A46 Newark Bypass

TR010065/APP/6.3

6.3 Environmental Statement

Appendix 6.1 Cultural Heritage Desk Based Assessment

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

Volume 6

March 2025

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

A46 Newark Bypass

Development Consent Order 202[x]

ENVIRONMENTAL STATEMENT

APPENDIX 6.1 CULTURAL HERITAGE DESK BASED ASSESSMENT

Regulation Number:	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010065
Application Document Reference	TR010065/APP/6.3
Author:	A46 Newark Bypass Project Team, National Highways

Version	Date	Status of Version
Rev 1	March 2024	DCO Application
Rev 2	August 2024	Submitted pre-Examination to include Appendices D - K
Rev 3	March 2025	Deadline 7 Submission

Contents

1 Introduction 1
1.1 Scheme overview 1
1.2 Cultural heritage assessment undertaken to date 2
2 Legislation, policy and guidance 4
2.2 Overarching legislation 4
2.3 National policy 5
2.4 Local and regional policy 9
2.5 Standards and Guidance 11
3 Methodology 14
3.1 Cultural heritage resource 14
3.2 Assessment aims 14
3.3 Study areas 15
3.4 Baseline research 16
3.5 Consultation 17
3.6 Assessment methodology 23
3.7 Assumptions and limitations 28
4 Baseline 31
4.1 Overview 31
4.2 Designated heritage assets 32
4.3 Non-designated heritage assets 47
4.4 Geology and topography 57
4.5 Geoarchaeological background 58
4.6 Historic landscape character 63
4.7 Map regression 65
4.8 Remote sensing 68
4.9 Site walkover 69
4.10 Archaeological surveys 73
4.11 Archaeological and historical background 83
5 Archaeological potential 98
5.1 Archaeological potential by period 98
6 Conclusion 102
6.1 Overview 102

6.2 Potential impacts 102
6.3 Mitigation 103

7 References 104
7.1 Legislation, policy & guidance 104
7.2 Secondary Sources 105
7.3 Web sources 109
7.4 Cartographic sources 110
7.5 Other Archives 111

Appendix A: Gazetteer of heritage assets 112
A.1 Designated heritage assets recorded within 1km of the Scheme 112
A.2 Non-designated heritage assets recorded within 500m of the Scheme 112
A.3 Archaeological events recorded within 500m of the Scheme 112

Appendix B: Drawings 173
B.1 Location of the Scheme Order Limit and study areas 174
B.2 Location of designated heritage assets recorded within 1km of the Scheme (Sheets 1 to 15) 175
B.3 Location of non-designated heritage assets recorded within the 500m of the Scheme (Sheets 1 to 21) 176
B.4 Location of archaeological events recorded within the 500m of the Scheme (Sheets 1 to 16) 177

Appendix C: Scoping exercise 178
C.1 Scoping exercise for designated assets within 1km of the Scheme ... 179
C.2 Scoping exercise for non-designated assets within 500m of the Scheme 199

Appendix D: Fieldwalking Survey Report of Lands along the A46 Newark Bypass 215

Appendix E: Metal Detecting Survey Report of Lands along the A46 Newark Bypass 216

Appendix F: Geophysical Survey Report of Lands along the A46 Newark Northern Bypass 217

Appendix G: Addendum to Geophysical Survey Report of Lands along the A46 Newark Bypass 218

Appendix H: Archaeological and geoarchaeological monitoring of Ground Investigations 219

Appendix I: Regional Delivery Partnership A46 Newark Bypass. Geoarchaeological Desk Based Assessment 220

Appendix J: A46 Newark Bypass, Nottinghamshire: Written Scheme of Investigation for Archaeological Watching Brief of Ground Investigation Works 221

Appendix K: A46 Newark Bypass Geoarchaeological Coring Interim Report..... 222

1 Introduction

1.1 Scheme overview

1.1.1 This cultural heritage desk-based assessment (DBA) has been prepared to inform and support Chapter 6 (Cultural Heritage) of the Environmental Statement (ES) [APP-050]. This DBA has been prepared to provide a detailed assessment of the cultural heritage resource and sensitivities within the Order Limits of the Scheme and explores the potential effects the Scheme may have upon this resource.

Scheme location

1.1.2 The A46 Newark Bypass Scheme is located along a stretch of the A46 between Farndon and Winthorpe to the west of Newark-on-Trent, Nottinghamshire. The Farndon Roundabout is located at the western extent of the Scheme where the B6166 Farndon Road joins the A46. The Winthorpe Junction is located at the eastern extent where the A1133 joins the A46. Along its route, it crosses A617 and B6326, at the Cattle Market Junction, and A1 between the Friendly Farmer and Brownhills Roundabouts. The Scheme location is illustrated in Chapter 2 (The Scheme) of the ES [APP-046].

Scheme background

1.1.3 The A46 forms part of the strategic Trans-Midlands Trade Corridor between the M5 in the south-west and the Humber Ports in the north-east. The A46 Newark Bypass is an important route connecting the M1 and Leicester to the A1 and central Lincolnshire. The road is a mixture of dual and single carriageway with multiple roundabouts. The stretch of A46 between the Farndon Junction, to the west of Newark and the A1 to the east of Newark, is the last remaining stretch of single carriageway between the M1 and A1 and consequently queuing traffic is a regular occurrence, often impacting journey time reliability.

1.1.4 To alleviate congestion and improve road safety and accessibility, the Scheme proposes to upgrade the existing section of the A46 between Farndon and Winthorpe from a single carriageway to a dual carriageway.

Scheme description

1.1.5 The section of the A46 that is to be upgraded is approximately 6.5 kilometres in length. The Scheme comprises on-line widening for the majority of its length between Farndon roundabout and the A1. A new section of offline dual carriageway is proposed between the western and eastern sides of the A1 before the new dual carriageway ties into the existing A46 to the west of Winthorpe Roundabout. The widening works include earthwork widening along the existing embankments, and new structures where the route crosses the railway lines, River Trent and the A1.

1.1.6 A new grade separated junction will be provided at Cattle Market Roundabout with improvements proposed at both the Farndon and Winthorpe Roundabouts.

1.1.7 Three areas have been identified for floodplain compensation which are being referred to as Kelham and Averham Floodplain Compensation Area (FCA), Farndon West FCA and Farndon East FCA.

1.1.8 A detailed description of the Scheme is contained within Chapter 2 (The Scheme) of Volume 6.1 of the ES.

1.2 Cultural heritage assessment undertaken to date

1.2.1 During earlier Options Appraisal stages of the Scheme, cultural heritage assessments concluded that there was high potential for encountering multi-period archaeological remains spanning the prehistoric to modern periods within the Order Limits of the Scheme. It was concluded that the Scheme options were likely to have major adverse impacts on known and as-yet unknown archaeological remains.

1.2.2 To fully identify and evaluate these remains, as well as to minimise any harm done, additional archaeological works were recommended as part of the essential mitigation to inform the Preliminary Design. These recommendations included the production of a cultural heritage DBA (this document) and an Archaeological Management Plan (AMP) [REP5-026], to be developed in consultation with cultural heritage stakeholders to provide guidance and structure to the archaeological works commensurate with their sensitivity.

1.2.3 Following the preferred route announcement (March 2022), an Environmental Scoping Report was submitted to the Planning

Inspectorate[1] and a Preliminary Environmental Information Report (PEIR)[2] was prepared to support the statutory consultation for the Scheme which took place in Autumn of 2022. These reports detailed the scope of the cultural heritage assessment to be undertaken to support the DCO application.

[1] National Highways (2022) Regional Delivery Partnership: A46 Newark Bypass Environmental Scoping Report, August 2022 [online] available at: TR010065-000002-A46N - Scoping Report.pdf (planninginspectorate.gov.uk) (last accessed July 2024).

[2] National Highways (2022) Regional Delivery Partnership: A46 Newark Bypass Preliminary Environmental Information Report, October 2022 [online] available at: Preliminary Environmental Information Volume 1 Main Report.pdf (citizenspace.com) (last accessed July 2024).

2 Legislation, policy and guidance

2.1.1 This DBA has been prepared in cognisance of all pertinent cultural heritage legislation, policy and guidance. Those of particular relevance are discussed below.

2.2 Overarching legislation

Ancient Monuments and Archaeological Areas Act, 1979

2.2.1 This act[3] sets out the protection given to ancient monuments, also referred to as Scheduled Monuments. The act relates to the investigation, preservation and recording assets of archaeological and historic interest. The Secretary of State for Culture, Media and Sport compiles the Schedule of these monuments.

2.2.2 This act is relevant as the Scheme has potential to effect scheduled monuments and important archaeological deposits.

Planning (Listed Buildings and Conservation Areas Act) 1990

2.2.3 This act[4] sets out the protection given to buildings of special architectural or historic interest through listing. The Secretary of State compiles this list and buildings can be conferred with one of three grades.

- Grade I buildings are of exceptional interest and only 2.5% of listed buildings are conferred with this status;
- Grade II* buildings are particularly important buildings of more than special interest and only 5.8% of listed buildings have this designation; and
- Grade II buildings are of special interest and 91.7% of all listed buildings are in this class.

2.2.4 It also sets out the process for designation of conservation areas. Conservation areas are designated by local planning authorities. They are considered to be areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance.

[3] UK Government (1979) Ancient Monuments and Archaeological Areas Act 1979 [online] available at: Ancient Monuments and Archaeological Areas Act 1979 (legislation.gov.uk) (last accessed December 2023).

[4] UK Government (1990) Planning (Listed Buildings and Conservation Areas) Act 1990 [online] available at: Planning (Listed Buildings and Conservation Areas) Act 1990 (legislation.gov.uk) (last accessed December 2023).

2.2.5 This act is relevant as the Scheme has potential to effect listed buildings and conservation areas.

The Infrastructure Planning (Decisions) Regulations Act, 2010

2.2.6 This act[5] sets out a list of matters to which the Secretary of State for Culture, Media and Sport must have regard when taking decisions on applications for certain types of nationally significant infrastructure projects. Relevant to cultural heritage is Section 3 (Listed Buildings, conservation areas and scheduled monuments) which states:

- When deciding an application which affects a listed building or its setting, the decision-maker must have regard to the desirability of preserving the listed building or its setting or any features of special architectural or historic interest which it possesses;
- When deciding an application relating to a conservation area, the decision-maker must have regard to the desirability of preserving or enhancing the character or appearance of that area; and
- When deciding an application for development consent which affects or is likely to affect a scheduled monument or its setting, the decision-maker must have regard to the desirability of preserving the scheduled monument or its setting.

2.2.7 This act is relevant as the Scheme has potential to effect listed buildings, conservation areas and scheduled monuments.

2.3 National policy

National Policy Statement for National Networks

2.3.1 The National Policy Statement for National Networks (NPSNN) sets out the policy which the Scheme should comply with. It is also the basis for informing a judgement on the impacts of a Scheme, for example whether the Scheme is consistent with the needs of the NPSNN. Compliance of the Scheme with the 2015 NPSNN is detailed within the NPSNN (2015) Accordance Table [REP6-016].

2.3.2 At the time of the DCO application submission in April 2024, a Draft NPSNN (2024) Accordance Table [APP-192] was submitted with the application which summarised compliance of the Scheme with the draft NPSNN. This was because, even though the NPSNN 2024 was still in draft at that time (having been published for consultation in March 2023), it was still capable of constituting a material

[5] UK Government (2010) The Infrastructure Planning (Decisions) Regulations Act 2010 [online] available at: The Infrastructure Planning (Decisions) Regulations 2010 (legislation.gov.uk) (last accessed December 2023).

consideration in the Secretary of State's decision on the Application. As the 2024 NPSNN was designated on 24 May 2024, the Draft NPSNN (2024) Accordance Table [APP-192] has been superseded by the NPSNN (2024) Accordance Table [REP5-032], which assesses the Scheme against the designated 2024 NPSNN. The application for development consent for the Scheme was accepted for examination on 23 May 2024. As set out in the transitional provisions of the 2024 NPSNN (paragraphs 1.16 and 1.17), the 2015 NPSNN has effect for any application for development consent accepted for examination prior to 24 May 2024 and will inform decisions made by the Secretary of State in relation to those applications. However, it is noted that the 2024 NPSNN may still be an important consideration for the Secretary of State for Transport when determining whether to consent the DCO for this Scheme. Therefore, the NPSNN (2024) Accordance Tables [REP5-032] summarised compliance of the Scheme with the 2024 NPSNN.

2.3.3 The policies of relevance to cultural heritage within the 2015 NPSNN and detail on how they have been addressed in the assessment are provided below.

2.3.4 Chapter 5, paragraphs 5.120 to 5.142 (The historic Environment) of the 2015 NPSNN sets out the Government's approach for impact assessment, decision making and recording for the historic environment[6]. Most relevant to this assessment are paragraph's 5.126 and 5.127 outlined below:

- Paragraph 5.126 - *Where the development is subject to EIA the applicant should undertake an assessment of any likely significant heritage impacts of the proposed project as part of the Environmental Impact Assessment and describe these in the environmental statement; and*
- Paragraph 5.127 - *The applicant should describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the asset's importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant Historic Environment Record should have been consulted and the heritage assets assessed using appropriate expertise. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, the applicant should include an appropriate desk-based assessment and, where necessary, a field evaluation*.

[6] All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora [online] available at: National Planning Policy Framework - Annex 2: Glossary - Guidance - GOV.UK (www.gov.uk) (last accessed December 2023).

2.3.5 Chapter 5, paragraphs 5.131 to 5.135 of the 2015 NPSNN set out the approach for considering the impacts to designated heritage assets. It specifically states:

- Paragraph 5.131 – *When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State should give great weight to the asset's conservation. The more important the asset, the greater the weight should be;*
- Paragraph 5.1.132 – *Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater the harm to the significance of the heritage asset, the greater the justification that will be needed for any loss; and*
- Paragraph 5.1.134 – *Where the proposed development will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.*

2.3.6 The requirements of the 2015 NPSNN in relation to identifying the significance of heritage assets and assessing and mitigating the effects of the Scheme on such assets have been taken into account, in order to identify the likely significant effects that the Secretary of State needs to give due regard to in their decision-making.

National Planning Policy Framework, 2024

2.3.7 The National Planning Policy Framework (NPPF)[7] sets out the Government's planning policy framework for the whole of England, including the Government's expectation for content and quality of planning applications and local plan policy. The overall strategic aims of the NPSNN and NPPF are consistent. The NPPF may be an important and relevant matter but does not form the basis for a decision on an NSIP.

2.3.8 Chapter 16 (paragraphs 202-221) of the NPPF sets out a framework for the management of the historic environment and provides guidance for proposals affecting heritage assets.

2.3.9 The Scheme has the potential to effect both designated and non-designated heritage assets and a such the following policy paragraphs have been taken into account as part of this assessment:

2.3.10 Paragraph 207 - *In determining applications, local planning authorities should require an applicant to describe the significance of any*

[7] Ministry of Housing, Communities and Local Government (December 2024) National Planning Policy Framework [online] available at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf (last accessed March 2025)

heritage assets affected, including any contribution made by their setting. The level of detail submitted should be proportionate to the assets importance and no more than is sufficient to understand the potential impact of the proposal on their significance.

2.3.11 Paragraph 210 – *In determining applications, local planning authorities should take account of:*

a) *The desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation.*

b) *The positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality.*

c) *The desirability of new development making a positive contribution to local character and distinctiveness.*

2.3.12 Paragraph 212 - *When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.*

2.3.13 Paragraph 213 - *Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:*

- *Grade II listed buildings, or grade II registered parks or gardens, should be exceptional; and*
- *Assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and grade II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.*

2.3.14 Paragraph 215 - *Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.*

2.3.15 Paragraph 216 - *The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighting applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.*

2.3.16 The requirements of the NPPF have been accounted for in the assessment, with particular regard given to establishing the

significance of designated and non-designated assets and their settings to inform decision making.

25 Year Environment Plan, 2018 and updated 2023

2.3.17 The Department for Environment, Food & Rural Affairs (Defra) 25 Year Environment Plan (2018)[8] is a policy paper setting out what the Government will do to improve the environment, including restoring and safeguarding wildlife habitats. This plan is being treated as the first Environmental Improvement Plan required under the Environment Act 2021. The first revision of the 25 year plan 'Environmental Improvement Plan' was published in February 2023.[9]

2.3.18 The plan sets out aims to conserve and enhance the natural beauty, heritage and engagement of our natural environment, and make sure it can be enjoyed, used and cared for by everyone. One of the ways the plan does this through safeguarding and improving environmental value while being sensitive to considerations of its cultural heritage.

2.3.19 The plan has been accounted for in the assessment, with particular regard given to identifying the significance of heritage assets and assessing the effects of the Scheme on such assets.

2.4 Local and regional policy

Nottinghamshire County Council – The Nottinghamshire Plan 2021-2031

2.4.1 The Nottinghamshire Plan 2021-2031 presents the councils ten-year vision for Nottinghamshire and a summary of what will be done over the next four years to bring that vision to life.

2.4.2 Cultural heritage protection and enhancement is addressed within Ambition 5 (*Strengthening businesses and creating more good-quality jobs*) and Ambition 6 (*Making Nottinghamshire somewhere people love to live, work and visi*t) of the plan. These ambitions are further detailed in the Nottinghamshire County Council's Annual Delivery Plan for 2022/23.[10]

[8] HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment [online] available at: https://www.gov.uk/government/publications/25-year-environment-plan (last accessed December 2022).

[9] HM Government (2023) Environment Improvement Plan 2023; First revision of the 25 Year Environment Plan.[online] available at: Environmental Improvement Plan (publishing.service.gov.uk) (www.gov.uk) (last accessed December 2023).

[10] Nottinghamshire County Council (2021) Annual Delivery Plan 2022/23 [online] available at: Document.ashx (nottinghamshire.gov.uk) (last accessed December 2023).

2.4.3 To achieve these ambitions the council will deliver the following actions in relation to cultural heritage:

- Action 5.4 - *Review the Visitor Economy Strategy, to support and grow the heritage and tourism sector, making Nottinghamshire a destination of choice and bringing investment into the County*.
- Action 6.4 - *Work to achieve 'favourable management' status for heritage sites, meaning that important sites are conserved for the future*;
- Action 6.10 - *Work with partners on the County's special landscapes and heritage buildings, to attract investment and protect them from neglect, decay, or from unsuitable or unsympathetic developments*; and
- Action 6.11 - *Use libraries and heritage buildings to share art and local heritage, so that residents and visitors can learn about and enjoy Nottinghamshire's unique stories*.

2.4.4 The plan has been accounted for in the assessment and has informed stakeholder engagement and the recommendations and mitigation measures set out within Chapter 6 (Cultural Heritage) of the ES [APP-050].

Newark & Sherwood District Council - Newark & Sherwood Plan Review – Amended Core Strategy, 2019

2.4.5 The Amended Core Strategy[11] sets out Newark & Sherwood District Council's spatial policy framework for delivering the development and change needed to realise the District Council's vision for the district up to 2033. The document sets out spatial and core strategies for the protection of heritage assets.

2.4.6 Of particular relevance to cultural heritage is Core Policy 14 (Historic Environment), which sets out how the District Council will work with partners and developers in order to:

- *secure the continued conservation and enhancement of the character, appearance and setting of the District's heritage assets and historic environment, in line with their identified significance as required in national policy;*
- *preserve and enhance the special character of Conservation Areas and important open spaces and features identified through the Conservation Area Appraisal process through allocation in the Allocations & Development Management DPD;*

[11] Newark & Sherwood District Council (2019) Amended Core Strategy [online] available at: amended-core-strategy-DPD.pdf (newark-sherwooddc.gov.uk) (last accessed December 2023).

- *positive action for those heritage assets at risk through neglect, decay, vacancy or other threats where appropriate; and*
- *protection of Historic Landscapes by working in partnership with the Court Leet, the Crown Estates and the Parish Council. Appropriate new development which facilitates these aims will be supported.*

2.4.7 Within the Amended Core Strategy further consideration is given to cultural heritage within Core Policies 5, 7 and 14 and Spatial Policies 3 and 9.

2.4.8 The strategy has been accounted for in the assessment and has informed stakeholder engagement and the recommendations and mitigation measures set out within Chapter 6 (Cultural Heritage) of the ES [APP-050].

National Highways policy

2.4.9 Cultural heritage is one of the environmental topic areas where the six strategic levers of National Highways' Environment Strategy[12] will be applied. These strategic levers include:

- leadership and culture;
- health, safety and wellbeing;
- engaging stakeholders;
- design quality;
- asset knowledge; and
- appraisal, evaluation and performance.

2.4.10 The strategic levers have been developed in consultation with historic environment stakeholders and are relevant to this assessment as they make a contribution towards National Highways' environmental vision to protect and improve the environment during the operation, maintenance and improvement of their roads.

2.5 Standards and Guidance

2.5.1 The Chartered Institute for Archaeologists (CIfA), Historic England (HE), the Institute of Historic Building Conservation (IHBC) and the institute of Environmental Management and Assessment (IEMA) have produced a number of best-practice guidance documents which were consulted as part of this DBA. These include:

[12] Highways England (2017) Environment Strategy, Revision 1 [online] available at: Environment_Strategy__21___.pdf (publishing.service.gov.uk) (last accessed December 2023).

