

Wainwright, S. (2020) 'An Illustrated History of Old Sutton in St Helens, Lancashire'. Available online: https://www.suttonbeauty.org.uk/suttonhistory/sutton_halls_houses/ (Accessed May 2022).

Warrington Guardian (2021) 'Historic hall gutted by fire is on 'at risk' register'. Available online: <https://www.warringtonguardian.co.uk/news/19218657.historic-hall-gutted-fire-at-risk-register/> (Accessed April 2022).

Wilson, D.R. (2000) *Air Photo Interpretation for Archaeologists*, 2nd edition. Stroud: Tempus.

Wright, D. (2015) 'Shaping Rural Settlements: The Early Medieval Legacy to the English Village', *Landscapes* 16, 2. Pp. 105-125.

HyNet North West Hydrogen Pipeline

Delivering clean growth

Cadent
Your Gas Network