- CIfA (2020), Standard and Guidance for historic desk-based assessments[13]. This document defines good practice for the execution and reporting of DBAs. It sets out the requirements to determine, as far as reasonably possible, the nature, extent and significance of the historic environment within a specified area;
- HE (2008), Conservation Principles[14]. This document provides a framework and guidance for sustainable management of the historic environment;
- HE (2015), Good Practice Advice (GPA) in Planning Note 2: Managing Significance in Decision-Making Process[15]. This document outlines information to implement historic environment policy including assessing the significance of heritage assets;
- HE (2017), Good Practice Advice in Planning Notes 3: The Setting of Heritage Assets[16] This document outlines information to implement historic environment policy, specifically related to the assessment of setting and its contribution to the value of heritage assets;
- HE (2019), Advice Note 12: Statements of Heritage Significance: Analysing Significance in Heritage Assets[17]. This advice note provides information on the analysis and assessment of heritage significance, in line with NPPF;
- IEMA, CIfA, IHBC (2021), Principles of Cultural Heritage Impact Assessment in the UK. This document sets out guidance for understanding heritage assets and evaluating the consequence of change, through understanding change, assessing impact and weighting the effect;
- Transport Analysis Guidance (TAG) Environmental Impact Appraisal (TAG)18. This sets out guidance for appraising the impact of transport proposals on the environmental resource. The method for appraising cultural heritage is addressed within Chapter 8; and
- Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2019), National

[13] Chartered Institute for Archaeologists (2014, updated 2017) Standard and Guidance for desk-based assessment [online] available at: https://www.archaeologists.net/codes/cifa (last accessed December 2023).

[14] Historic England (2008) *Conservation principles policies and guidance for the sustainable management of the historic environment* [online] available at: Conservation Principles, Policies and Guidance | Historic England (last accessed December 2023).

[15] Historic England (2015) *Historic Environment Good Practice Advice in Planning Note 2 Managing Significance in Decision Taking in the Historic Environment* [online] available at: Managing Significance in Decision-Taking in the Historic Environment (historicengland.org.uk) (last accessed December 2023).

[16] Historic Environment (2017) *Historic Environment Good Practice Advice in Planning Note 3 The Setting of Heritage Assets 2nd ed.* [online] The Setting of Heritage Assets | Historic England (last accessed December 2023).

[17] Historic England (2019) Statements of Heritage Significance: Analysing Significance in Heritage Assets [online] available at https://historicengland.org.uk/images-books/publications/statements-heritage-significance-advice-note-12/ (last accessed December 2023).

18 Department for Transport (2022) Environmental Impact Appraisal [online] available at: TAG UNIT A3 Environmental Impact Appraisal (publishing.service.gov.uk) (last accessed December 2023).

Planning Guidance – Historic Environment[19]. This sets out guidance on enhancing and conserving the historic environment.

2.5.2 The heritage value criteria outlined in National Highways Design Manual for Roads and Bridges (DMRB) was also consulted as part of this DBA. The heritage value criteria is defined within the following guidance documents:

- LA 104 Environmental assessment and monitoring,[20] which sets out the requirements for environmental assessment of projects, including reporting and monitoring of significant adverse environmental effects; and
- LA 106 'Cultural Heritage,[21] which sets out the requirements for assessing and reporting the effects on cultural heritage as part of the environmental assessment process of construction, operation and maintenance projects.

[19] Department for Levelling Up, Housing and Communities (2019) National Planning Guidance, Historic Environment [online] available at: https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment (last accessed December 2023).

[20] National Highways (2020) DMRB LA 104 – Environmental Assessment and Monitoring, Revision 1 [online] available at: LA 104 - Environmental assessment and monitoring (standardsforhighways.co.uk) (last accessed December 2023).

[21] National Highways (2020) DMRB LA 106 – Cultural Heritage Assessment, Revision 1 [online] available at: LA 106 - Cultural heritage assessment (standardsforhighways.co.uk) (last accessed December 2023).

3 Methodology

3.1 Cultural heritage resource

3.1.1 Cultural heritage and historic environment are interchangeable terms used to describe all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.[22]

3.1.2 Heritage assets are buildings, monuments, sites, places, areas, or landscapes identified as having a degree of significance (termed value in this report)[23] meriting consideration in planning decisions, because of their heritage interest.[24] These assets include:

- Designated heritage assets which are afforded statutory protection, such as world heritage sites, scheduled monuments, listed buildings, registered park and gardens, registered battlefields protected wrecks and conservation areas; and
- Non-designated heritage assets including archaeological remains, historic buildings and historic landscapes defined by plan-making bodies as having a degree of heritage significance meriting consideration in planning decisions, but which do not meet the criteria for designated heritage assets.

3.2 Assessment aims

3.2.1 This DBA has been produced to identify heritage assets within a defined Scheme study area (see Section 3.3 below), determine the heritage value of these assets, and to understand the archaeological potential of the Scheme study area. It also assesses the impact of the Scheme on the value of heritage assets, and the known and potential archaeological deposits.

3.2.2 This DBA has supported the production of Chapter 6 (Cultural Heritage) of the ES [APP-050].

[22] Historic England (2023) Heritage Definitions [online], available at: https://historicengland.org.uk/advice/hpg/hpr-definitions/#cat_H (last accessed July 2024)

[23] The definition of heritage value used throughout this chapter can be found in paragraph 2.7.6 of this chapter.

[24] Historic England (2023) Heritage Definitions [online] available at: https://historicengland.org.uk/advice/hpg/hpr-definitions/#cat_H (last accessed July 2024).

3.3 Study areas

3.3.1 The study areas for cultural heritage have been defined in accordance with DMRB LA 106 Cultural heritage assessment[25] which states that the assessment shall define a study area according to the sensitivity of the environment and the potential impacts of the project. Where a new road or road improvement is proposed, the study area shall include the footprint of the Scheme (also referred to Order Limits) plus any land outside that footprint which includes any heritage assets which could be physically affected. The study area should also include the settings of any designated or other heritage assets in the footprint of the Scheme or within the zone of visual influence. The study areas are based on professional judgement and have been agreed as sufficient by the Nottinghamshire County Council Senior Practitioner Archaeology and the Newark & Sherwood District Council Historic Environment Officer to provide a comprehensive cultural heritage baseline for the proposed Scheme.

3.3.2 Due to the range of potential impacts, as well as the variety of heritage assets anticipated to be affected, the following study areas have been defined:

- An initial study area: a 500 metre buffer from the Order Limits of the Scheme has been defined to enable an understanding of all known non-designated heritage assets including archaeological remains, historic buildings and historic landscapes. It also informs the understanding for potentially as yet unknown buried archaeological remains. This study area includes the extent of any land-take required by the Scheme for construction activities; and
- An additional study area: a 1 kilometre buffer from the Order Limits of the Scheme has been defined to assess potential changes to the setting of designated heritage assets including scheduled monuments, listed buildings, registered parks and gardens and conservation areas[26]. While the Zone of Theoretical Visibility (ZTV) produced to support Chapter 7 (Landscape and Visual Effects) of the ES [APP-051] notes extensive views across the River Trent floodplain to and from the Scheme, it has been considered unlikely that heritage assets beyond 1 kilometre would have prominent or dominating views of the Scheme due to distance and nature of these assets, leading to the decision for a 1 kilometre study area.

3.3.3 The Scheme Order Limits and both the 500 metres and 1 kilometre study areas are illustrated in Appendix B, Drawing B.1 of this DBA.

[25] National Highways (2020) DMRB LA 106 – Cultural Heritage Assessment, Revision 1 [online] available at: LA 106 - Cultural heritage assessment (standardsforhighways.co.uk) (last accessed July 2024).

[26] No world heritage sites or registered battlefields are recorded within the Scheme study area.

3.4 Baseline research

3.4.1 The following actions were undertaken to produce the baseline that will inform this assessment:

- An examination of local, regional and national planning policies in relation to the historic environment;
- A search of the National Heritage List for England (NHLE) maintained by Historic England, for world heritage sites, scheduled monuments, listed buildings, registered parks and gardens and registered historic battlefields[27];
- A search of the Nottinghamshire Historic Environment Record (HER) database for both designated and non-designated heritage assets, Historic Landscape Characterisation (HLC) and results of previous archaeological investigations;
- An examination of the Archaeological Data Service (ADS)[28] digital repository for historic environment data;
- An examination of Historic England's Heritage at Risk, Midlands Register[29] for historic buildings and sites in Newark & Sherwood which are at risk of loss through neglect, decay or development, or are vulnerable to becoming so;
- An examination of local authority plans and documentation regarding conservation areas and archaeological priority areas;
- An examination of relevant published and unpublished archaeological and historic sources for example journals and historic records;
- An assessment of available cartographic evidence including a visit to Nottinghamshire Archives to inspect historic cartographic sources to understand the historic land use history of the study area, including Ordnance Survey, Tithe and earlier maps;
- A review of geological data for the study area including British Geological Survey (BGS) mapping[30], Geotechnical Investigation (GI) results[31] and associated geoarchaeological and archaeological

[27] Historic England (2023) The National Heritage List for England (NHLE): Search the List, [online] available at: https://historicengland.org.uk/listing/the-list (last accessed December 2023)

[28] Archaeological Data Service (2023) Search data, [online] available at: https://archaeologydataservice.ac.uk/search-data/ (last accessed December 2023)

[29] Historic England (2022) Heritage at Risk: Midlands Register, [online] available at https://historicengland.org.uk/images-books/publications/har-2022-registers/mid-har-register2022/ (last accessed December 2023)

[30] BGS (2023) BGS Geology Viewer, [online] available at: https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/ (last accessed December 2023)

[31] Tetra Tech (2022) A46 North Newark Bypass: Factual Ground Investigation Report, March 2022.

assessment[32] gathered during Options Appraisal, and the geoarchaeological DBA produced during Preliminary Design[33];
- An examination of available aerial photographs (vertical and oblique);
- An examination of Environment Agency lidar data[34];
- A review of archaeological survey results undertaken during the Preliminary Design by the archaeological contractor (Archaeological Management Solutions (AMS)) appointed for the Scheme. These surveys included metal detector[35], fieldwalking[36], geophysical survey[37], and geoarchaeological coring[38]; and
- A site walkover survey to ground truth above ground features identified through the DBA, and to understand the setting of the key heritage assets along the route.

3.5 Consultation

3.5.1 This assessment has been undertaken in consultation with cultural heritage stakeholders. While it is anticipated that some further specialist consultees will be included at later stages, key consultees at this stage of the project are:

- Newark & Sherwood District Council's Historic Environment Officer and Conservation Officer;
- Nottinghamshire County Council's Senior Practitioner Archaeology and Senior Practitioner Historic Buildings;
- Historic England's Inspector of Ancient Monuments and Development Advice Team Leader (North) Midlands; and
- Historic England's Science Advisor (East Midland).

3.5.2 Consultation during the Options Appraisal stage (which is further detailed in Chapter 3 (Assessment of Alternatives) of the ES [APP-047]) took place as best practice to inform the options, including consultation with Historic England and the Nottinghamshire County Council Senior Practitioner Archaeology. Consultation meetings in early 2021 between National Highways and the Nottinghamshire

[32] York Archaeological Trust (2022) A46 Newark North Bypass, Nottinghamshire. Archaeological and geoarchaeological monitoring of ground investigations, February 2022.

[33] AMS (2023) Regional Delivery Partnership A46 Newark Bypass, Geoarchaeological Desk Based Assessment, February 2023.

[34] Environment Agency (2021) National LIDAR Programme [online] available at: https://www.data.gov.uk/dataset/f0db0249-f17b-4036-9e65-309148c97ce4/national-lidar-programme (last accessed December 2023)

[35] AMS (2023) Metal Detecting Survey Report of Lands along the A46 Newark Northern Bypass. February 2023

[36] AMS (2023) Fieldwalking Survey Report of Lands along the A46 Newark Northern Bypass. February 2023

[37] AMS (2022) Geophysical Survey Report of Lands along the A46 Newark Bypass. October 2022; AMS (2023) Addendum to Geophysical Survey Report of Lands along the A46 Bypass. March 2023

[38] AMS (2023) A46 Newark Bypass. Geoarchaeological Coring Report, July 2023.

County Council Senior Practitioner Archaeology identified the need for continuity in the treatment of any new archaeological remains associated with the early prehistoric remains previously recorded at Farndon, as well as a need to understand the contributions of setting to the heritage value of the scheduled monuments pertinent to the Scheme, particularly as relating to the English Civil War.[39] This includes understanding how the scheduled monuments relate to the non-designated heritage assets from the same era, all of which combine to create a distinctive heritage for Newark associated with the English Civil War.

3.5.3 Following the preferred route announcement in February 2022, engagement continued with the Nottinghamshire County Council Senior Practitioner Archaeology. Previous consultation in early 2021 identified the need for an Archaeological Management Plan (AMP) to be produced for the selected route option. The aim of the document would be to act as an over-arching Written Scheme of Investigation (WSI) to guide the identification, evaluation, recording and preservation of archaeological remains impacted by the selected route option during construction and operation. On 2 March 2022 a meeting with the Nottinghamshire County Council Senior Practitioner Archaeology took place to discuss the scope of works to be covered by the AMP. During the meeting it was agreed that a programme of geophysical, metal detector and field walking surveys alongside a geoarchaeological desk-based assessment (referred to within the AMP [REP5-026] as Phase 1 works) would be undertaken to inform the baseline set out within both this document and Chapter 6 (Cultural Heritage) of the ES [APP-050]. This would be followed by a programme of site-based geoarchaeological coring and trial trenching (referred to within the AMP [REP5-026] as Phase 2 works) to enhance the baseline and inform the preparation of the archaeological mitigation strategy (referred to within the AMP [REP5-026] as Phase 3 works) for post consent investigations required during the pre-commencement and construction stages of the Scheme. The agreed scope for each completed phase of the investigations is documented within Chapters 4 and 5 of the AMP [REP5-026]. The aims, objectives and methodology for these investigations are set out within the task specific WSI's contained as Appendix A, B, C, D, E and F of the AMP [REP5-026]**.**

3.5.4 Subsequent to the March 2022 meeting with Nottinghamshire County Council, the Applicant was informed that the principal historic environment stakeholder for the Scheme would be Newark & Sherwood District Council. On 20 July 2022 the project team held an online introduction meeting with the Newark & Sherwood District

[39] The English Civil Wars comprised three wars, which were fought between Charles I and Parliament between 1642 and 1651. The wars were part of a wider conflict involving Wales, Scotland and Ireland, known as the Wars of the Three Kingdoms.

Council Historic Environment Officer to discuss the work undertaken to date and to present the scope for the metal detector, fieldwalking and geophysical surveys. Following this meeting the task specific WSIs for the Phase 1 preliminary surveys were issued to the Nottinghamshire County Council Senior Practitioner Archaeology and the Newark & Sherwood District Council Historic Environment Officer for approval. The WSI's were accepted prior to the commencement of the surveys and are contained within Appendix A, B and C of the AMP [REP5-026].

3.5.5 On 21 July 2022 an online meeting was held with Historic England and the Newark & Sherwood District Council Senior Conservation Officer to discuss the proposed visual receptors. The inclusion of additional receptors was discussed, and agreement reached on the visual receptors to inform the assessment.

3.5.6 On 5 August 2022 further engagement with the Newark & Sherwood District Council Senior Conservation Officer was undertaken to discuss the direct impacts to built heritage assets anticipated as a result of the Scheme, specifically two sections of the Grade II listed Causeway Arches (known locally as Smeaton's Arches) and the Averham, Kelham, Newark, and Winthorpe Conservation Areas. In this meeting the impact of the Scheme upon the wider setting of Newark-on-Trent as approached from the Great North Road was identified as requiring assessment. The potential impacts to the Causeway Arches were accepted and the modern repair work from vehicle crashes on the western parapet were noted. It was advised by the Newark & Sherwood District Council Conservation Officer that impacts should be restricted to the western side where possible.

3.5.7 As part of the Environmental Technical Working Group meeting on the 18 January 2023, further engagement took place with the Nottinghamshire County Council Senior Practitioner Archaeology and the Newark & Sherwood District Council Historic Environment Officer to present the results of the metal detector surveys, fieldwalking, and geophysical surveys undertaken in September 2022 and January and February 2023 and to present the scope for the proposed geoarchaeological assessment and subsequent trial trenching. It was noted by the Newark & Sherwood District Council Historic Environment Officer that the sparsity of metal finds from the Civil War period may be due to previous undeclared metal detecting in these areas. The Nottinghamshire County Council Senior Practitioner Archaeology also raised questions regarding the scope of the geoarchaeological assessment and agreement was made that a dedicated geoarchaeological session would be beneficial. Subsequent to this meeting a dedicated geoarchaeological session was arranged for February 2023.

3.5.8 On 9 February 2023 an online geoarchaeological review session took place, attended by the Nottinghamshire County Council Senior

Practitioner Archaeology, the Newark & Sherwood District Council Historic Environment Officer, and Historic England Inspector of Ancient Monuments for (North) Midlands. The aim of the session was to discuss the desk-based geoarchaeological assessment work undertaken to date, the scope for further site based geoarchaeological assessment and the proposed next steps. The conclusion of the meeting was that further site based geoarchaeological assessment would be required in order to fully understand the geoarchaeological potential of the Order Limits of the Scheme and to inform the impact assessment.

3.5.9 In February 2023 additional telephone conversations were had with the Newark & Sherwood District Council Senior Conservation Officer to understand the potential impacts of the Scheme on the Heritage at Risk Status of Newark Conservation Area and Newark Castle. The assets are deemed to be at risk from neglect and decay (the castle) and economic downturn (the Conservation Area). It was the opinion of the Newark & Sherwood District Council Conservation Officer that better connectivity to Newark-on-Trent could improve the economic resilience of the area, and lead to regeneration for historic sites. However, these assets were not assessed as having significant effects as a result of the current Scheme.

3.5.10 In response to several emails from the Nottinghamshire County Council Senior Practitioner Archaeology, an online geoarchaeological update session was held on 20 April 2023. The meeting was attended by the Nottinghamshire County Council Senior Practitioner Archaeology, the Newark & Sherwood District Council Historic Environment Officer, and Historic England Inspector of Ancient Monuments and Science Advisor for (North) Midlands. The aim of the session was to discuss the methodology for a programme of geoarchaeological coring to inform the cultural heritage assessment. The stakeholders raised concerns that the proposed number of cores was not sufficient to inform the assessment and that it would be beneficial to seek guidance from locally experienced geoarchaeologists based at York Archaeological Trust (YAT). Following the meeting, engagement with YAT was undertaken by the project team and a detailed WSI was produced for the geoarchaeological coring, which is contained within Appendix E of the AMP [REP5-026]. This WSI was issued to the Nottinghamshire County Council Senior Practitioner Archaeology and Newark & Sherwood District Council Historic Environment Officer for approval on 27 April 2023. The WSI was subsequently updated to take into account stakeholder review comments and was reissued and approved on 3 May 2023. Between 4 and 22 May 2023 a programme of geoarchaeological coring was undertaken to understand the geoarchaeological potential of the land within the Order Limits and inform the assessment of effects. The results of this investigation are

detailed within Appendix K of this DBA and summarised within Section 4.10 of this DBA.

3.5.11 On 3 May 2023, a further consultation was held with the Newark & Sherwood District Council Senior Conservation Officer. The purpose of the meeting was to confirm the assessment methodology and discuss assessed impacts and effects with stakeholders. Apologies were received from Historic England and the Nottinghamshire County Council Senior Practitioner Historic Buildings who were unable to attend the meeting. However, the meeting minutes and presentation have been emailed to Historic England and the Nottinghamshire County Council Senior Practitioner Historic Buildings for comment. The conclusion of the meeting was that the Newark & Sherwood District Council Senior Conservation Officer agreed in principle with the assessment of effects on built heritage and the Nottinghamshire County Council Senior Practitioner Historic Buildings, confirmed via email 22 June 2023 that they were in agreement with Newark & Sherwood District Council Conservation Officer and had no further comments to add.

3.5.12 On 8 June 2023 a further online consultation session was led by the project team and attended by the Nottinghamshire County Council Senior Practitioner Archaeology, the Newark & Sherwood District Council Historic Environment Officer, and Historic England Inspector of Ancient Monuments and Science Advisor for (North) Midlands. The aim of the session was to discuss the results of the geoarchaeological coring and the methodology and programming for the trial trenching and test pitting proposed for Autumn/Winter 2023. The stakeholders were happy with the progress made on the geoarchaeological investigations and agreed with the proposed methodology and programme for the trial trenching and test pitting as set out in Chapter 5 of the AMP [REP5-026]. The stakeholders asked for assurances that the trial trenching would be undertaken by suitably qualified and experienced archaeologists, that geoarchaeologists should be present during any excavation in areas of potential palaeolithic remains/deposits, and that field walking and hand dug test pits should be undertaken prior to trenching in areas of palaeolithic potential. This was accepted and assurances are secured within the task specific WSI contained within Appendix F of the AMP [REP5-026]. It was accepted that the results of the trial trenching, test pitting and palaeoenvironmental analysis and radiocarbon dating of samples taken during the geoarchaeological coring would be provided to stakeholders as part of the preparation of the Phase 3 archaeological mitigation strategy which will form Chapter 6 of the AMP [REP5-026]. The final issue raised during the meeting concerned the location of the temporary satellite compound at Farndon. The stakeholders revealed that significant palaeolithic deposits of national importance may be present at this location and their preference would be to relocate the compound to a different location. Agreement was made

to set up another meeting to discuss this issue further and assurances were made that the importance of these deposits and the potential impacts which may affect them, had been assessed within this chapter.

3.5.13 On 30 June 2023 an online archaeological session, focused on the Late Upper Palaeolithic (LUP) site at Farndon Fields, was led by the project team and attended by a representative for the Nottinghamshire County Council Senior Practitioner Archaeology, the Newark & Sherwood District Council Historic Environment Officer, and Historic England Inspector of Ancient Monuments for (North) Midlands. The aim of the session was to discuss the location of the temporary satellite compound at Farndon and to understand the archaeological mitigation requirements for this section of the Scheme. The stakeholders confirmed that as part of the 2009 Newark to Widmerpool Improvement Scheme, areas of 'preservation in-situ' had been established at Farndon Fields and as such there was potential for significant archaeological remains in the form of nationally important LUP flint scatters to be present in topsoil and subsoil deposits within the compound area. These areas of 'preservation in-situ' are not currently recorded within the Nottinghamshire HER and a review of the technical reports and Environmental Statement produced for the Widmerpool Improvement Scheme, do not illustrate these areas, as such it is unclear if the compound site falls within an area of 'preservation in-situ'. The conclusion of the meeting was that the stakeholders' preferred option would be for the compound site to be relocated to avoid disturbing archaeological remains which may be present in this location. Agreement was made for the project team to take some time to look into possible alternatives and to set up a second online session to discuss this before DCO submission. The Farndon satellite compound has now been relocated to the centre of the Farndon Roundabout based on the heritage concerns and as such there will no longer be any impact upon the Late Upper Palaeolithic (LUP) site at Farndon Fields. This change has been described further in Chapter 3 (Assessment of Alternatives) of the ES [APP-047].

3.5.14 On 20 September further consultation was undertaken with Skanska, the Newark & Sherwood District Council Senior Conservation Officer and the Nottinghamshire County Council Senior Practitioner Historic Buildings to discuss building recording, structural monitoring and proposed rebuild for the Causeway Arches 500m north-west of the Level Crossing (MM228), known locally as Smeaton's Arches. All parties were in agreement with the requirements were identified and the approach discussed as outlined in paragraph 6.10.5 of Chapter 6 (Cultural Heritage) of the ES [APP-050]. It was also agreed that, due to a further understanding of the engineering works, such measures are no longer required for or applied to the Causeway Arches 650m north-west of the Level Crossing (MM141) and this is reflected in the

impact assessment presented in Chapter 6 (Cultural Heritage) of the ES [APP-050].

3.6 Assessment methodology

3.6.1 This assessment has been undertaken in accordance with the Design Manual for Roads and Bridges (DMRB): LA104 Environmental assessment and monitoring[40]; and LA 106 Cultural heritage assessment[41], National Planning Practice Guidance – Historic Environment[42] alongside guidance set out in Section 3.5 of this DBA.

3.6.2 For the purpose of this assessment, both designated and non-designated heritage assets identified within the Scheme study areas have been divided into three types of cultural heritage asset:

- Archaeological remains, which include scheduled monuments, and non-designated archaeological remains;
- Historic buildings, which include listed and non-designated buildings and conservation areas; and
- Historic landscapes, which include registered parks and gardens and non-designated landscapes such as parkland.

3.6.3 Both temporary and permanent construction and operational effects on heritage assets, have been considered in this assessment. Temporary effects could arise from construction-related activities, whereas permanent effects can be either physical effects on the integrity of the asset or effects on their setting.

Scoping

3.6.4 An Environmental Scoping Report[43] has been prepared for the Scheme and this was submitted to the Planning Inspectorate in September 2022. For cultural heritage, Chapter 7 of the Environmental Scoping Report noted that due to the sensitivity of the cultural heritage resource, all non-designated heritage assets within 500 metres of the Scheme Order Limits, and all designated assets

[40] National Highways (2020) DMRB LA 104 – Environmental Assessment and Monitoring, Revision 1 [online] available at: LA 104 - Environmental assessment and monitoring (standardsforhighways.co.uk) (last accessed December 2023).

[41] National Highways (2020) DMRB LA 106 – Cultural Heritage Assessment, Revision 1 [online] available at: LA 106 - Cultural heritage assessment (standardsforhighways.co.uk) (last accessed December 2023).

[42] Department for Levelling Up, Housing and Communities (2019) National Planning Guidance, Historic Environment [online] available at: https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment (last accessed December 2023).

[43] Skanska Mott MacDonald (2022) Regional Delivery Partnership A46 Newark Bypass: Environmental Scoping Report [online] available at: TR010065-000002-A46N - Scoping Report.pdf (planninginspectorate.gov.uk) (last accessed July 2024).

within 1 kilometre of the Scheme Order Limits would be assessed, (hereafter referred to as the 'study area').

3.6.5 A high-level scoping exercise was undertaken as part of the Environmental Scoping Report due to the extent of the Scheme and the number of heritage assets identified within the study area. This enabled heritage assets which were clearly not going to be impacted by the Scheme due to the nature of their heritage value to be excluded from detailed assessment. It also allowed duplicated heritage assets to be grouped where there were multiple monument records for associated sites / finds, so that they would be subject to a single assessment.

3.6.6 As part of this DBA a further detailed scoping exercised was undertaken owing to changes to the Order Limits of the Scheme boundary and receipt of updated HER data. The results of this scoping exercise are detailed in Appendix C of this DBA.

Assessment of value/sensitivity (heritage value)

3.6.7 Within national planning policy and guidance, the value attributed to a cultural heritage asset is referred to as its 'significance'. To prevent confusion with EIA terminology regarding 'significance of effect' this assessment will use the phrase 'heritage value' in place of 'significance' when referring to heritage assets. The definition attributed to 'heritage value' remains unchanged from that attributed to 'significance' in national planning policy and guidance.

3.6.8 For the purposes of this DBA and Chapter 6 Cultural Heritage of the ES [APP-050], the assessment of heritage value has been based on professional judgement informed by the criteria outlined in Table 3-1 below. It takes into account the Secretary of State's non-statutory criteria for the scheduling of ancient monuments and principles of selection criteria for listed buildings, alongside Historic England Good Practice Advice: Note 2 Managing Significance in Decision-Taking in the Historic Environment[44] and Note 12 Statements of Heritage Significance: Analysing Significance in Heritage Assets.[45]

3.6.9 The contribution of the setting to the value of heritage assets was assessed in accordance with Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets.[46]

[44] Historic England (2015) Historic Environment Good Practice Advice in Planning Note 2 Managing Significance in Decision Taking in the Historic Environment [online] available at: Managing Significance in Decision-Taking in the Historic Environment (historicengland.org.uk) (last accessed December 2023).

[45] Historic England (2019) Statements of Heritage Significance: Analysing Significance in Heritage Assets [online] available at https://historicengland.org.uk/images-books/publications/statements-heritage-significance-advice-note-12/

[46] Historic Environment (2017) *Historic Environment Good Practice Advice in Planning Note 3 The Setting of Heritage Assets 2nd ed.* [online] The Setting of Heritage Assets | Historic England (last accessed December 2023).

3.6.10 The assessment has also considered that occasionally some heritage assets have a lower or higher than normal heritage value within a local context. The assessment of heritage value therefore needs to take into account the part of the cultural heritage asset that is being affected, and the ability of the cultural heritage asset to absorb change without compromising the understanding or appreciation of the historic environment.

Table 3-1 :Criteria for assessing heritage value

Value	Typical criteria
Very High	Very high importance and rarity, international scale. These include world heritage sites, heritage assets of acknowledged international importance and heritage assets that can contribute significantly to acknowledged international research objectives.
High	High importance and rarity, national scale. Scheduled monuments, grade I, II* and II listed buildings, registered parks and gardens, conservation areas and registered battlefields where the heritage asset and its setting retain archaeological, architectural, artistic and historic interest which contributes to their value. Non-designated monuments, sites or landscapes that can be shown to have specific nationally important qualities and heritage assets that can contribute significantly to national research objectives.
Medium	Medium importance and rarity, regional scale. Registered parks and gardens, conservation areas and registered battlefields where the heritage asset and its setting retain less archaeological, architectural, artistic and/or historic interest which contributes to a lesser extent of their value. Non-designated sites of regional importance identified through research or survey, monuments or sites that can be shown to have important qualities in their fabric or historical association.
Low	Low or medium importance and rarity, local scale. Non-designated assets – buildings, structures, monuments, or archaeological sites with a local importance for education or cultural appreciation, and which add to local archaeological and historic research. Very badly damaged assets that are of such poor quality that they cannot be classed as high or medium, parks and gardens of local interest
Negligible	Very low importance and rarity, local scale. Heritage resources identified as being of little archaeological, architectural, artistic or historic interest, heritage assets whose importance is compromised by poor preservation or survival or by contextual associations to justify inclusion into a higher grade.

Source: Adapted from DMRB (2020), LA 104 – Section 3 Environmental assessment methodology: Table 3.2.

Assessment of magnitude of impact

3.6.11 The magnitude of impact on heritage assets from the Scheme will be assessed in accordance with the criteria presented in Table 3-2.

3.6.12 The terminology set out in the NPSNN and NPPF lacks detail to enable in-depth consideration of the magnitude of impact on all heritage assets. Therefore, the application of a scale of impact (major, moderate, minor, negligible or none) which can be both harmful and beneficial, can be considered a suitable framework with which the magnitude of impact can be assessed, as outlined below in Table 3-2.

This is in line with standard EIA methodologies and best practice as presented in DMRB, LA104.

3.6.13 This methodology has been applied to the assessment within Chapter 6 (Cultural Heritage) of the ES [APP-050] to determine the level of impact on each individual heritage asset.

Table 3-2: Criteria for assessing the magnitude of impact

Magnitude		Criteria
Major	Adverse	Total loss or fundamental alteration to a heritage asset's value or setting. Addition of new features that substantially and detrimentally alter the setting of a heritage asset.
	Beneficial	Changes that are extremely beneficial to the heritage value of the asset. Comprehensive changes to the setting of the asset which greatly reveal and enhance its heritage value.
Moderate	Adverse	Partial loss or alteration to a heritage asset or its setting. Addition of new features that form largely inconspicuous elements in the setting of a heritage asset to the extent that its significance is slightly impacted.
	Beneficial	Changes that are beneficial to the heritage value of the asset. Changes that result in the setting of the asset being noticeably enhanced and improving the ability to understand the asset and its historic context and setting.
Minor	Adverse	Minor loss of an element of a heritage asset or its setting. Addition of new features that form largely inconspicuous elements in the setting of a heritage asset to the extent that its significance is slightly impacted.
	Beneficial	Changes that have a limited benefit to the heritage value of the asset. Changes to the setting of the asset which have a slight beneficial impact on heritage value and enhance the ability to understand the asset its historic context and setting.
Negligible	Adverse	Very minor loss of elements of a heritage asset or its setting. Addition of new features that do not alter the setting of a heritage asset.
	Beneficial	Very minor enhancements to the heritage asset or its setting that help slightly to better reveal the asset's heritage value.
No change		No change to the heritage asset.

Source: Adapted from DMRB (2020), LA 104 –Environmental assessment and monitoring Revision 1: Table 3.4N.

Assessment of significance of effect

3.6.14 The significance of effect has been established by combining the assessment of both the heritage value of a cultural heritage asset, with the magnitude of the impact. This allows the prediction of the significance of the effect, as shown below in Table 3-3.

3.6.15 Table 3-3, where there are two potential outcomes, professional judgement is used to determine which is the more appropriate. These effects can be beneficial or adverse, and temporary or permanent, depending on the nature of the development, mitigation measures, and any enhancement measures proposed. In accordance with

DMRB guidance, moderate, large, or very large effects are considered significant in terms of EIA.

Table 3-3: Criteria for assessing significance of effect

Magnitude of impact						
Value / sensitivity		No Change	Negligible	Minor	Moderate	Major
	Very High	Neutral	Slight	Moderate / Large	Large / Very Large	Very Large
	High	Neutral	Slight	Moderate / Slight	Moderate / Large	Large / Very Large
	Medium	Neutral	Neutral / Slight	Slight	Moderate	Moderate / Large
	Low	Neutral	Neutral / Slight	Neutral / Slight	Slight	Slight / Moderate
	Negligible	Neutral	Neutral	Neutral / Slight	Neutral / Slight	Slight

Source: Adapted from DMRB LA 104 - Section Environmental assessment and monitoring Revision 1: Table 3.8.1

Total loss, substantial harm and less than substantial harm

3.6.16 Paragraphs 5.128 to 5.136 of the 2015 NPSNN and paragraphs 212-216 of the NPPF outline the process of decision-making that should be considered by the Secretary of State when determining an application.

3.6.17 Paragraph 5.1.132 of the 2015 NSPNN requires that "*any harmful impacts on the value of heritage assets should be weighed against the public benefit of development, recognising that the greater the harm to the significance of the heritage asset, the greater the justification that will be needed for any loss*".

3.6.18 Paragraph 5.1.133 of the 2015 NSPNN states "*where the proposed development will lead to "substantial harm" to, or total loss of significance of a designated heritage asset, consent should be refused unless it can be demonstrated that the substantial harm or loss of value is necessary in order to deliver substantial public benefits that outweigh that loss or harm*".

3.6.19 Paragraph 5.1.134 of the 2015 NSPNN states where the proposed development will lead to "*less than substantial harm" to the value of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use*".

3.6.20 Paragraph 216 of the NPPF states that when "*weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset*". In line with paragraph 5.124 of the 2015 NPSNN, non-designated heritage assets

of archaeological interest that are demonstrably of equivalent significance (heritage value) to scheduled monuments, should be considered subject to the policies for designated heritage assets, and should be protected. Those of lower heritage value that are removed or partially removed will be recorded in line with paragraphs 5.139 to 5.142 of the 2015 NSPNN.

3.6.21 The assessment criteria, described above, considers the significance of effect caused by an impact to a heritage asset. A significant effect to a designated heritage asset may not always result in substantial harm and there is not a direct correlation between the two assessments. The measure of substantial harm is high. This can include significant physical impacts or alteration to setting, such that its heritage value is substantially altered. Professional judgement based on experience has been used to determine whether the development proposes substantial or less than substantial harm to relevant designated assets. This is defined during the assessment.

3.7 Assumptions and limitations

3.7.1 The assessment has been based on the Scheme description and construction strategy presented in Chapter 2 (The Scheme) of the ES [APP-046] and has taken into account the lateral limits of deviation illustrated on the Works Plans [REP3-002] and vertical limits of deviation secured under Article 10 of the draft DCO [REP6-004] in order to establish a realistic worst case assessment scenario.

3.7.2 The assessment is reliant on available data. Designated heritage asset data taken from the National Heritage List for England (NHLE) as maintained by Historic England, and is up to date as of June 2023. Non-designated heritage asset data is taken from Nottinghamshire Historic Environment Record (HER), which was acquired in August 2022. This data has been used to provide a background to the surveys undertaken and to inform the Scheme development. A continuous process of stakeholder consultation has been undertaken which has highlighted additional archaeological assets and survey work.

3.7.3 There are three main record types recorded within the HER dataset. These include Buildings, Monuments and Elements. All of the Building and Monument records have been included within the Gazetteer in Appendix A of this DBA, except for findspots, documentary reference and map depictions. This is based on a lack of contextual information to define these records as discrete sites to assess a potential impact.

3.7.4 Element records have been rapidly reviewed to determine if these can be recognised as discrete sites and therefore be included within the Gazetteer (Appendix A). The rational for this review is as follows:

- If an Element record is linked to a Monument record then it is not included in the Gazetteer, but the association is noted;
- Element records not linked to a Monument record have been reviewed for associations with a parent Monument record based on linked event records or given name. For example Element records relating to excavation areas at Newark Castle are not included in the Gazetteer, but are grouped with that particular parent Monument record); and
- Element records with no obvious links to other Monument records are included in the Gazetteer as they are recognised as discrete sites and therefore have a potential for impact.

3.7.5 Data has been gathered from a series of non-intrusive and intrusive archaeological surveys undertaken by the appointed archaeological contractor. These surveys conformed to the scope set out in Phase 1 (Non-Intrusive Survey) and Phase 2 (Intrusive Survey) of the AMP [REP5-026]. The surveys included a programme of metal detector, fieldwalking and geophysical survey and geoarchaeological assessment. The surveys were conducted according to specific Written Schemes of Investigation created for each survey by the appointed archaeological contractor and approved by the Stakeholders prior to the commencement of work. The results of these surveys are summarised in Chapter 4 below and the technical reports produced for these surveys are presented in Appendices D to K of this DBA.

3.7.6 An assessment of the potential for unknown archaeology based on available information has been undertaken as part of this ES chapter. The conclusions of the ES are based on this assessment, which presents the most likely worst-case scenario in the event that buried archaeology is unearthed. However, a programme of archaeological trial trenching and test pitting investigations will be undertaken as part of the Phase 2 (Intrusive Survey) works outlined within the AMP [REP5-026]. The results will help to develop specific post consent mitigation measures to be detailed within Phase 3 archaeological mitigation strategy, which will form Chapter 6 of the AMP, which is secured by requirement 9 of the draft DCO [REP6-004]. This approach has been accepted by heritage stakeholders including Nottinghamshire County Council, Newark & Sherwood District Council and Historic England (see Section 3.5 for further details).

3.7.7 At the time of writing this assessment there was no local heritage list for Newark & Sherwood District Council. As such locally listed heritage assets have not been considered within this assessment.

3.7.8 The assessment has noted that the grade II listed Causeway Culvert 420 metres north-west of Level Crossing (MM389) was located in the wrong place on Historic England mapping. This was agreed during a meeting with the Newark & Sherwood District Council Conservation

Officer in July 2022. It is noted that the most recent online Historic England mapping now shows the culvert in the correct location.

3.7.9 The results of the geophysical survey undertaken to inform the Scheme (see Appendices have been processed and reviewed by experienced geophysicists. The patterns and signal strengths are used to interpret the data using professional judgement and experience alongside the archaeological background. As per European Archaeological Council (EAC) guidelines a level of confidence is given alongside these interpretations. It is assumed that these interpretations are correct until proved or otherwise by intrusive survey.

3.7.10 Previous undeclared metal detecting across the Scheme study area may have removed significant finds without record. Therefore, we have considered this potential source of bias in interpreting the results of these surveys. As such the sparsity of finds is not interpreted as a direct indicator of lessened potential for archaeological survival.

3.7.11 The Civil War Landscape (MM964) has been considered as a non-designated historic landscape for the purposes of the assessment. The assessment considers the setting and interconnectivity of the separate scheduled monuments that form the English Civil War earthworks around Newark. The scheduled monuments where relevant have been considered separately.

4 Baseline

4.1 Overview

4.1.1 The historic environment baseline has been established using the sources and methodology outlined in Chapter 3 of this DBA.

4.1.2 Where dates and periods are referred to in the baseline, these are based on those outlined in Table 4-1. It is accepted that these date ranges are subjective but are supplied to ease discussion based on the East Midlands Historic Environment Research Framework (EMHERF)[47] in conjunction with professional judgement.

Table 4-1: Indicative archaeological and historical periods

Prehistoric Period Dates	Historic Period Dates
Palaeolithic 500,000 to 9500 BC	Roman AD 43 to 410
Mesolithic 9500 to 4,000 BC	Early Medieval AD 410 to 1066
Neolithic to Early Bronze Age 4,000 to 1500 BC	High Medieval AD 1066 to 1485
Middle Bronze Age 1,500 to 1,150 BC	Post-medieval AD1485 to 1750
Late Bronze Age 1,150 BC to 800 BC	Modern AD 1750 to present
Early Iron Age 800 to 500 BC	
Middle Iron Age 500 to 150 BC	
Late Iron Age/ Roman Transition 150 BC to AD 43	

Source: EMHERF (2012)

4.1.3 A full gazetteer of all heritage assets within the Scheme study area is located in Appendix A of this DBA, with drawings showing their locations included as Appendix B, Drawings B.2 Designated heritage assets (Sheets 1 to 15) and B.3 Non-designated heritage assets (Sheets 1 to 21).

4.1.4 All heritage assets have been assigned a unique identification number prefixed by MM (Mott MacDonald). This is for ease of identification and cross reference.

4.1.5 The following section provides a summary of those baseline conditions reported in the DBA. The heritage assets described here are not exhaustive, but instead this section is designed to provide an indication of the nature and likelihood of historic human occupation across the study area.

[47] East Midlands Heritage (2012) East Midlands Historic Environment Research Framework [online] available at: https://researchframeworks.org/emherf/

4.2 Designated heritage assets

4.2.1 The route of the Scheme crosses through a landscape dense in heritage assets. Within the 1 kilometre study area for designated heritage assets) the NHLE alongside the Nottinghamshire HER records 422 designated heritage assets. These assets include:

- 15 Scheduled monuments
- 401 listed buildings
- Five conservation areas
- One registered park and garden

4.2.2 There are no known world heritage sites, protected wrecks or registered historic battlefields within the study area.

4.2.3 A full list of all designated heritage assets in the study area can be found in the gazetteer in Appendix A, Table. A.1 of this DBA. Figures showing the location of all designated heritage assets can be found in Appendix B, Drawing B.2, Sheets 1 to 15.

4.2.4 An assessment of the potential for direct physical impacts and changes to the setting of each individual designated heritage asset was undertaken to inform this DBA. The results of the assessment are contained within Appendix C of this DBA.

4.2.5 A total of 37 designated heritage assets were identified through the assessment as having the potential to be impacted by the Scheme. These assets are referred to as 'key heritage assets' and are listed below.

4.2.6 For ease of discussion some of the key heritage assets have been grouped within this section. Each asset has however been individually assessed within the ES (see Appendix 6.2 (Assessment of Heritage Value) [APP-133], Appendix 6.3 (Assessment of Cultural Heritage Effects During Construction of the Scheme) [APP-134] and Appendix 6.4 (Assessment of Cultural Heritage Effects During Operation of the Scheme) [APP-135] of the ES Appendices).

Scheduled monuments

4.2.7 The NHLE maintained by Historic England, records 15 scheduled monuments of high heritage value within the Scheme study area. These heritage assets range in date from the Roman through to post-medieval periods and predominantly relate to the English Civil War activity. These monuments comprise:

- The ruined and buried remains of the 12th century Newark Castle (MM001)
- Remains of Newark Town wall on Lombard Street (MM003)

- Hawton moated site, fishpond, Civil War redoubt and ridge and furrow (MM004)
- Standing cross known as Beaumond Cross (MM005)
- Civil War town defences within the Friary Garden (MM006)
- Civil War redoubt 550m south-east of Valley Farm (MM007)
- Gun platform 440m south-east of Muskham Bridge (MM008)
- Civil War redoubt 680m north-west of Dairy Farm (MM009)
- Civil War fieldwork on Crankley Point (MM010)
- Civil War redoubt on Crankley Point (MM011)
- Moated site 750m north-west of Dairy Farm (MM012)
- Queen's Sconce (MM013)
- Civil War redoubt 580m ENE of sugar refinery (MM014)
- Civil War sconce 650m north-west of Devon Bridge (MM015)
- Averham moat and enclosure (MM016)

4.2.8 Of the scheduled monuments listed above, four have been identified by the assessment as being a key cultural heritage asset, due to their heritage value and the potential for this value to be impacted by the Scheme. These assets are detailed below.

Newark Castle (MM001)

4.2.9 A scheduled monument (MM001) and grade I listed building (MM020) of high heritage value, comprising the ruined remains of a 12th century castle and earlier motte and bailey. The value of the asset is derived from its historic and architectural interest, as one of only 150 episcopal castles within England. The asset also holds archaeological interest, with evidence for an earlier motte and bailey as well as prehistoric, Roman and early medieval activity.

4.2.10 The asset lies within Newark, on the banks of the River Trent and within a grade II registered park and garden comprising a late 19th century public park (MM427). The town of Newark has significantly altered since the medieval period and the asset is surrounded by modern development. However, the castle remains prominent in views from the western banks of the river and the public park provides an attractive location to allow appreciation of the asset. Although the setting is altered, it still makes a positive contribution to the value of the asset.

Civil War redoubt 550m south-east of Valley Farm (MM007), Civil War redoubt 680m north-west of Dairy Farm (MM009) and Moated site 750m north-west of Dairy Farm (MM012)

4.2.11 Newark was a key Civil War garrison, held by the Royalists from 1642 until it surrendered on the orders of the King in 1646. The town was surrounded by a series of offensive and defensive fieldworks, many of which survive to the present day and are of high heritage value. The Civil War redoubts (MM007; MM009) were constructed by

Parliamentarian forces during the final siege of Newark between November 1645 and May 1646. The redoubts survive as a series of substantial earthworks.

4.2.12 The Moated site 750m north-west of Dairy Farm (MM012) is the site of a medieval moated house, known as Stoke or Red Lodge. A house named the Red Lodge is clearly depicted and named on a contemporary plan recording the fieldworks of the Parliamentarian forces besieging Newark during the Civil War. A second contemporary document of Royalist origins also records the existence of a house, referring to it as Stoke Lodge.

4.2.13 The assets are located at the edge of Newark within a flat rural landscape, largely defined by low hedgerows and trees, which provide a level of screening. They lie close to the Great North Road and Kelham Road, as well as the Old Trent Dyke.

4.2.14 The assets' value is assessed as high and is derived from their archaeological interest, through the potential of buried deposits relating to medieval and post-medieval activity. The assets also hold historic interest, through their construction and use during the final siege of Newark during the Civil War. They make a key contribution to understanding field engineering and their use during the final siege of Newark. Although the setting has been compromised through road widening and encroachment of modern development, the roads and dyke are key to understanding the assets' historic interest and the strategic importance of these locations. The setting makes a positive contribution to the value of these assets.

Historic buildings

4.2.15 The NHLE records 401 listed buildings of high heritage value within the Scheme study area. These buildings date to the medieval, post-medieval and modern periods and comprise:

- Seven grade I listed buildings
- 15 grade II* listed buildings
- 379 grade II listed buildings

4.2.16 Newark & Sherwood District Council list five conservation areas within the Scheme study area. These comprise:

- Averham Conservation Area (MM428)
- Farndon Conservation Area (MM429)
- Kelham Conservation Area (MM430)
- Newark Conservation Area (MM431)
- Winthorpe Conservation Area (MM432)

4.2.17 A total of 27 listed buildings and five conservation areas have been identified by the assessment as key heritage assets requiring more

detailed discussion due to their heritage value and the potential for this value to be impacted by the Scheme. These assets are detailed below.

Kelham Hall (MM018) and associated listed structures (MM025), (MM043) and (MM045).

4.2.18 A grade I listed building of high heritage value, comprising the mid-19th century, Gothic Revival style, Kelham Hall (see Photo 4-1). The value of the asset is derived from its historic and architectural interest, particularly its association with its designer, the noted architect Sir George Gilbert Scott.

4.2.19 The asset sits within a partially surviving, non-designated post-medieval designed landscape (MM828) and within the Kelham Conservation Area (MM430), alongside the River Trent. The hall also derives group value from other designated assets, such as the grade II* listed Gazebo and garden wall at Kelham Hall (MM025) and grade II listed Former Monastic buildings adjoining Kelham Hall (MM043), Garden boundary wall at Kelham Hall (MM045), seven garden urns at Kelham Hall (MM065) and 36 railing piers at Kelham Hall (MM068) which form elements of the designed park. The designed parkland and its associated assets, form key elements in understanding the historic interest. Therefore, the setting makes a positive contribution to the heritage value of the asset.

Photo 4-1: Kelham Hall (MM018) and former Monastic Building (MM043)

Source: Mott MacDonald (2023)

Church of St Michael (MM019)

4.2.20 A grade I listed building of high value, comprising the 12th – 19th centuries parish church. The value of the asset is derived from its historic and architectural interest, as an example of a rural parish church.

4.2.21 The agricultural setting of the asset and its proximity to the river contributes positively to ways in which the church is experienced and valued and understood, in terms of its relationship with the community it serves.

Church of St Wilfrid (MM024)

4.2.22 A grade I listed building of high heritage value, comprising the 14th century church at Kelham. The value of the asset is derived from its historic and architectural interest, as an example of a rural parish church.

4.2.23 The setting of the asset comprises the post-medieval parkland of Kelham Hall (MM018), which itself lies at the edge of a village. The surrounding landscape consists of agricultural land. The isolated and secluded setting, in close proximity to Kelham Hall makes a positive contribution to the heritage value of the asset.

Langford Hall (MM026)

4.2.24 A grade II* listed building of high heritage value, comprising a late 18th century, Palladian style, country house. The value of the asset is derived from its historic and architectural interest, particularly its association with its designer, the noted architect John Carr of York.

4.2.25 The asset sits within a partially surviving non-designated post-medieval designed landscape (MM829). The hall also derived group value from other designated assets, such as the Coach House (MM059) and Stables (MM061) which form ancillary buildings. The designed parkland elements and the ancillary buildings are key to understanding the historic interest. Therefore the setting makes a positive contribution to the heritage value of the asset.

Kiln Warehouse (MM030)

4.2.26 A grade II* listed building of high heritage value, comprising a mid-19th century maltings now warehouse with late 20th century alterations. The heritage value of the asset is derived from its architectural interest as an early example of mass concrete construction and the brewing industry.

4.2.27 The assets position on the riverfront is significant and forms and important part of its setting, which makes a positive contribution to the heritage value of the asset.

Concrete footbridge across River Trent (MM038)

Photo 4-2: Concrete footbridge across the River Trent (MM038)

Source: Mott MacDonald (2023)

4.2.28 A grade II* listed structure of high heritage value, comprising an early 20th century reinforced concrete bridge (see Photo 4-2). The value of the asset is derived from its architectural interest, as an early example of the use of reinforced concrete. The asset also holds historic interest, as an example of early 20th century transport infrastructure.

4.2.29 The asset spans the River Trent, which is key to understanding the historic and architectural interest. The setting therefore makes a positive contribution to the heritage value of the asset.

Winthorpe Bridge carrying bypass over River Trent (MM039)

4.2.30 A grade II* listed structure of high heritage value, comprising a concrete road bridge built in 1964. The value of the asset is derived from its architectural interest, as an unusual example of a continuous prestressed concrete structure. The asset also holds historic interest, as an example of 20th century road infrastructure.

4.2.31 The asset carries the A1 over the River Trent and lies within a predominantly rural landscape. The relationship with the River Trent is key to understanding the value of the asset. The setting makes a positive contribution to the heritage value of the asset.

Kelham Bridge (MM049)

4.2.32 A grade II listed building of high heritage value, comprising a brick bridge built in 1857. The value of the asset is derived from its historic interest as a mid-19th century replacement for an earlier wood and iron bridge destroyed by a huge block of ice in 1855. Has group value with Kelham Hall (MM018) by virtue of proximity and similar materials.

4.2.33 The asset spans the River Trent, which is key to understanding the historic and architectural interest. The setting therefore makes a positive contribution to the heritage value of the asset.

Lowwood (MM053)

4.2.34 A grade II listed building of high heritage value, comprising a small, late 18th century country house. The asset derives its value from its historic and architectural interest, as an example of a small country house.

4.2.35 The asset is located within a small, designed garden at the edge of Winthorpe Conservation Area (MM432). The wider rural setting has been eroded by road widening and 20th century residential development. However, despite the later development, the designed garden remains legible and makes a key contribution to understanding the historic interest. The setting therefore makes a positive contribution to the heritage value of the asset.

The Grove (MM062)

4.2.36 A grade II listed building of high heritage value, comprising a small, late 18th century country house located within the Winthorpe Conservation Area (MM432). The asset derives its value from its historic and architectural interest, as an example of a small country house.

4.2.37 The asset is located within a small, designed garden, with a conservatory (MM052) to the south-west with which it shares group value. The wider rural setting has been eroded by road widening and 20th century residential development. However, despite the later development, the designed garden remains legible and makes a key contribution to understanding the historic interest. The setting therefore makes a positive contribution to the heritage value of the asset.

Church of All Saints (MM063)

4.2.38 A grade II listed building of high heritage value, comprising the 19th century parish church of Winthorpe (see Photo 4-3). The value of the asset is derived from its historic and architectural interest, as an example of a rural parish church.

4.2.39 The asset is located in the village of Winthorpe and within its own churchyard, surrounded by a low boundary wall and trees. The village setting is key to understanding the historic interest and makes a positive contribution to the heritage value of the asset.

Photo 4-3 : Church of All Saints (MM0603) in Winthorpe

Source: Mott MacDonald (2023)

Farndon Windmill (MM139)

4.2.1 A grade II listed building of high heritage value, comprising an early 19th century former windmill (see Photo 4-4 and Photo 4-7). The asset derives its value from its historic and architectural interest, as an example of the local corn milling industry.

4.2.2 The asset is largely screened by mature trees, but beyond which lies agricultural land. The mature trees reduce the ability to understand the historic interest of the asset by limiting views to and from it, but the wider landscape beyond largely reflects that which was extant when the mill was constructed, one of an arable landscape, growing crops such as wheat which would have provided the mill with grain. Therefore, both the contemporary and extant landscape inform the setting of the mill, which contributes to its significance. Therefore, the wider setting makes a slight contribution to the heritage value of the asset.

Photo 4-4: Farndon Windmill (MM139)

Source: Mott MacDonald (2023)

Causeway Arches 650 metres north-west of level crossing (MM141), Causeway Arches 500 metres north-west of level crossing (MM228), Causeway Arches and Embankment Walling 50 Metres North-west of Trent Bridge (MM230), Causeway Culvert 135 Metres North-west of Level Crossing (MM231) and Causeway Culvert 420 Metres North-west of Level Crossing (MM389)

4.2.3 Five grade II listed Causeway Arches (locally known as Smeaton's Arches) of high heritage value, which form part of an 18th century causeway carrying the Great North Road over the River Trent floodplain.

4.2.4 The value of the assets is derived from their historic and architectural value, as an example of 18th century transport architecture. The assets also derive value through their association with the noted engineer, John Smeaton.

4.2.5 The assets form part of the Great North Road and are located across the floodplain, to the north of the River Trent. The setting is key to understanding the historic interest and makes a positive contribution to the value of the assets.

The Clock Tower (MM142)

4.2.6 A grade II listed clock tower of high heritage value, built as offices with clock tower in 1860. Probable associations with either the railway or the river and associated businesses. The asset holds historic and architectural interest, as an example of a surviving mid- 19th century clock tower.

4.2.7 The asset forms a visual landmark along Newark riverfront. Its setting, though with some modern infill, remains largely unaltered and the proximity to other buildings and sites of commerce, contributes to its value.

Castle Railway Station (MM226) and Former Station Master House (MM227)

4.2.8 Pair of grade II listed buildings of high heritage value, comprising Railway Station (MM226) built in 1846, for the Midland Railway Co. and former Station Masters House (MM227). The value of the assets is derived from their historic and architectural interest as examples of purpose built mid-19th century railway structures.

4.2.9 The assets retain their original setting adjacent to the railway which is illustrative of their historic function which makes a positive contribution to their heritage value.

Goods Warehouse 150 metres North-east of Castle Station (MM232)

4.2.10 A grade II listed building of high heritage value, comprising a 19th century railway goods warehouse. The value of the asset is derived from its architectural and historic interest due to connections with the railway and associated economics.

4.2.11 The asset retains its historic setting within the railway corridor, which is illustrative of its historic function, which makes a positive impact on its heritage value.

North Malt Warehouse (MM233)

4.2.12 A grade II listed building of high heritage value, comprising a maltings constructed in 1870 for Brewer John Hole, now warehouse. The value of the asset is derived from its architectural interest as an early example of mass concrete construction.

4.2.13 The asset retains its historic setting close to both the river and the railway, which makes a positive contribution to its heritage value.

Trent Bridge (MM332)

4.2.14 A grade II listed building of high heritage value, comprising a brick built road bridge, constructed in 1775 by Stephen Wright, with late 19th century alterations. The value of the asset is derived from its historic interest as an example of an 18th century road bridge and architectural interest through its association with a known architect.

4.2.15 The asset is a prominant structure along the Great North Road, spanning the River Trent. Its setting is illustrative of its historic function as a river crossing which makes a positive contribution to its heritage value.

The Firs (MM387)

4.2.16 A grade II listed building of high heritage value, comprising an early 19th century domestic dwelling. The asset holds historic and architectural interest, as an example small high status dwelling.

4.2.17 The asset is located within a small private garden and sits within a wider housing estate. This has reduced the ability to understand the asset's historic interest. The setting therefore does not contribute to the value of the asset.

Averham Conservation Area (MM428)

4.2.18 The conservation area at Averham is of medium heritage value and is focused on the historic core of the settlement. The conservation area includes the medieval scheduled Averham moat and enclosure (MM016) and the grade I listed Church of St Michael (MM019). There are also three grade II listed buildings of 18th century date, which include Yew Tree Cottage (MM056), Rectory Cottage (MM057), The Old Rectory (MM058) and one 19th century structure comprising the Lych Gate at Church of St Michael (MM422).

4.2.19 The heritage value of the conservation area is derived from its historic and architectural interest, as an example of a historic village with typical post-medieval vernacular architecture to the area. The asset

also holds archaeological interest, with evidence for medieval occupation at the Averham moat and enclosure (MM016).

4.2.20 Averham is located on the banks of the River Trent and is set within a rural landscape. Later development has been limited and the conservation area retains a strong rural character. The setting makes a positive contribution to the value of the asset.

Farndon Conservation Area (MM429)

4.2.21 The conservation area at Farndon is of medium heritage value. The conservation area covers encompasses the historic core of the village of Farndon, which has a long history, with evidence of human activity dating back to prehistoric period. Within the conservation area a number of designated cultural heritage assets are recorded. These include seven grade II listed buildings, which include: one 17th century house (MM042), four 18th century houses (MM040, MM041, MM060 and MM426), and a 19th century house (MM416) and wall, railings and gate piers (MM417).

4.2.22 The value of the asset is derived from its historic and architectural interest, as an example of a historic village with typical post-medieval vernacular architecture to the area. The asset also holds archaeological interest, with evidence for settlement stretching back to the Late Upper Palaeolithic period.

4.2.23 Farndon is located on the banks of the River Trent and is set amongst later 20th and 21st residential development. However, the settlement retains some legibility as a rural settlement with mature vegetation, verges and gardens contributing to the character. The setting makes a neutral contribution to the value of the asset.

Kelham Conservation Area (MM430)

4.2.24 The conservation area at Kelham is of high heritage value. The conservation area is focused on the rural village, which is first documented in the Domesday Survey of 1086. Within the conservation area a number of designated heritage assets are recorded. These include: the grade I listed Church of St Wilfrid (MM024) built in the 14th and 15th centuries with 19th century restoration, the 19th century grade I listed Kelham Hall (MM018) and associated grade II* Gazebo and garden wall at Kelham Hall (MM025). There are also a further 12 grade II listed buildings which can largely be associated with 17th and 18th century settlement activity and the development of Kelham Hall during the 19th and 20th centuries.

4.2.25 The heritage value of the conservation area is derived from its historic and architectural interest, as a good example of a rural village with an attractive country house at Kelham Hall (MM018) and associated parkland, parish church and examples of typical vernacular providing

a strong architectural quality. The asset also holds archaeological interest, with evidence for early medieval origins.

4.2.26 The village is located on the western banks of the River Trent and is set within a secluded, rural landscape, defined by strong tree and hedgerow boundaries. Later development is largely constrained to small areas and does not affect the legibility of the historic village. The setting makes a positive contribution to the value of the asset.

Newark Conservation Area (MM431)

4.2.27 The conservation area at Newark is of high heritage value. The conservation area focuses on the historic market town, which largely developed from the 12th century onwards. The conservation area is on the Historic England Heritage at Risk register with a condition of 'very bad'.

4.2.28 Within the conservation area there are three scheduled monuments which include; the 12th century Newark Castle (MM001) which is also a grade I listed building (MM020), the undated remains of the Newark Town Wall (MM003) and the remains of the 17th century Queen's Sconce (MM013) which formed part of the towns Civil War defences (see Photo 4-5).

4.2.29 A total of 331 listed buildings are recorded within the conservation area. These include the grade I listed Newark Castle (MM001). Three grade II* buildings of 19th and 20th century date including Kiln Warehouse (MM030), Ossington Hotel and adjoining garden walls and summerhouse (MM034) and Concrete footbridge across the River Trent (MM038). A further 327 grade II listed buildings largely associated with the post-medieval and modern development of the town.

Photo 4-5: View of Newark Castle (MM001)

Source: Mott MacDonald (2023)

4.2.30 The grade II registered Newark Castle Gardens (MM427) also falls within the conservation area.

4.2.31 The conservation area holds historic and architectural interest, displaying evidence of a medieval street plan through to post-medieval development along key trading routes out of the town. Newark also holds archaeological interest, with evidence for activity dating back to the prehistoric period.

4.2.32 Newark is located along the banks of the River Trent and lies along well connected transport routes, such as the Great North Road. The setting is key to understanding the development of Newark and makes a positive contribution to its value.

Winthorpe Conservation Area (MM432)

4.2.33 The conservation area at Winthorpe is of high heritage value and is focused on the rural village, which is first documented in the Domesday Survey of 1086. The conservation area includes the 18th century grade II* listed Winthorpe Hall and a further 15 grade II listed buildings dating to the 18th and 19th centuries, which include Lowwood (MM053), The Grove (MM062) and Church of All Saints (MM063).

4.2.34 The heritage value of the conservation area is derived from its historic and architectural interest, as a good example of a rural village with attractive country houses, associated parkland features and estate cottages, as well as examples of typical 18th and 19th century

vernacular architecture to the area. The asset also holds archaeological interest, connected with the presence of undated below ground archaeological remains indicating the presence of settlement activity (MM541) and (MM875) to the west of the historic core of the village.

4.2.35 The village is set within a secluded, rural landscape and is defined by strong tree and hedgerow boundaries. Later development, such as the A1 realignment and the A46 has not affected the legibility of the conservation area. The setting makes a positive contribution to the value of the asset.

Historic landscapes

4.2.36 The NHLE records one registered park and garden within the study area comprising the 19th century designed parkland at Newark Castle Gardens (MM427). This asset has been identified by the assessment as key heritage asset requiring more detailed discussion due to its heritage value and the potential for this value to be impacted by the Scheme. for this value to be impacted by the Scheme.

Newark Castle Gardens (MM427)

4.2.37 The grade II registered Newark Castle Gardens forms part of the Newark Conservation Area (MM431) and is of high heritage value. The asset consists of late 19th century designed parkland, centred on the castle ruins (MM001). The asset sits within the Newark Conservation Area (MM431).

4.2.38 The asset holds historic interest, derived through its association with the commemoration of Queen Victoria's Golden Jubilee and its creation in the public interest. The asset also holds architectural interest, as a good example of a late 19th century designed public park.

4.2.39 The setting of the asset is formed of the River Trent and the town of Newark. The townscape and river form the boundaries for the asset and are key to understanding the historic interest. Therefore, the setting makes a positive contribution to the value of the asset.

4.3 Non-designated heritage assets

4.3.1 The Nottinghamshire HER alongside the results of research and archaeological survey undertaken as part of the Preliminary Design for the Scheme, records 370 non-designated heritage assets within the 500 metre study area. These include:

- 242 archaeological remains
- 123 historic buildings

- Five historic landscapes

4.3.2 A full list of all non-designated heritage assets in the study area can be found in the gazetteer in Appendix A, Table. A.2. Figures showing the location of all non-designated heritage assets can be found in Appendix B, Drawings B.3, Sheets 1 to 21.

4.3.3 An assessment of the potential for direct physical impacts and changes to the setting of each individual non-designated heritage asset was undertaken to inform this DBA. The results of the assessment are contained within Appendix C.

4.3.4 A total of 92 non-designated heritage assets were identified through the assessment as having the potential to be impacted by the Scheme. These assets are referred to as 'key heritage assets' and are listed below.

4.3.5 For ease of discussion some of the key heritage assets have been grouped within this section. Each asset has however been individually assessed within the ES (see Appendix 6.2 (Assessment of Heritage Value) [APP-133], Appendix 6.3 (Assessment of Cultural Heritage Effects During Construction of the Scheme) [APP-134] and Appendix 6.4 (Assessment of Cultural Heritage Effects During Operation of the Scheme) of the ES Appendices [APP-135]).

Archaeological remains

4.3.6 The Nottinghamshire HER identified 206 non-designated archaeological assets within the 500 metre study area. A further five archaeological assets were noted from desk-based research and an additional 31 assets were identified during the archaeological surveys undertaken during Preliminary Design (see Section 4.10). This resulted in a total of 242 non-designated archaeological assets.

4.3.7 A total of 70 archaeological assets have been identified through assessment as being key heritage assets (see Appendix C, Table C.2 of this DBA). These have been identified due to their heritage value and the potential for this value to be impacted by the Scheme. These assets are discussed in Table 4-2 below.

Table 4-2: Key non-designated heritage assets with the potential to be impacted by the Scheme

Receptor	Value	Description
Paleochannels (MM911), (MM912), (MM931), (MM948), (MM950) to (MM953) and (MM955) to (MM962)	Medium	Series of known and potential paleochannels of medium heritage value recorded through Lidar and aerial survey, in addition to geophysical survey (event reference MM1261), geoarchaeological and archaeological monitoring (event reference MM1266) and geoarchaeological coring (event reference MM1265) undertaken to inform the Scheme. The heritage value of the assets is derived from their archaeological and geoarchaeological interest associated with their potential to mask and preserve early prehistoric activity. The assets also provide an opportunity for the enhancement of the archaeological record through further research and investigation concentrating on the spatial relationships between these paleochannels and other prehistoric remains within the study area. Setting does not contribute to the heritage value of the asset.
Organic Deposits (MM949), (MM953), (MM954) and (MM963)	Medium	Waterlogged organic deposits (MM949), (MM953), (MM954) and (MM963) of medium heritage value encountered recorded during archaeological and geoarchaeological monitoring (event reference MM1266) and geoarchaeological coring (event reference MM1265). The sediments are preserved in low lying consistently waterlogged conditions, predominantly within paleochannels. The heritage value of the deposits is derived from their archaeological and geoarchaeological interest associated with their potential to preserve multi-period waterlogged palaeoenvironmental organic matter and archaeological remains. Setting does not contribute to the heritage value of the asset.
Mesolithic - Late Neolithic Site at Farndon (MM502)	Medium	The asset comprises of worked flint artefacts, dating to the Mesolithic and Neolithic periods. Although there is no evidence for an associated settlement, it is likely that the original deposits have been destroyed. The value of the asset is derived from its archaeological interest, as an example of Mesolithic and early Neolithic occupation. However, its archaeological interest is diminished as in-situ deposits have been destroyed by natural and anthropogenic processes.
Neolithic / Early Bronze Age Settlement at Langford (MM505)	Medium	Possible structures and artefacts, including saddle quern fragments, worked flint and burn bone, dating to the Neolithic and early Bronze Age. The value of the asset is derived from its archaeological interest, as evidence for past human settlement activity and landscape organisation. The setting of the asset does not contribute to their heritage value.

Receptor	Value	Description
Possible Ring Ditch and Barrows in Survey Area 30 (MM937)	Medium	A possible ring ditch c.10m in diametre and two possible barrows c.20m in diametre of Neolithic or Early Bronze Age origin identified in Area 30 (MM937). The assets were identified during geophysical survey undertaken in September 2022 (see Section 4.10) and are considered to be of medium heritage value. The asset derives its value from its archaeological interest as evidence of historic funerary activity. They also provide an opportunity for the enhancement of the archaeological record of through further research and investigation. Setting does not contribute to the heritage value of this asset.
Iron Age or Romano-British Enclosures at: Kelham – (MM859), (MM945). Farndon - (MM506), (MM865) and (MM893) Averham – (MM869). Newark - (MM876), (MM896) and (MM903). Winthorpe – (MM541), (MM875), (MM930), (MM931), (MM933) and (MM934)	Medium	The assets comprise of a series of enclosures within Kelham, Farndon, Averham, Newark and Winthorpe, which were identified through aerial survey and geophysical survey (MM1261), see Section 4.10. The enclosures have been interpreted as being Iron Age or Roman in origin with potential for continued use during the early medieval period. These assets are considered to be of medium heritage value owing to their regional importance. The value of these assets is derived from their archaeological interest, as evidence for past settlement activity and landscape organisation. They also provide an opportunity for the enhancement of the archaeological record of through further research and investigation. The setting of these assets does not contribute to their heritage value.
Roman Agger, Fosse Way, Langford (MM507)		The asset comprises of the Roman road, known as Fosse Way. The road runs from Exeter to Lincoln and broadly follows the line of the current A46. Excavation of the road has revealed that a cambered agger survives in places. The value of the asset is derived from its archaeological interest, as an example of the Roman military presence within the area. However, its archaeological interest is diminished as the remains of the asset have been reused repeatedly as transport routes throughout the subsequent years since its construction.
Medieval road at Newark (MM559)	Low	The asset comprises of a medieval road, which linked Newark and Muskham Bridge. The course of the road is primarily known from contemporary maps and plans. The value of the asset is derived from its archaeological interest, as an example of a historic transport route. However, the archaeological interest is diminished as parts of the route have been built over.

Receptor	Value	Description
Civil War Fieldworks, including: Dam (MM648) Redoubts (MM649), (MM661) and (MM662) First and Second Lines of Circumvallation at Newark (MM660) and (MM624) Moll's Hornwork at Winthorpe (MM665)	High	The assets comprise of the below ground remains of offensive fieldworks associated with the English Civil War. The assets derive their value from their historical and archaeological interest, as examples of Civil War fieldworks. The assets have high value through their association with other scheduled Civil War monuments recorded around Newark including MM007 and MM009. They also provide an opportunity for the enhancement of the archaeological record of through further research and investigation. Setting does not contribute to the heritage value of the assets.
Former Parish boundary (MM940)	Low	Parish Boundary ditch 2m wide by 1m deep mostly following the line of current ditch but angling away from the ditch further eastwards near to the airstrip. The value of the asset is derived from its archaeological interest, as evidence of past settlement activity and landscape organisation. Setting does not contribute to the heritage value of the assets.
Brick Culvert (MM939)	Low	Brick Culvert identified during watching brief to the south-west of Kelham Hall (MM018). The asset derives value from its archaeological interest, as examples of past water management practices. Setting does not contribute to the heritage value of the asset.
Wells at Newark (MM602), (MM642) and Averham (MM633)	Low	The assets comprise of post-medieval wells. The assets derive their value from their archaeological interest, as examples of past water management practices. Setting does not contribute to the heritage value of the assets.
Spring at Averham and Newark (MM872)	Low	The asset comprises of an undated spring. The value of the asset is derived from its archaeological interest, as evidence of historic water management practices. Setting does not contribute to the heritage value of the asset.
Malt Kiln Terrace (MM740)	Low	Site of late 19th century terrace. Malt Kiln Terrace was built in 1879 and demolished c.1980. The asset derives its value from its archaeological interest, as an example of industrial activities within a domestic setting. However, the archaeological interest is diminished as the asset has been removed. Setting does not contribute to the heritage value of the assets.
Bleaching House at Winthorpe (MM807)	Low	The asset comprises the site of post-medieval cottages, which formed the residences of linen bleachers. The asset derives its value from its archaeological interest, as an example of industrial activities within a domestic setting. Setting does not contribute to the heritage value of the assets.

Receptor	Value	Description
Two Mile House at Langford (MM812)	Low	The asset comprises the site of a post-medieval farmstead, which was arranged in a regular plan around a central courtyard. The asset derives its value from its archaeologial interest as an example of past farming practices. However its archaeological interest is diminished as a large part of the asset is truncated a roundabout.
Pit alignment at Newark (MM849)	Low	Undated pit alignment of probable low heritage value, identified as a cropmark. The asset derives value from its archaeological interest, as an example of past land organisation practices. The asset also provides an opportunity for the enhancement of the archaeological record of through further research and investigation. Setting does not contribute to the heritage value of the asset.
Earthworks at Newark Kiln Marina, Newark (MM858)	Low	The asset comprises of undated boundary ditches, a lake and possible terraced ground. The asset derives its value from its archaeological interest, as an example of past landscape organisation practices. Setting does not contribute to the heritage value of the assets.
Possible ditches, field boundaries of archaeological features: Area 22 (MM932), Area 25 (MM942), Area 26 (MM943), Area 27 (MM944), Area 28 (MM935), Area 30 (MM936), Area 32 (MM938), Area 48 (MM945), Area 49 (MM946) and Area 51 (MM947)	Low	Possible undated archaeological features identified during geophysical survey (MM1261) undertaken within Areas 22, 25 to 28, 30, 32, 48, 49 and 50 between September 2022 and February 2023 (see Section 4.10). Features include: possible pits/spreads of burnt material (MM935; MM943; MM945) and (MM936); and ditches and relict field boundaries (MM938; MM942; MM946; MM947). The value of these assets is derived from their archaeological interest, as evidence for past land use activity and landscape organisation. They also provide an opportunity for the enhancement of the archaeological record of through further research and investigation. The setting of these assets does not contribute to their heritage value.
Linear Features at Lincoln Road, Newark (MM851) and (MM852)	Low	Undated remains of ridge and furrow and linear features identified through geophysical survey and excavation. The value of the asset is derived from its archaeological interest, as an example of historic land use. Setting does not contribute to the heritage value of the assets.
Ditch at Newark (MM850)	Low	The asset comprises of an undated ditch. The asset derives its value from its archaeological interest, as an example of past landscape organisation practices. Setting does not contribute to the heritage value of the asset.
RAF Winthorpe (MM848)	Low	The asset comprises potential below ground remains associated with the former RAF base, which opened in September 1940 as a satellite for RAF Swinderby. The asset derives its value from its historic and archaeological interest as an example of mid-20th century RAF base. Setting does not contribute to the heritage value of the asset.

Receptor	Value	Description
Unknown archaeological remains	Low to High	There is high potential for unknown archaeological remains associated with the Prehistoric, Roman, early medieval, high medieval, post medieval and modern periods to be encountered within the Order Limits of the Scheme.

Historic buildings

4.3.1 The Nottinghamshire HER identified 123 non-designated built heritage assets within the study area.

4.3.2 A total of 17 non-designated built heritage assets have been identified through assessment as key heritage assets (see Appendix C, Table C.2 of this DBA). These have been identified due to their potential to be impacted by the Scheme. These assets are discussed in Table 4-3 below.

Table 4-3: Key non-designated built heritage assets with the potential to be impacted by the Scheme

Receptor	Value	Assessment
Clapper Gates (MM672), (MM674) (MM675), (MM678) and (MM679)	Low	The assets comprise of a series of undated clapper gates, associated with a late 18th century horse towing path along the River Trent. The primary function of the gate was to allow horses and people to pass through field boundaries while preventing livestock from straying. The value of the asset is therefore derived from its historic interest, as a feature of a historic transport route. The assets are located along the towpath, adjacent to the River Trent. The river is key to understanding the historic value of these assets. The setting therefore makes a positive contribution to the value of the assets.
Sluice at Winthorpe (MM687)	Low	The asset comprises of a post-medieval sluice at Winthorpe. The value of the asset is derived from its historic interest, through its association with the River Trent as a water management feature. The asset is located on the River Trent within close proximity to a sluice (MM1190), with which it shares group value and is key to understanding the historic interest. Therefore the setting makes a positive contribution to the value of the asset.
Weir at Newark (Nether Weir) (MM688)	Low	The asset is a post-medieval weir (pre-1919), located on the River Trent within close proximity to the sluice (MM618). The asset is marked on Ordnance Survey mapping from 1888-1914. The value of the asset is derived from its historic interest, through its association with the River Trent as a water management feature. The River Trent also therefore defines the setting of the asset.
Malthouse Workers Houses at Farndon	Low	The asset comprises a block of five, 19th century workers' housing, built for the workers at a nearby

Receptor	Value	Assessment
Road, Newark (MM714)		Malthouse. The value of the asset is derived from its historic and architectural interest, as an example of 19th century workers housing. The asset retains an immediate garden setting however it is surrounded by modern residential development. Therefore the setting does not contribute to the value of the asset.
Works; Windsor & Stephenson at Newark (MM715)	Low	The asset comprises a 19th century two storey building, formerly part of a large complex of workshops and offices. The ground floor is red brick in Flemish bond with a rendered second floor. Other features include alternating fish scale and tile roof, two partially rendered dormers, brick and moulded lintels above large modern PVC windows, brick stringcourse and moulded cornice. The value of the asset is derived from its historic and architectural interest as an example of a 19th century building. Its setting has changed slightly since the complex of workshops/offices have been demolished.
Terraced Houses at Newark (MM719)	Low	The asset comprises a 19th century, single terrace of three houses, which may have been for maltings workers. The value of the asset is derived from its historic and architectural interest, as an example of 19th century workers housing. The asset retains an immediate garden setting however it is surrounded by modern residential development. Therefore the setting does not contribute to the value of the asset.
Flour Mill at Newark (MM736)	Low	The asset comprises an early 19th century flour mill complex, including mill owner's residence and office block. The value of the asset is derived from its historic and architectural interest, as an example of agricultural and industrial practices. The asset is set within a private garden and was located within an agricultural landscape. However, the asset is now surrounded by residential development which reduces the ability to understand and appreciate the historic interest. Therefore the setting does not contribute to the value of the asset.
Railway Bridges at Newark (MM747), (MM748) and (MM749)	Low	The assets comprise of former railway bridges built in 1866, likely to provide easy access for farm animals and other farming traffic, as well as access to a former chemical manure works. The value of the assets is derived from their historic interest, through their association with the Nottingham & Lincoln railway line and as examples of a historic transport route. The assets are located on the Nottingham and Lincoln railway line, which is key to understanding the historic interest. Therefore the setting makes a positive contribution to the value of the assets.
Former Chemical Works at Newark (MM813)	Low	The asset comprises the former chemical manure works to the east of the current A46, dating to the 19th century. The value of the asset is derived from its historic interest, as the surviving section of the 19th century chemical manure works. The asset lies between the railway line and the late 20th century A46 road. The construction of the road has divorced the

Receptor	Value	Assessment
		asset from its wider site, which is the only remaining element of a much wider complex. The setting therefore does not contribute to the value of the asset.
Newark Crossing (MM814)	Low	The asset comprises a 19th century level crossing built in 1852. The value of the asset is derived from its historic interest, as an example of a historic transport route. The asset sits at the junction of the East Coast Mainline and the Nottingham and Lincoln line. This location is key to understanding the historic interest and makes a positive contribution to the value of the asset.
Webb Woolies Ltd at Newark (MM840)	Low	The asset comprises an early 20th century factory block. The value of the asset is derived from its historic interest, as an example of an early 20th century industrial building. The asset lies on the outskirts of Newark within a more open agricultural landscape to the south-west and residential development to the east and west. The setting does not allow an appreciation of the historic interest and therefore does not contribute to the value of the asset.

Historic landscapes

4.3.1 The Nottinghamshire HER identified five non-designated historic landscape assets within the study area,

4.3.2 All five non-designated historic landscape assets have been identified through assessment as key heritage assets (see Appendix C, Table C.2 of this DBA). These have been identified due to their potential to be impacted by the Scheme. These assets are discussed in Table 4-4 below.

Table 4-4: Key non-designated historic landscape assets with the potential to be impacted by the Scheme

Receptor	Value	Assessment
Grounds at Averham Parsonage (MM827)	Low	The asset comprises a post-medieval designed landscape, associated with the Parsonage at Averham, now the grade II listed Old Rectory (MM058). The value of the asset is derived from its historic interest, as an example of a post-medieval designed landscape. The asset also derives group value from the rectory and Church of St Michael (MM019). The asset is located to the west of the church, at the eastern end of the village of Averham. The setting is largely unchanged although it does not add to our understanding of the asset's historic interest. The setting therefore makes a neutral contribution to the value of the asset.
Park at Kelham Hall	Medium	The asset comprises a post-medieval designed

Receptor	Value	Assessment
(MM828)		landscape, elements of which were designed by landscape architect William Andrews Nesfield for the Sutton family at Kelham Hall (grade I listed; MM018). The parkland contains a number of 18th century elements, such as tree belts and hahas, which were incorporated into Nesfield's design. Nesfield added a number of formal elements such as tree lined avenues and paths. The park once extended further south and this part is now in use as agricultural land. The value of the asset is derived from its historic interest, as an example of a post-medieval designed landscape. The asset is located at the south-east edge of Kelham. The setting is formed by the River Trent to the east and agricultural land. This setting is largely unchanged and incorporated into the parkland. The setting therefore makes a positive contribution to the value of the asset.
Grounds at Langford Hall (MM829)	Low	The asset comprises the post-medieval designed landscape, associated with the grade II* listed Langford Hall (MM026). The value of the asset is derived from its historic interest, as an example of a post-medieval designed landscape. The asset is located within a flat, agricultural landscape, which is largely unchanged and partially incorporated into the parkland. The setting therefore makes a positive contribution to the value of the asset.
Park at Winthorpe Hall (MM830)	Low	The asset comprises the partially surviving post-medieval designed landscape, associated with the grade II* listed Winthorpe Hall (MM027). The value of the asset is derived from its historic interest, as an example of a post-medieval designed landscape. The asset is located at the western edge of the village of Winthorpe and within a flat agricultural landscape. The River Trent borders to the west, however the railway line and the A1 have bisected the park and divorced the asset from the wider landscape. Therefore the setting makes a neutral contribution to the value of the asset.
Newark Civil War Landscape (MM964)	Medium	This asset encompasses Scheduled Monuments, their immediate setting and any land and other non-designated assets from the Civil War era. This landscape includes Newark itself as well as the surrounding land to the north to Kelham and east to Winthorpe. The landscape has been eroded by successive interventions including transport infrastructure and development and most notably dissected by the existing A46. The area has also undergone changes in farming practice since the Civil War. Cumulatively these changes have eroded any interconnectivity that may have been important during the Civil War era.

4.4 Geology and topography

4.4.1 This section provides a summary of the geology (superficial and bedrock units), as identified on the British Geological Survey (BGS)[48] data within the Scheme study area.

4.4.2 The bedrock geology is predominantly mudstones of the Mercia, Edwalton and Gunthorpe members, all formed during the Triassic period approximately 230 million years ago.

4.4.3 Across the Scheme area, BGS records various superficial deposits overlying the bedrock geology, which formed during the Quaternary[49] period. Balderton and Holme Pierrepoint sands and gravel deposits are recorded, as a result of glacial activity. These are overlain with alluvial deposits, which comprise of clay, silt and sand (see Section 4.5).

4.4.4 The Scheme study area lies within the valley floor and floodplain of the River Trent, which runs north-east to south-west and forms a dominant feature of the landscape. There are a number of tributaries which flow into the Trent, including the River Devon, as well as a number of drainage ditches and dykes. These are concentrated at the southern end of the study area.

4.4.5 The topography of the Scheme study area is relatively flat, lying around 10 metres Above Ordnance Survey Datum (AOD) and is characterised by rural, agricultural land, with settlements located on the slightly higher, and drier, ground either side of the river. This includes the densely developed town of Newark, as well as smaller villages at Farndon and Winthorpe.

4.4.6 Typically soils within the Scheme study area are described as loamy and clayey floodplain soils with naturally high ground water. Ground water held within the soil feeds into the River Trent.[50]

4.4.7 The existing A46, currently single carriageway, is generally elevated on embankment due to the low-lying floodplain of the River Trent. Several roundabouts form key junctions along the route, linking with several local A roads. Road infrastructure is softened by roadside vegetation in places and the River Trent is a strong natural influence within an otherwise manmade landscape. To the north of the A46, farmland dominates, interspersed with small-scale settlement. To the south of the road, the town of Newark forms a notable urban settlement.

[48] British Geological Society (BGS) (2023) Geology of Britain viewer. [online] available at: BGS Geology Viewer (BETA) (last accessed December 2023).

[49] The Quaternary is a geological epoch dating from c.2 million years ago.

[50] Cranfield Soil and Agrifood Institute Soilscapes (2023). Available at: Soilscapes soil types viewer - Cranfield Environment Centre. Cranfield University (landis.org.uk) (last accessed December 2023)

4.5 Geoarchaeological background

4.5.1 This section presents the known geoarchaeological and palaeoenvironmental baseline resource,[51] as identified in the geoarchaeological DBA produced February 2023,[52] alongside the results of previous archaeological surveys and evaluations undertaken within the Scheme study area including geoarchaeological monitoring of ground investigation carried out in 2022[53] (see Appendix 6.2 (Assessment of Heritage Value) of the ES Appendices [APP-133].

4.5.2 Geoarchaeological coring[54] took place in May 2023 and identified evidence of buried organic deposits and palaeochannels which reenforced the findings of the previous investigations.

4.5.3 The geographical setting of the Scheme on the Newark Island between the two branches of the River Trent heavily influences the geoarchaeological character of the Scheme. The geoarchaeological deposits are separated into Pleistocene (2.58 mya to 11,700 years ago) and Holocene (11,700 to present day) deposits.

Pleistocene Deposits

4.5.4 As noted in Section 4.4, the Scheme study area is underlain by sands and gravel deposits. These were deposited within a braided river environment, associated with glacial outwash.[55] Alluvial deposits are concentrated along the base of river valleys, which exist as both floodplain deposits and infill of palaeochannels.[56]

4.5.5 The River Trent rises from the Staffordshire Moorlands and drains into the Humber estuary.[57] The Trent has been sensitive to environmental change and its tributaries that drain the uplands of Derbyshire, gives the river a high energy fluvial regime.[58] Consequently, the changing flood frequency and magnitude means that when the river deposits large sediment loads, this action can either protect or erode

[51] Geoarchaeology is the study of the formation and modification of the physical landscape through analysis of deposits, such as soils. This is complemented by the analysis of flora and fauna remains that indicate environmental conditions and provide a picture of previous environments, known as palaeoenvironments.

[52] AMS (2023a), Regional Delivery Partnership A46 Newark Bypass. Geoarchaeological Desk Based Assessment

[53] York Archaeology (2022) A46 Newark North Bypass Nottinghamshire, Archaeological and geoarchaeological monitoring of ground investigations.

[54] AMS (2023b), A46 Newark Bypass Geoarchaeological Coring Report

[55] AMS 2023a

[56] the remnant of an inactive river or stream channel that has been filled in or buried.

[57] Howard, A.J. (2005) The contribution of geoarchaeology to understanding the environmental history of the Trent Valley, UK. Geoarchaeology 20: p93-107

[58] Brown, A.G. (2008) Geoarchaeology, the four dimensional (4D) fluvial matrix and climatic causality. Geomorphology 101: 278-297

archaeological remains. Confluence zones, such as that of the Trent and Devon, are not only archaeologically sensitive but also highly volatile.[59]

4.5.6 Over the last 400,000 years, the river Trent and its former courses, have laid down extensive sands and gravel deposits during the glacial period.[60] The uppermost of these, the Holme Pierrepont terrace, is thought to have formed from glacial outwash dated to the Upper Devensian (MIS 2, 30,000-25,000 BP).[61] Aeolian/fluvial sands are also recorded within the Trent Valley, for example at Farndon Fields, which are thought to date to around 25,000-10,000 BP.[62] The glacial outwash nature of the Holme Pierrepont Terrace and subsequent Holocene reworking of this deposit, indicate that these deposits are unlikely to contain in-situ archaeological remains however where these deposits outcrop there is potential for in-situ deposits on the surface.[63] Recent analysis of Palaeolithic artefacts recovered from the Trent Valley, have demonstrated that these were heavily rolled and therefore moved from where they were originally discarded.[64] Palaeoenvironmental evidence is also preserved poorly within this deposit as these sands are unlikely to include organic lenses.[65]

4.5.7 The periglacial climate during the late glacial period, meant that the River Trent was subject to huge seasonal variation in flows. This exposed sediment, susceptible to wind erosion, known locally as coversands. These deposits were laid down in colder climates during the later Dimlington (23,300 – 14,700 BP) and Loch Lomond (12,900 – 11,700 BP), stadial periods. The intervening warmer period, known as the Windermere interstadial, allowed human groups to recolonise Britain.[66] These coversands can include lenses of organic material.

4.5.8 Glacial activity created areas of higher ground favourable for human occupation within the Trent Valley. At Farndon Fields, a gravel interfluve[67] between the Trent and Devon rivers was one such focus for human activity during the late glacial/Late Upper Palaeolithic

[59] Krawiec, K. (2012), The Mesolithic to Bronze Age Landscape Development of the Trent-Derwent Confluence Zone at Shardlow Quarry: A multi-disciplinary contribution to the environmental reconstruction in an aggregate-rich landscape

[60] Howard, A.J. nd The Palaeolithic of the Trent Valley Gravels. Available at: https://www.agg-net.com/resources/articles/environment-restoration/the-palaeolithic-of-the-trent-valley-gravels (Last Accessed December 2023)

[61] Bridgeland et al (2014) Quaternary of the Trent

[62] Cotswold Wessex Archaeology (2011) A46 Newark to Widmerpool Improvements, Archaeological Assessment Report, Volume 1: Text

[63] York Archaeology 2022

[64] Howard nd

[65] AMS 2023

[66] Garton, D., Barton, D. and Bateman, M.D.(2020) Farndon Fields, Newark, Nottinghamshire: Windermere Interstadial deposits with potential for Late Upper Palaeolithic human activity. Mercian Geologist 20: p5-14

[67] A narrow, elongated plateau or ridge landform between two valleys

period. Although Holocene reworking of the sands and gravels has disturbed this site, an alluvial and coversands sequence on slightly lower lying ground has preserved in-situ activity.[68]

4.5.9 The 2022 ground investigation monitoring and subsequent deposit modelling carried out by York Archaeology[69] indicate that the Pleistocene Holme Pierrepont Sands and gravel deposits have mostly been reworked, with intact areas of this deposit very sparse within the Scheme. There was however in the interventions east of the A1 Winthorpe an area of Balderton Sand and Gravel. These deposits were 7 to 8.5 metre thick, infilling a palaeovalley 1.5 to 3 kilometre wide that is a former course of the Trent flowing between Newark and Lincoln.[70] Within the Scheme this deposit was represented by a dense reddish brown slightly gravelly fine to coarse sand, and gravel of fine to coarse sub-rounded to rounded flint and limestone.[71] Although in the ground investigation no organic deposits were recorded associated with the Balderton Sand and Gravel, there is evidence that this deposit is sometimes associated with a palaeosol and organic silts.[72]

Holocene deposits

4.5.10 The start of the geological epoch of the Holocene[73] broadly corresponds with archaeological periods from the Mesolithic to the present day. The alluvial deposits along the River Trent floodplain largely date from this period, although there is evidence for earlier deposition during the late Devensian (14,000-13,000 BP).[74] They exist as blankets of floodplain deposits and where they are waterlogged, they provide an environment suitable for the preservation of palaeoenvironmental evidence and other organic materials. Archaeological sites, materials and landscapes can also be sealed within, and below the alluvium and preserved through waterlogged conditions.[75]

4.5.11 The earliest Holocene deposits represent reworking of the underlying Holme Pierrepont Sands and Gravels, this reworking is known as the

[68] Cotswold Wessex Archaeology 2011, p218-219

[69] York Archaeology A46 Newark North bypass archaeological and geoarchaeological monitoring of ground investigations

[70] Ibid

[71] ibid

[72] BGS Lexicon of Named Rock Units - Result Details

[73] The Holocene is the present epoch of the Quaternary period (11,700 years ago to the present day)

[74] Cotswold Wessex Archaeology 2011, p221

[75] Kibblewhite et al. (2015), Predicting the Preservation of Cultural Artefacts and Buried Materials in Soil, Science of the Total Environment 529.

Hemmington Member Sand and Gravel.[76] This reworking is represented by coarse sands deposited by the Trent when it was a high energy river. These coarse deposits were overlain by fine grained alluvium from overbank flooding which may also include organic deposits which would have formed when flood water retreated leaving waterlogged soils.

4.5.12 The location of the Scheme, encompasses an area between the Middle and Lower Trent, considered as being highly mobile during the Holocene characterised by lateral migration and avulsion.[77] This has left a series of incised palaeochannels. The palaeochannels of the Trent have been the subject of several mapping projects using LIDAR and aerial photography.[78] One has been recorded at Farndon and several relict channels are mapped along the eastern side of the Trent, around Kelham and Averham.[79] The exact age and history of the palaeochannel is not currently known. The Old Trent Dyke also forms part of a historical land boundary belonging to the parishes of Southwell, Farndon, East Stoke, and Newark, as well as the division between the hundreds of Thurgarton, Newark, and Newark Borough. This indicates that the landscape feature may date to an earlier i.e. Early Medieval (c. AD 410-1066) period. The physical configuration of the river landscape formed a crucial factor in the spatial resolution of human settlement.[80]

4.5.13 Geophysical Survey undertaken in 2022 (MM1261) revealed a possible curving palaeochannel (MM931) within fields to the south-west of Winthorpe, between the River Trent and A1 (see Section 4.10). This indicates the potential for geological palaeolithic activity to be encountered. The possible paleochannel is located directly north of a large later settlement and may be instead relate to this feature.

4.5.14 Although alluvial deposition can preserve evidence of human occupation, it can also impact on its survival and visibility. The extent of reworking by the river during the early Holocene means that evidence for in-situ Mesolithic activity is unlikely to survive. During this period, rising relative sea level and stable vegetation appears to have resulted in a relatively stable river system.[81]

4.5.15 During the Neolithic and early Bronze Age periods, the course of the Trent and its tributaries enter a phase of lateral instability. The

[76] Bridgeland et al 2014 Quaternary deposits of the Trent

[77] Brown et al 2013 . Late Pleistocene– Holocene river dynamics at the Trent-Soar confluence, England, UK. Earth Surface Processes and Landforms, 38(3), 237-249

[78] Malone and Stein Mapping the palaeochannels of the Trent.

[79] Wessex Archaeology 2014 River Trent Crossing, Nottinghamshire: Geoarchaeolo

[80] Baker, S. 2006 The palaeochannel record in the Trent Valley UK: contributions towards cultural heritage management. Internet Archaeology 20. https://doi.org/10.11141/ia.20.3

[81] AMS 2023,

channels appear to have been significantly reworked, which were likely driven by both climactic factors, as well as human activity like woodland clearance. Into the Iron Age, the intensification of woodland clearance and agriculture likely led to increased soil erosion. Sediment would have accumulated in minor streams and abandoned river channels.[82]

4.5.16 The Trent continued to be mobile into the Roman and medieval periods. The sedimentation of secondary channels reduced the number of major channels and increased the lateral stability of the Trent system. An increase in overbank flooding would have resulted in the burial of archaeological materials, as demonstrated at Kelham.[83]

4.5.17 Attempts at stabilising the Trent were carried out in the medieval period. The river was split into two channels during this period. However, there were a series of large-scale flood events which have been recorded archaeologically.[84] Evidence for continued human intervention is evidenced into the post-medieval period, for example, through the creation of navigation works and channel straightening.

4.5.18 The 2022 monitoring of ground investigation[85] revealed organic alluvium in 12 interventions, spread across the Scheme, with six of the locations associated with the Old Trent Dyke. With the other locations also overlapping with palaeochannels identified by LIDAR. Organic deposits were also observed at other locations also associated with palaeochannels however these proved difficult to sample either due to poor recovery or due to geotechnical needs. These organic sediments were preserved in low lying consistently waterlogged condition. The formation of organic silts within these features suggests low energy or stagnant channel conditions which allowed for the gradual accumulation and preservation of organic matter.

4.5.19 Across the Scheme fine grained minerogenic alluvium was recorded during the 2022 monitoring of ground investigation[86]. For the most part, these sediments were highly oxidised and have a low potential to preserve palaeoenvironmental remains however may seal archaeological remains.

[82] AMS 2023

[83] Knight, Howard and Leary 2004 p117-8

[84] Elliot, Jones, Howard 2004, p156

[85] York Archaeology 2022

[86] York Archaeology 2022

4.6 Historic landscape character

4.6.1 This section provides an overview of the baseline historic landscape characteristics for the study area.

4.6.2 The Nottinghamshire Historic Landscape Characterisation[87] (HLC) identifies 21 character areas across the county. Most of the Nottinghamshire landscape is one of modernity, specifically modern settlement, modified field patterns, woodland and industries, military installations, and leisure, which account for 60% of the county's area. Less than 40% of the county's area has remained relatively unchanged since the 19th century.

4.6.3 The landscape within the 1 kilometre study area is largely agricultural in character. However, areas of medieval and early post-medieval field systems are rare in the study area. There are areas where the field organisation reflects patterns of medieval open field systems, particularly west of Newark and at Kelham. These areas are characterised by strong linear boundaries and their narrowness in proportion to their length.

4.6.4 There are small areas of early post-medieval enclosure that are loosely geometric in their layout. These fields were laid out on a piecemeal basis, or by agreement, and generally pre-date the parliamentary enclosure of the 18th and 19th centuries. These characterise the landscape around some of the smaller villages, in particular Kelham and Averham.

4.6.5 Much of the landscape around the 1 kilometre study area is one of modernity and past field patterns are no longer readable in the landscape. The loss of boundaries and amalgamation of fields has been a continuous trend since the late 19th century. However, this accelerated post-World War II with the intensification of food production and introduction of large agricultural machinery.

4.6.6 Field boundaries within the 1km study area tend to be defined by low hedgerows, particularly the amalgamated fields of the 19th and 20th centuries. Some of the hedgerows defining earlier enclosures are interspersed with mature trees.

4.6.7 Former quarries also contribute to the historic character of the landscape within the 1 kilometre study area. Quarrying for sands and gravel was carried out on a small scale during the post-medieval period, although historic mapping shows that this was not an extensive activity within this part of the Trent valley. However, quarrying became extensive during the 20th century. There is a

[87] Nottinghamshire County Council (2016, updated 2022) Nottinghamshire Historic Landscape Characterisation (HLC), [online] available here: Nottinghamshire Historic Landscape Characterisation (HLC): Introduction (archaeologydataservice.ac.uk) (last accessed December 2023).

concentration of former and extant quarries, located between Newark and South Muskham. This area is characterised by large and open excavated areas, some of which are now filled with water. The depths of excavation required for these quarries have left a lasting impact on the landscape and one example has been reused as a nature reserve. Many of these have been colonised by vegetation, which has softened the visual impact of these former quarry pits.

4.6.8 The settlement pattern within the 1 kilometre study area is one of small villages including Averham (MM428), Farndon (MM429), Kelham and (MM430) and Winthorpe (MM432), and the large town at Newark. Newark (MM431). These settlements have early medieval origins and are designated as conservation areas. The historic plan of these villages has been compromised to an extent, largely by later 20th and early 21st century residential development. However, the medieval plan of Newark is still reflected in surviving streets and the continued focus around the grade I listed Church of St. Mary Magdalene (MM022) and scheduled Newark Castle (MM001). Kelham also retains its historic core, which is linked to the survival of the grade I listed Kelham Hall (MM018) and its associated non-designated parkland (MM828) within the village.

4.6.9 Linear strips and clumps of woodland dot the 1 kilometre study area and contribute to its character. There is no woodland classed as ancient and most woodland growth appears to be relatively recent. There are concentrations along the banks of the River Trent, as well as within non-designated landscaped parks at Kelham (MM828), Langford (MM829) and Winthorpe Halls (MM830). Plantations played an important role in the landscape design of late 18th century parkland, as they formed strong boundaries and were used to funnel and shield views.

4.6.10 Linear transport routes have also had a significant influence on the formation of this historic landscape within the 1 kilometre study area. The Fosse Way (MM507) has formed a main arterial route since its construction during the Roman period and influenced the development of Newark. Its strategic importance is also reflected in its close proximity to the River Trent. There are two major rail routes, served by two stations in Newark at Northgate and the Castle. The construction of the A46 during the late 20th century had a significant effect on the landscape, severing historic field boundaries and communication routes. The route sits on an embankment, raised over the relatively flat landscape and requiring large concrete bridges to traverse the River Trent and the railway lines.

4.6.11 The construction of Royal Air Force (RAF) base at Winthorpe (MM848) also had a significant impact on the historic landscape. The airbase was active between September 1940 and the 1960s and is characterised by the concrete runways which cut across historic field systems.

4.7 Map regression

4.7.1 Table 4-5 contains the results of the historic map regression exercise undertaken for this DBA.

Table 4-5: Details of the map regression exercise for the study area

Date	Name	Description
1645	Richard Clampe: A Description of the siege of Newark upon Trent	This 1645 map depicts the siege of Newark. Newark is surrounded by a line of civil war defences. The map shows buildings along Castle and Mill Gate and around the town square, as well as a complete Newark Castle (MM001) and St. Mary Magdalene's Church (MM022). The first line of circumvallate (MM660) extend northwards almost towards Winthorpe, where the River Trent is guarded by a possible camp with bridges crossing the two channels. The defences surrounding Winthorpe and Farndon (mapped as 'Farneton') are also shown on this map. Newark is the largest settlement depicted, with no discernible plan or arrangement. Winthorpe is smaller but planned around a crossroads. Averham (mapped as 'Ayrum') and Kelham do not have any defences surrounding them, but both survive as small rural settlements.
1790	W. Attenburrow's 1790 map of town of Newark	Development is contained along Castle Gate and Mill Gate in the west and Market Place, Balderton Gate, Barnby Gate and Beamond Street in the east. Agricultural land is mapped to the south of Lombard Street and north of Crofs Lane. Some evidence of strip fields to the south of Beamond Street; however, much of the field system is enclosed with rectangular shaped plots.
1834/5	George Sanderson Map of Nottingham	The Midland Railway from Nottingham to Lincoln is visible on the western bank of the River Trent. Langford Hall (MM026) is depicted to the south of Langford in the northern extent of the Scheme. The parkland at Winthorpe Hall (MM027) is present to the south-west of Winthorpe. The land between Winthorpe and the northern extent of Newark is labelled as 'Nursery Ground' and nether lock is also labelled within the River Trent to the west. To the east of Newark is a lime kiln, brick kiln and numerous windmills. Farndon Windmill (MM139), as well as five other mills within the immediate vicinity labelled 'steam mills', are mapped to the west of the Scheme near Farndon. At Averham, several buildings and the church are depicted. The post-medieval gardens at the Old Rectory are not shown. Many of the buildings present today are mapped at Kelham, including the hall (MM018) and its grounds (MM828).
1838	Dewhurst and Nichols, Map of the Borough of Newark upon Trent	Urban development is compact along Castle and Mill Gate and along Lombard Street, Stodman Street and Kirkgate, where the Town Hall (MM021) and St. Mary Magdalene's Church (MM022) are located. There are

Date	Name	Description
		several rectangular buildings in the northern extent of the settlement, one of which is labelled as a foundry. To the east of Newark are dispersed buildings, including a gas works and numerous windmills within the enclosed fields beyond. The northern extent of the Scheme is contained within a rural landscape, featuring enclosed field systems.
1842 & 1845	Newark-on-Trent Tithe Map	Settlement is predominantly focused between Guildhall Street in the east, Castle Gate / North Gate in the west, George Street to the north and Southfield Terrace and Mill Gate in the south. Development is mapped along the eastern bank of the River Trent along Castle Gate and Mill Gate. St. Mary Magdalene's Church (MM022), remains of Newark Castle (MM001) and the Town Hall (MM021) are all visible. The northern extent of the Scheme study area comprises a rural landscape, featuring enclosed field systems.
1884	Ordnance Survey Nottinghamshire Sheet XXXV.NW Six-inch	The south-western extent of the Scheme study area comprises of a predominantly rural landscape, featuring enclosed field systems. Farndon exists as a small rural settlement, now conservation area (MM429) located in between the Fosse Way (MM507) and the River Trent. The small rural settlement features St. Peter's Church and a Methodist Chapel, as well as a vicarage and school. A smithy is depicted along Fosse Way, at the junction into Farndon.
1884	Ordnance Survey Nottinghamshire Sheet XXXV.NE Six-inch	Mapping indicates Newark as a well established town, located on the eastern side of the River Trent. There is little agricultural land within Newark, however within its immediate vicinity mapping depicts enclosed field systems surrounding the city. Midland Railway (Nottingham to Lincoln line) can be seen north-west of Newark. The rail line travels west to north-east, roughly following the course of the River Trent. Several mills and foundry's are depicted along Fosse Way (MM507).
1884	Ordnance Survey Nottinghamshire Sheet XXX.SE Six-inch	Mapping indicates a significant amount of rail networks intercutting through the rural landscape and passing through the city of Newark. The Great Northern Railway can be seen travelling on a north-west/south-east alignment, passing through the River Trent, cutting across the Midland Railway (Nottingham to Lincoln) and continuing along the eastern extent of Newark on Trent. During this period, the Great Northern Railway acts as a boundary between the dense development seen in Newark and the rural agricultural landscape located on the eastern side of the rail line. The village of Winthorpe (MM432) is illustrated further north-west, comprising of a church, town hall, Methodist chapel and a windmill.
1900	Ordnance Survey Nottinghamshire Sheet XXXV.NW Six-inch	No change from the 1884 OS mapping. However, a mortuary chapel now appears on the north-eastern side of Farndon. Much of the rural landscape remains the same, with no change to field patterns.

Date	Name	Description
1900	Ordnance Survey Nottinghamshire Sheet XXX.SE Six-inch	There is little change compared to the 1884 OS mapping. A few small building structures are now illustrated between Newark and Winthorpe; known as The Hollies.
1901	Ordnance Survey Nottinghamshire Sheet XXXV.NE Six-inch	There is no distinctive change compared to the 1884 OS mapping. Few additional structures can be seen located along the outskirts of Newark, such as the Newark Boiler Works on the eastern side of the city and Middleton Villas located on the south-eastern outskirts. The rural landscape surrounding Newark remains generally consistent with 1884 OS mapping.
1921	Ordnance Survey Nottinghamshire Sheet XXXV.NW Six-inch	No change from the 1900 mapping. Farndon remains a small village with no significant development, and the rural landscape appears consistent with 1900 mapping.
1921	Ordnance Survey Nottinghamshire Sheet XXXV.NE Six-inch	The majority of development within Newark appears to concentrate within the south-eastern outskirts. Multiple new streets can be seen, such as Winchelsea Avenue, Milner Street and The Park. Residential dwellings have been constructed along these newly formed streets. Directly south of the new residential area, mapping depicts Magnus Grammar School. The school was most likely constructed as a result of higher population within the area. Within the north-eastern extent of Newark, additional factories/workshops were developed, such as Stanley Works. As a result of increased urbanisation there is a decrease in agricultural fields within the immediate vicinity of Newark.
1921	Ordnance Survey Nottinghamshire Sheet XXX.SE Six-inch	There is no significant change from the 1900 OS mapping. The rural landscape appears consistent with no chance in field patterns. Winthorpe (MM432) still exists as a small village with little development.
1947	Ordnance Survey Nottinghamshire Sheet XXXV.NW Six-inch	There is no significant change from the 1921 OS mapping. North-east of Farndon there appears to be additional street names added, such as Lynton Close and Brockon Avenue.
1947	Ordnance Survey Nottinghamshire Sheet XXXV.NE Six-inch	1947 OS mapping depicts significant development within the southern outskirts of Newark. There appears to be a new street and road system under construction between the tramway and the Newark and Bottesford railway line, forming a new residential area. As a result of the new development, there has been dramatic change to field system patterns.
1947	Ordnance Survey Nottinghamshire Sheet XXX.SE Six-inch	Mapping depicts a new residential area under development directly south of The Hollies between Winthorpe Road and Fosse Way (MM507), with continued development directly south-east of Fosse Way. There has been little development in Winthorpe (MM432), which still remains as a small village.

Source: National Library Scotland (2023) & Nottinghamshire Archives (2023)

4.8 Remote sensing

4.8.1 Remote sensing covers analysis of lidar data and aerial imagery in order to identify previously unrecorded heritage assets. This assessment forms a pragmatic level of analysis suitable to be incorporated within a DBA but does not comprise a detailed remote sensing survey.

Lidar

4.8.2 The data examined for this assessment formed part of the Environment Agency National LIDAR Programme[88]. The data used is the processed Digital Terrain Model, which has been used in order to reduce masking by vegetation and reduce visual interference by modern buildings. The data has been obtained in the form of geotifs and examined in GIS. Geotif tiles covering the entire proposed route were examined.

4.8.3 Although lidar data across the study area does appear to show a number of features relating to palaeochannels and other fluvial features relating to the tributaries of the Trent, only one of these features appears to extend within the Order Limits of the Scheme. This asset comprises a potential palaeochannel (MM912) located on the southern side of the course of the Old Trent Dyke (MM911). This feature does not coincide with any of the previous geotechnical investigations[89] that have been examined in the preparation of this assessment.

Aerial images

4.8.4 Cropmarks of possible archaeological origin across the Scheme study area have been extensively mapped and analysed as part of the Nottinghamshire Mapping Project,[90] which was part of the English Heritage National Mapping Programme.[91] These cropmarks have subsequently been recorded within the HER.

4.8.5 Additional analysis of aerial imagery largely confirmed the presence of previously mapped features. However, one additional cultural heritage asset was identified at Winthorpe, which has been interpreted as a large enclosure (MM934). Although undated, it is of similar

[88] Environment Agency (2021) National LIDAR Programme [online] available at: https://www.data.gov.uk/dataset/f0db0249-f17b-4036-9e65-309148c97ce4/national-lidar-programme (last accessed December 2023)

[89] AMS (2023), Regional Delivery Partnership A46 Newark Bypass. Geoarchaeological Desk Based Assessment

[90] RCHME 1999, The Nottinghamshire Mapping Project, A Report for the National Mapping Programme. Available at: https://historicengland.org.uk/research/results/reports/6885/TheNottinghamshireMappingProject_AreportfortheNationalMappingProgramme

[91] A programme, led by Historic England (as English Heritage) to identify and record all archaeological sites and landscapes visible on aerial photographs.

morphology to cropmark enclosures mapped across the Trent Valley and is likely to be Iron Age/Roman in date (see Section 4.11).

4.8.6 The programme of geophysical survey has enhanced our knowledge of assets identified as cropmarks and has revealed further features associated with them (see Section 4.10). However, geophysical survey has also not detected some assets recorded through the Nottinghamshire Mapping Project. These include:

- Settlement at Winthorpe (MM541): Aerial survey shows a rectilinear enclosure, with indistinct internal features forming what may be smaller enclosures. Geophysical survey has clarified the plan of some of the features, revealing a structured internal layout of smaller enclosures. The survey also revealed several internal circular features, measuring approximately 5m diametre, which were not evident from cropmark data. The complex is also larger than initially recorded and geophysical survey shows that it extends further north towards the A1.
- Pit Alignment at Newark (MM849): The cropmark revealed a single line of pits curving from west to east over a distance of around 170m. However, no trace of this feature was identified through geophysical survey.
- Cropmark Complex at Newark (MM876): The cropmark data shows an east-west orientated, partly double ditched, linear, with one large and two smaller enclosures associated with it. Geophysical survey recorded several more, overlapping small enclosures aligned along the east-west linear. A possible palaeochannel (MM931) was also revealed through survey. However, geophysical survey did not detect a second ditch along the main linear which had been mapped previously.

4.9 Site walkover

4.9.1 Between February 2022 and February 2023, two site walkovers were undertaken by qualified heritage specialists on behalf of National Highways. A summary of these walkovers is captured below.

Photo 4-6: Ploughed field north of the River Trent

Source: Mott MacDonald (2022)

4.9.2 An initial site walkover of along the route of the Scheme was undertaken by qualified heritage specialists on behalf of National Highways on 2 February 2022. This was undertaken largely from publicly accessible areas with the aim of establishing an onsite knowledge of the topography, geography and setting of the Scheme in relation to the heritage assets recorded within the NHLE and Nottinghamshire HER. The walkover was also used as an opportunity to identify any non-designated heritage assets not previously identified from documentary evidence.

4.9.3 The fields in the west of the Scheme south of Winthorpe were not accessible at this point, however all fields were visible from areas of public access and it was noted that these were mostly arable fields with no discernible additional potential.

4.9.4 Fields north of the River Trent were walked with no discernible new heritage features identified (see Plate 4.6). South of the River Trent the grade II listed Farndon Windmill (MM139) was visited and the proximity to the Scheme noted.

4.9.5 All locations of designated monuments identified prior to the walkover were visited noting the proximity to and potential impacts upon these heritage assets, confirming previous work undertaken at earlier Options Appraisal stages of the Scheme development.

February 2023

4.9.6 A second site walkover was undertaken by qualified historic environment specialists on behalf of National Highways on the 7 and 8 February 2023. The aim of this survey was to undertake setting assessments for the designated and non-designated heritage assets likely to be impacted by the Scheme and to also visit areas identified as archaeologically sensitive such as those areas likely to be used for FCA.

Photo 4-7: Grade II listed Farndon Windmill (MM139)

Source: Mott MacDonald (2022)

4.9.7 The walkover on the 7 February 2023 visited sites across the Scheme including the grade II listed Farndon Windmill (MM139), designated and non-designated assets around Cattle Market Roundabout, Concrete Footbridge Across River Trent (MM038), Winthorpe Conservation Area (MM432) and The Church of St Michaels at Averham (MM019).

4.9.8 During the visit to Farndon Windmill (MM139), the proximity of the existing road was noted, with road and traffic noise encroaching significantly into its setting (see Photo 4-7). The windmill likely bears a relationship with historic buildings set out in a linear formation to the rear and which also form part of its setting. These may be considered as curtilage listed.

4.9.9 The visit to Cattle Market roundabout included an inspection of the ditch and tree line separating the scheduled Civil War redoubt 550m

south-east of Valley Farm (MM007) from the area to be used for the Scheme, confirming it will provide adequate separation from the construction works.

4.9.10 The Causeway Arches 500 metres north-west of Level Crossing (MM228) were also inspected. Their setting and heritage value is intrinsically connected to their use as a causeway over the flood plain. Sections of the north-west side of the arches appear to have been rebuilt (aligning with documentary references).

4.9.11 Grade II* Concrete Footbridge Across River Trent (MM038) and the surrounding area including the non-designated assets of the Clapper Gates (in particular MM679) share a riverside setting, with their function and heritage value being intrinsically linked to the river. The existing road bridge encroaches into this setting and the noise creates a negative impact, whereas any noise from a passing train is occasional and temporary.

4.9.12 Winthorpe is a nucleated medieval settlement with church and manor house still retaining a prominence within the village. The settlement now forms the Winthorpe Conservation Area (MM432), which contains many large or notable 18th century houses, with associated parks or gardens. Twentieth century infill and expansion has altered the size of the village, but its character and evolution is still readable. Parts of the conservation area, particular to the south and east boundaries, including key buildings (All Saints Church (MM063) and Lowwood (MM053)) are particularly impacted by the presence and the noise of the A1 and A46 roads.

4.9.13 Langford Hall (MM026) is situated in the centre of its grounds, approached by historic driveways which are part of a non-designed designed parkland landscape (MM829). The Hall itself and associated coach house (MM059) and stables (MM061) are well buffered by its parkland and surrounding fields from the impact of road or road noise into its surviving setting.

4.9.14 The walkover on the 8 February 2023 targeted the Kelham and Averham FCA which included agricultural land either side of the A617 to the south-west of Kelham Hall (MM018).

4.9.15 On the east side of the A617, south of Kelham Hall (MM018) a boundary ditch was inspected, which may be altered as part of the Scheme to allow flow from the river to the Kelham and Averham FCA. The ditch forms part of the boundary of Kelham Hall (MM018) and is bordered to the north by a wall associated with the curtilage of grade II listed St Wilfrid's Church (MM024) within the gardens of Kelham Hall (see Photo 4-8). The wall forms an effective ha-ha to the fields beyond which were once part of Kelham Halls grounds.

Photo 4-8: Kelham Hall (MM018) boundary wall and ditch

Source: Mott MacDonald (2022)

4.9.16 The ditch also forms part of a historic parish boundary which is visible on the 1st edition Ordnance Survey map of 1884. While the current ditch is relatively shallow for much of its length a previous excavation recorded a former course of the ditch (MM940) as being approximately 2 metres wide and 1 metre deep. The wall was noted to be in poor repair for much of its length with plants having damaged the wall and grown through it.

4.9.17 On the west side of the A617 to the immediate south-west of Kelham House Country Manor were recently ploughed agricultural fields surrounded by hedgerows and mature tree planting. To the south-west of these fields, close to the junction of the A617 and Staythorpe Road was a triangular area of scrubland, containing a pond with timber pumphouse and an area of hardstanding with mounds of building rubble seemingly belonging to a former brick built structure. To the north and west of this area of scrubland was a large area of pasture subdivided by electrical fencing.

4.9.18 The site walkovers did not identify any discernible new heritage features.

4.10 Archaeological surveys

4.10.1 Between March 2021 and June 2023 the Applicant commissioned a programme of archaeological survey including metal detector,

fieldwalking, geophysical surveys, geoarchaeological assessment and archaeological monitoring.

4.10.2 The aim of the surveys was to inform this DBA and support the assessment set out within Chapter 6 (Cultural Heritage) of the ES [APP-050]. The scope of these surveys is set out within the AMP [REP5-026]. The technical reports associated with these surveys/investigations are presented in Appendices D to I of this DBA.

4.10.3 For ease of description the Order Limits of the Scheme were divided into survey areas numbered Area 1 through to Area 51. The location of these areas are illustrated in Figure 6.3 (Survey Areas) of the ES Figures [AS-036].

Metal detector survey (MM1262)

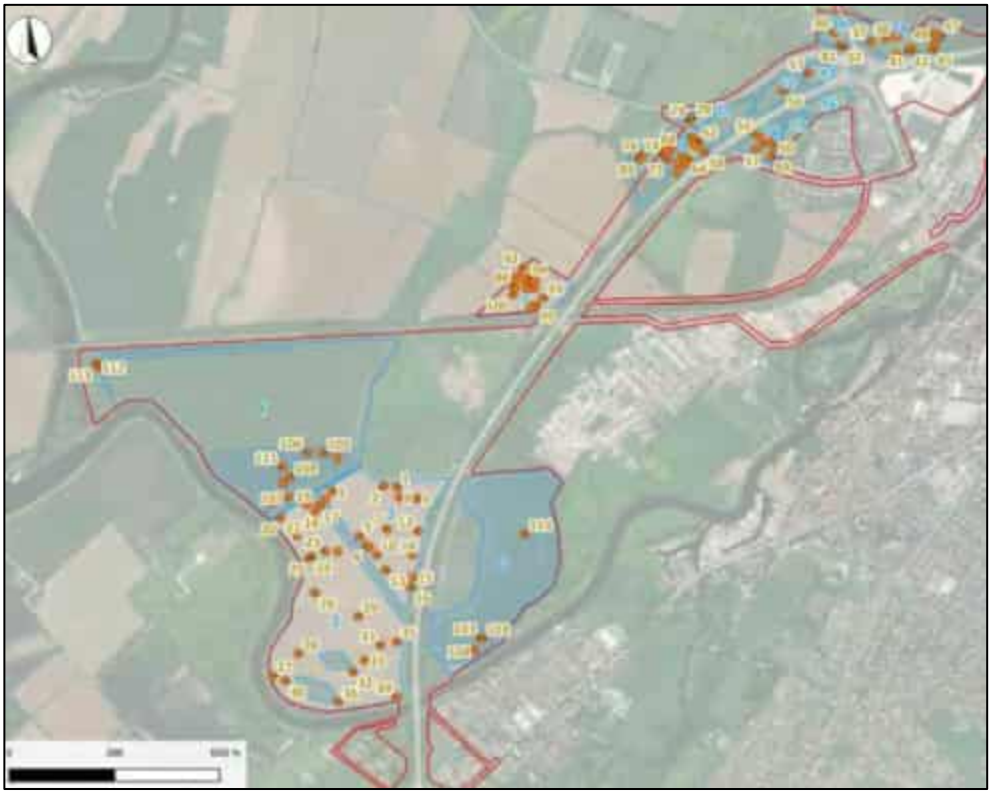
4.10.4 Between September 2022 and January 2023, metal detector survey (see Appendix E) was undertaken by AMS on behalf of National Highways.[92] The survey was undertaken along the route of the Scheme, specifically targeting Areas 2 to 4, 6, and 7 to 18 (see Figure 4.1). However, approximately only one third of Area 4 was not in crop so survey was limited in this area.

4.10.5 The objectives of these surveys were to provide information about the archaeological resource within the Scheme area, including its presence/absence, character, extent, date, integrity, state of preservation and quality.

4.10.6 A total of 115 significant metal finds were retrieved, the earliest of which was identified as a possible Roman copper alloy bracelet or bangle and a possible end of a second bracelet which may also be of Roman date (see Figure 4.1). The majority of finds discovered dated to the post-medieval period and are most likely associated with the English Civil War and the sieges of Newark between 1642 and 1646. These finds comprised of multiple musket-calibre balls, a single pistol ball, lead shot, gunflint, as well as other items such as belt buckles, several fragments from copper alloy vessels and decorative fittings (see Photo 4-9). The remainder of finds largely date to the post-medieval period, comprising of coins and buttons of the 18th to 19th century.

[92] AMS (2023). Metal Detecting Survey Report of Lands along the A46 Newark Northern Bypass. February 2023

Figure 4-1: Plan of metal detector survey locations and results



Source: AMS (2023)

4.10.7 Based on the results of this survey, only limited inferences can be drawn to the military actions involved with the various sieges of Newark during the English Civil War. The area surveyed was within 'The Island', an area between two branches of the River Trent. This would have been under Royalist control as Clampe's map, showing the situation in 1646, marks several earthwork redoubts with labels such as 'an ould work of the Newarkers'.

4.10.8 Consultation with Newark & Sherwood District Council Historic Environment Officer and the Nottinghamshire County Council County Archaeologist established that previous unreported metal detecting may have removed significant finds without record, specifically finds relating to Civil War activity. Therefore, in interpreting the results of these surveys, it is important that these potential sources of bias are considered. A lack of metal finds may not prove conclusively that activity or settlement at a particular period is not present.

Photo 4-9: Selection of finds from the metal detector survey

Source: AMS (2023)

Fieldwalking survey (MM1263)

4.10.1 In January 2023, fieldwalking survey (see Appendix D) was undertaken by AMS on behalf of National Highways.[93] The survey was undertaken along the route of the Scheme, specifically targeting Areas 2 to 4, 6 and 7. However, access to Areas 2, 3 and 7 was not available, and approximately only one third of Area 4 was not in crop. As such only Areas 4 and 6 were investigated (see Figure 4-2).

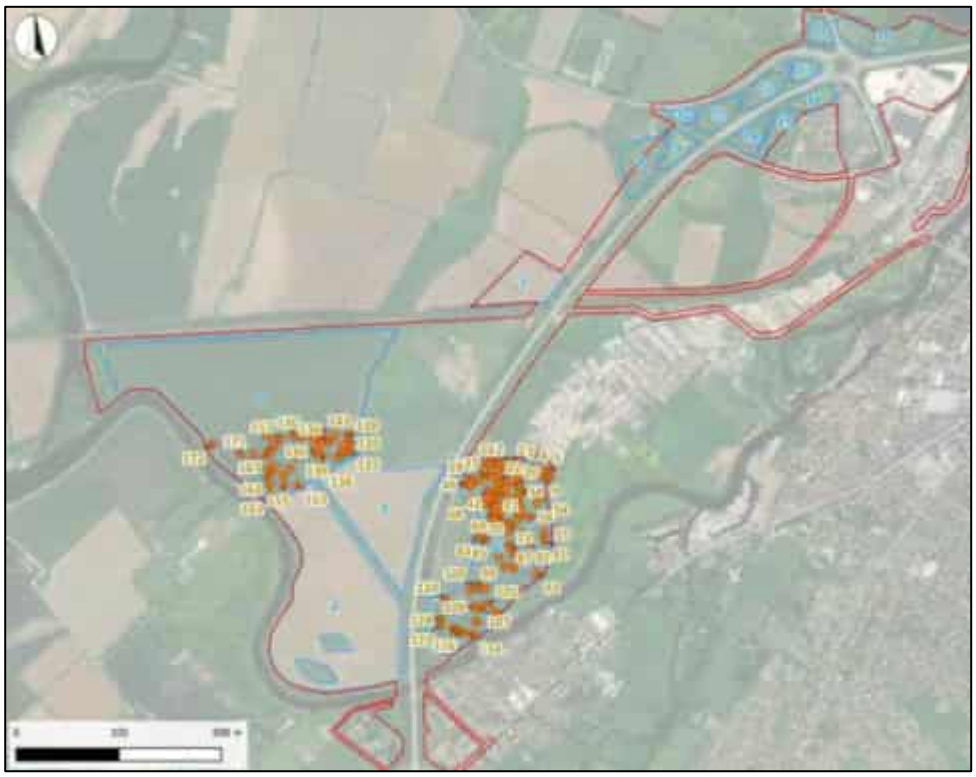
4.10.2 The fieldwalking survey recorded 172 items, mostly pottery sherds and a few fragments of clay tobacco pipe (see Figure 4-2). No prehistoric, Roman or early medieval finds were noted. The earliest finds were three sherds of medieval pottery with a date range from the 13th to 14th century. The bulk of pottery had a date range from the late 18th to the early 20th century. The largest group consisted of white glazed wares, some with traces of blue transfer printed decoration, followed by Nottinghamshire stonewares and Black glazed earthenwares.

4.10.3 The finds assemblage did not indicate the presence of any early underlying archaeological sites, nor did it have any great concentration of finds dating to the English Civil War period. In general, the results seemed of low archaeological significance.

[93] AMS (2023). Fieldwalking Survey Report of Lands along the A46 Newark Northern Bypass. February 2023.

4.10.4 Subsequent to undertaking the survey, Area 4 was removed from the Order Limits of the Scheme. Following consultation and agreement with heritage stakeholders.

Figure 4-2: Plan of fieldwalking survey locations and results



Source: AMS (2023)

Geophysical survey (MM1261)

4.10.1 Geophysical survey (see Appendices F and G), comprised of high-resolution magnetic gradiometry was undertaken by AMS on behalf of National Highways between September 2022 and March 2023.

4.10.2 For ease of description each geophysical survey area has been assigned an individual MM number and the possible archaeological features within each area have been grouped under this number.

Phase 1

4.10.3 Phase 1 of the geophysical survey targeted Areas 20 to 24 and 28 to 32, which were located along the route of the Scheme[94] (see Figure 4-3).

[94] AMS (2022) Geophysical Survey Report of Lands along the A46 Newark Bypass (October 2022)

Figure 4-3: Phase 1 geophysical survey area locations

Source: AMS (2022)

4.10.4 Within Area 20 (MM930) multiple linear features were identified, interpreted as possible Iron Age or Roman settlement enclosures and associated relict field systems. These included; a network of overlapping and interconnected ditches extending over an area measuring about 140 metres by 65 metres (m), which corresponds to cropmark monument (MM541), the possible footprint of several circular structures averaging 5m in diametre, as well as other discrete features comprising potential ditches and pits.

4.10.5 Within Area 21 (MM931) multiple linear features were identified, which included: a rectilinear network of ditches suggestive of possible Iron Age or Roman settlement enclosures and associated relict field systems associated with features identified in Area 20 (MM930); possible small enclosure/structure 10m in diametre and a possible paleochannel or artificial watercourse.

4.10.6 Within Area 22 (MM932) a possible archaeological feature was identified, which comprised a flat-bottomed, ‘U shaped’ feature measuring approximately 50m by 5m, perhaps defined by narrow ditches. The precise nature, date and significance of this feature are uncertain.

4.10.7 Within Area 24 (MM933) possible archaeological features were identified, which included; a network of ‘ditch type’ features, possibly

indicative of former Iron Age or Roman enclosures and/or field systems extending over an area measuring c.155m by 85m and a possible bank of relict field boundary, c.150m in length.

4.10.8 Within Area 28 (MM935) possible archaeological features identified included; pits/spreads, some possibly containing burnt or fired material. Archaeological interpretation is cautious. Modern/ferrous origin is also conceivable for these features.

4.10.9 Within Area 29 (MM936) possible archaeological features identified included; pits/spreads similar to those identified in Area 29 (MM935), and a possible quarry pit measuring c.70m by 32m) which is not marked on historic OS mapping.

4.10.10 Within Area 30 (MM937) possible archaeological features identified included; a ring-ditch or circular structure defined by a narrow ditch or slot trench, approximately 10m in overall diametre which appears to be breached by a c.1.2m wide entrance gap and two possible circular enclosures measuring c.20m in diametre tentatively interpreted as Neolithic or Early Bronze Age in origin. A number of undated ditches and/or drains were also recorded.

4.10.11 Within Area 32 (MM938) possible archaeological features identified included: two ditches and/or relict field boundaries. These features are assumed to be modern in origin and related to the adjacent RAF Winthorpe.

Phase 2

4.10.12 Phase 2 of the geophysical survey targeted Areas 25 to 27, which were located along the route of the Scheme (see Figure 4-3), and 48 to 51, which were located at the Kelham and Averham Flood Compensation Area[95] (see Figure 4-4).

4.10.13 Within Area 25 (MM942), possible archaeological features were identified, which comprised of linear ditches. The precise nature and date of these features is uncertain, however they have been interpreted as former field boundaries.

4.10.14 Within Area 26 (MM943), possible archaeological features were identified, which comprised of ditches which corresponded to cropmarks mapped through aerial survey and possible pits which may contain burnt material. The precise nature and date of these features is uncertain.

4.10.15 Within Area 27 (MM944), possible archaeological features were identified, which comprised of linear ditches and possible pits. The linear features have been interpreted as former field boundaries and the pits are thought to be archaeological in origin.

[95] AMS (2023) Addendum to Geophysical Survey Report of Lands along the A46 Newark Bypass (March 2023)

Figure 4-4: Phase 2 Geophysical Survey locations at Kelham and Averham

4.10.16 Within Area 48 (MM945), possible archaeological features were identified, including a network of interconnected small enclosures, with associated pit like features. This has been interpreted as a possible enclosure or relict field system. Although undated, the morphology is similar to other identified enclosure cropmarks within the area and is likely Iron Age/Roman in date.

4.10.17 Within Area 49 (MM946), possible archaeological features were identified, which comprised of linear ditches. The precise nature and date of these features is uncertain, however they have been interpreted as former field boundaries.

4.10.18 Within Area 51 (MM946), possible archaeological features were identified, which comprises of a possible ditch/drainage channel or levelled bank, two narrow ditches and possible natural iron deposits. The possible ditch could derive from floodplain sediments.

Geoarchaeological monitoring (MM1266)

4.10.19 Between March 2021 and July 2021 York Archaeological Trust (YAT) carried out monitoring on ground investigations (GI) along the route of the Scheme (see Appendix H). In addition to providing the results of the archaeological monitoring of ground investigation, the final report also includes initial deposit modelling for the Order Limits of the scheme.

4.10.20 The original design of the works comprised the archaeological monitoring of 22 boreholes, 72 window samples, 18 machine pits, and 30 hand test pits, modified slightly on-site due to fieldwork constraints.

4.10.21 The basal unit of most boreholes was the mudstone bedrock, partially weathered towards the upper boundary. This weathered horizon was thickest near the Winthorpe Roundabout, adjacent to the River Trent floodplain. This area of weathered bedrock has been identified by the archaeological monitoring report as being a potential area for dryland archaeology close to the marshy deposits of the floodplain. The only area of the Scheme where mudstone bedrock was not recorded was the area where Balderton Sands and gravels were identified east of the A1.

4.10.22 Balderton Sand and Gravel was recorded exclusively east of the A1, continuing from the south through to the east of Winthorpe. This Pleistocene (MIS67/7) sequence represents some 7.00- 8.50m of deposits infilling a 1.50-3.0 kilometre-wide palaeovalley representing a former course of the River Trent between Newark and Lincoln.

4.10.23 Elsewhere on the scheme the mudstone bedrock was overlain by sands and gravels which likely represent either the Pleistocene outwash deposit of the Holme Pierrepont Sands and Gravels or the Holocene Hemington Sands and Gravels which represent early Holocene reworking of the earlier sands and gravels. However until observations can be made that demonstrate the reworking, it is to be assumed that the Sands and gravels represent the earlier Pleistocence Holme Pierrepont Sands and Gravels. The high likelihood of reworking could mask former land surfaces from which archaeological features and artefacts can be preserved.

4.10.24 A number of boreholes, particularly in the south of Scheme produced evidence of waterlogged organic sediment. Subsequent comparison with lidar imagery demonstrated that these boreholes were often associated with mapped paleochannels. The formation of organic silts within these features suggests low energy or stagnant channel conditions which allowed for the gradual accumulation and preservation of organic matter. This part of the Trent Valley is characterised by lateral migration and/or avulsion (with the numerous incised paleochannels providing waterlogged natural depressions for the accumulation and preservation of organic matter. Samples were obtained from these waterlogged deposits during the monitoring work. These samples will be processed to obtain dates for when the deposits formed and to understand the vegetation history of the area.

4.10.25 Overlying the sands and gravels and the organic deposits was a fine grained minerogenic alluvial deposit, which would have formed from overbank flooding of the migrating channels of the River Trent. For the most part these deposits were highly oxidised and have low potential to preserve palaeoenvironmental remains. The highly mobile

Trent Channel at this location also derives an increased possibility of sediment reworking, which can result in the movement and reburial of archaeological remains with the alluvium.

Geoarchaeological coring (MM1265)

4.10.26 Geoarchaeological coring was carried out within the Order Limits of the scheme by the appointed archaeological contractor between September 2022 and March 2023, (see Appendix K). This consisted of 38 purposive geoarchaeological boreholes targeting known paleochannels or floodplain alluvium.

4.10.27 Six boreholes (BH 9, 14, 17, 25, 35, 38) which were designed to target known paleochannels produced organic sediments albeit organic material mixed with minerogenic sediments. However, nine other boreholes targeting paleochannels failed to produce any organic material. In contrast seven organic deposits were in borehole locations not indicated as being in paleochannels (BH 2, 4, 10, 18, 23, 24, 27). More detailed consideration of the coring logs and LiDAR map data may determine whether these deposits also indicated the presence of paleochannels.

4.10.28 Only one borehole (BH 31) located within the Kelham and Averham FCA produced a humified peat deposit, however this proved difficult to sample. The remaining boreholes at Kelham either produced no organic material or were shown to be in the Holme Pierrepont sands and gravels indicating that the paleochannels were further west than originally thought and unlikely to be impacted by the Scheme.

4.10.29 Palaeoenvironmental work and radiocarbon dating has been recommended on organic samples collected as part of this work. The methodology for this analysis is documented within the AMP [REP5-026]. The results of this analysis will be used to confirm the age, significance and level of preservation of the deposits to enhance our current understanding of the evolution of floodplain and alluvial terrace within Newark. The results will also inform the archaeological mitigation strategy for the pre-commencement and construction stages of the Scheme, which will be set out within Chapter 6 of the AMP [REP5-026].

Archaeological monitoring (MM1264)

4.10.30 An Archaeological Watching Brief was undertaken within the Order Limits of the Kelham and Averham FCA, by the appointed archaeological contractor between 9 May 2023 and 11 May 2023, (see Appendix J).

4.10.31 The work involved archaeological monitoring of seven GI trial pits, each measuring between 3.1 metres and 4.0 metres in length and 0.5

metres wide and attaining depths of between 2.2 metres and 3.0 metres. While no archaeological features were observed in any of the pits, the work enabled observations to be made regarding the character of underlying deposits and the depth of recent overburden sealing potential archaeological layers and features.

4.10.32 Six of the pits were characterised by geological natural deposits of sand and gravel, likely comprising river terrace deposits, or possibly former gravel islands. Such deposits were generally first revealed around 0.5−0.7 metres below current ground level, being sealed beneath a simple sequence of subsoil and modern ploughsoil/topsoil; however, in S3TP38, an interface layer was recorded between the gravel and the subsoil comprising frequent small to medium-sized sub-angular stones in a reddish brown coarse sandy silt matrix. Such material may be the product of in-situ pedogenesis and could represent a relatively undisturbed 'ancient soil' that has the potential to contain archaeological artefacts. GI pit S3TP36 in Survey Area 49 was also notable for the thickness of overburden sealing natural sand and gravel with up to 1.2 metres of modern turf, topsoil and subsoil recorded.

4.10.33 One pit (S3TP42) in area 20 was significant for revealing over 2.0m of alluvial silts and clays overlying coarse gravel within which a small fragment of probable waterlogged wood was noted. The pit was located in an obvious low point in the landscape with pit S3TP43 to the east being higher and characterised by sand and gravel deposits beneath the subsoil and topsoil. Consequently, S3TP42 was likely excavated through a paleochannel of the River Trent. While the dates of the channel's formation and abandonment are not currently known, such deposits have the potential to produce long records of vegetation and land-use change/development as well as providing good conditions for the preservation of waterlogged remains, such as fish traps, revetments and river craft.

4.11 Archaeological and historical background

4.11.1 This narrative is based on information collated from the sources outlined in Section 3.4 and detailed in Sections 4.2 to 4.10. The indicative periods used are outlined in Table 4-1.

Palaeolithic (500,000 to 9,500 BC)

4.11.2 During the Palaeolithic periods, people would have lived in small, familial groups and survived through hunting animals and gathering natural resources. Climatic conditions during the Devensian meant that the presence of the ice sheet made much of Britain too cold and

hostile for human habitation. Human occupation likely occurred on the margins of the ice sheet and during warmer interstadials.

4.11.3 The raised sand and gravel terraces of the River Trent, deposited during the Ice Age (see Section 4.5), provide free-draining soils, easy access to water and a vital communication route. These terraces have provided an attractive location for human habitation since the Palaeolithic. The earliest evidence for occupation of the Trent Valley dates to the Middle Palaeolithic (250,000 to 40,000 years ago) and primarily derives from flint artefacts, collected from quarries. However, these artefacts have been moved through the movement of ice and glacial outwash along the River Trent. Consequently, these artefacts are often found in reworked sand and gravel deposits and were not located where they were originally discarded.[96]

4.11.4 Located within the southern end of the 500 metre Scheme study area is the Late Upper Palaeolithic (13,000 to 9,500 years ago) open-air site of Farndon Fields (MM503). The site lies on a glacial interfluve between the Devon and Trent rivers and has been investigated on several occasions since 1991. Hundreds of Late Upper Palaeolithic flints have been recorded primarily during fieldwalking and test pitting exercises, which established that the site comprised two artefact clusters within an area totalling approximately 15 hectares in extent.[97] Later fluvial activity associated with the River Trent has reworked the original layers the flints were deposited within, although analysis showed that they have not been redeposited far from their original place of deposition. Test pitting undertaken in 2015-2016 identified extensive buried deposits of Late Upper Palaeolithic activity at the site. Analysis of artefacts recovered from Farndon suggests a number of discrete areas of occupation and industrial activity, such as flint knapping, around possible hearths.

Mesolithic (9,500 to 4,000 BC)

4.11.5 Hunting and gathering of natural resources prevailed during the Mesolithic period. Climatic amelioration initiated widespread changes to vegetation patterns. Forests of birch and pine, followed by oak, elm and lime dominated the landscape. This change in vegetation type attracted a range of fauna species, such as red deer, aurochs, boar and elk.

4.11.6 The well-draining soils on the raised river terraces of the River Trent remained a favourable location for human occupation on a seasonal

[96] East Midlands Historic Environment Research Framework (2012), Howard. A. Updated Period Resource Assessment: The Palaeolithic Period: The East Midlands during the Late Upper Palaeolithic. [online] available at: https://researchframeworks.org/emherf/updated-period-resource-assessment-the-palaeolithic-period/?highlight=Farndon%20Fields#section-35 (accessed February 2023)

[97] Howard.A. (2012)

basis. The sands and gravels formed expanses of dry land, which were favoured for occupation by small communities. These locations would have allowed exploitation of local habitats and also offered the best available routes. Activity during this period is commonly characterised by stone tools and manufacturing debris, however evidence for in-situ Mesolithic activity is rare. The extent of reworking and fluvial deposition by the river during the Holocene means that occupation evidence is either destroyed or masked.

4.11.7 Evidence for occupation, in the form of surface lithic scatters, was recovered from a number of locations along the A46 to the south-west of Newark. This includes Flintham, Bingham and Farndon Fields (MM502). Farndon Fields was evidently revisited by nomadic humans over thousands of years.

Neolithic and Early to Middle Bronze Age (4,000 to 1500 BC)

4.11.8 During the Neolithic, there is evidence from the A46 Newark Bypass for communities still living nomadic lifestyles and occupying sites on a seasonal basis. However, woodland clearance as evidenced by previous archaeological studies across this part of the Trent Valley suggests that communities began to settle more permanently and for long periods of time. Communities also left their mark more permanently on the landscape through burying their dead in highly visible monuments throughout the Neolithic.

4.11.9 During this period, mature woodland, with areas of grassland, were spread across the Scheme study area. Small areas of woodland were cleared across the Trent Valley, as evidenced at East Stoke and Bingham.[98] Small scale clearance would have provided suitable areas for people to permanently settle and farm. This woodland clearance also increased soil erosion, which eventually filtered the river and would likely have seen some channels completely silt up (see Section 4.3).

4.11.10 Some communities still lived a nomadic lifestyle within the A46 Newark Bypass area. Seasonal occupation during the Neolithic is evident at Farndon Fields (MM502), which continued to be a focus for small nomadic communities. Evidence for permanent settlement was identified at Langford (MM505). The structures consisted of a series of pits and postholes, producing evidence for domestic activity, including cooking and crop processing. The pottery indicated that the site was lived at throughout the Neolithic and into the early Bronze Age periods.

4.11.11 Neolithic communities also buried their dead in highly visible burial monuments during this period. Burial monuments during the earlier

[98] Cotswold Wessex Archaeology 2014, p255

Neolithic, were often the focus for communal burials as evidenced elsewhere in the East Midlands.[99] A possible early Neolithic long barrow has been identified at Winthorpe Road, Newark (MM504), although no associated burials or artefacts were recovered. This monument remained a prominent feature in the landscape for thousands of years, as it was later reused for burial in the early medieval period (see below).

4.11.12 Communities continued to construct highly visible monuments for their dead, however individual burials become more common. Round barrows are recorded in the late Neolithic/early Bronze Age. They are recorded in abundance across the East Midlands as both upstanding monuments and cropmarks, known as ring ditches. Many of these form cemetery groups,[100] and demonstrate that communities held long term connections with certain areas of the landscape. Although no round barrows have been confirmed within the Order Limits of the Scheme; two potential barrow sites have been identified through geophysical survey. These include (MM937) located to the south of Langford Hall (MM026) and (MM938) located to the north-west of Newark Showground.

Later Bronze Age and Iron Age (1,150 BC to AD 43)

4.11.13 The late Bronze Age and Iron Age periods are characterised by a major shift in landscape organisation across the 500 metre Scheme study area. Burial monuments virtually disappear and occupation evidence during the earlier part of this period is largely absent. However, open settlement was likely[101] and the start of large-scale enclosure of the landscape.[102] From around 450 BC, there is evidence that the Scheme study area was densely occupied, with enclosures, field systems and roundhouses across the area.

4.11.14 Evidence for occupation during the late Bronze Age and early Iron Age (1,150 – 450 BC) is largely absent from the Scheme study area. However, this does not mean that this landscape was unoccupied. Occupation across the East Midlands at this time is characterised by open settlement,[103] which is not readily identifiable in the archaeological record. However, evidence for large scale landscape

[99] Clay 2019

[100] Clay 2019

[101] Willis, S. 2019 Updated Period Resource Assessment: The Later Bronze Age and Iron Age. [online] available at: Updated Period Resource Assessment: The Later Bronze Age and Iron Age - East Midlands Historic Environment Research Framework (researchframeworks.org) (accessed December 2023).

[102] Cotswold Wessex Archaeology 2014, pii

[103] Willis 2019

organisation originates from this period, further upstream along the River Trent.[104]

4.11.15 The middle Iron Age, from 450 BC, sees a transition from open to enclosed settlement within the Trent Valley.[105] There has been limited intrusive investigation of middle Iron Age settlement within the study area. However, there is an abundance of cropmarks which likely date from this period. Extensive enclosure complexes have been mapped across the 500 metre Scheme study area (see Table 4.2). There are complexes of small enclosures, some of which have evidence for domestic activity in the form of roundhouses. These would have been used for a variety of functions, including crop processing and animal management. These are aligned alongside droveways, and display homogeneity in alignment across several square kilometres. Where alignments change, this may be indicative of different community groups and/or multiple phases of activity.

4.11.16 Several are recorded at Averham and Kelham (for example MM659; MM515) and Winthorpe (MM541). The complexes at Winthorpe comprise of small enclosures,[106] which were likely to have defined different areas of activity. There is evidence for possible areas of domestic activity, with roundhouses and discrete pits. There is also evidence for intercutting of enclosure ditches and several phases of activity, suggesting that these complexes were occupied over a long period of time.

4.11.17 Several enclosure complexes thought to date to this period have been recorded within the Order Limits of the Scheme. These include those at Kelham (MM859; MM945), Averham (MM869), Newark (MM876) and (MM896) and Winthorpe (MM930), (MM931), (MM933) and (MM934).

Romano-British period (AD 43 – 410)

4.11.18 Much of Britain came under Roman control after AD 43 and the Roman influence is well recorded within the archaeological record of the 500 metre Scheme study area. The River Trent was an important, strategic communication route and marked the western frontier of Roman rule during the 1st century AD. The Fosse Way (MM507), now located beneath the route of the A46, B6166 and Lincoln roads, was constructed in the second half of the first century AD by the Roman army and connected the legionary fortresses of Exeter (Isca) and

[104] Cotswold Wessex Archaeology 2014, p256

[105] Knight, D. and Howard, Andy J., 2004, Trent Valley Landscapes: The Archaeology of 500,000 Years of Change. King's Lynn. Heritage Marketing and Publications Limited.

[106] AMS 2022 Geophysical Survey Report of Lands along the A46 Newark Northern Bypass

Lincoln (Lindum).[107] Excavation of the Fosse Way at Langford has revealed that the original agger (a mound or construction made of soil and stones) of the Roman road survives in places.

4.11.19 The close proximity to a major communication route led to the establishment of a number of forts and settlements along the Fosse Way. This includes Ad Pontem to the south-west of Farndon and Crococalana at Brough (35m North of the Study area), both of which are scheduled monuments. Both of these towns are thought to have emerged on the sites of first century AD forts, although only Ad Pontem has produced evidence of a pre-existing military installation. The settlement at Crococalana is thought to have originated in the Iron Age[108].

4.11.20 There was also a small Roman town at Newark[109] (MM512), along what is now Northgate and within the grounds of the Newark Castle (MM001). Excavations here have revealed that the town was occupied between the 1st and 4th centuries AD.[110] Piecemeal investigations have shown that the town was densely occupied. Buildings have been recorded, as well as industrial activity, such as pottery manufacturing. Both cremation (MM511) and inhumation (MM516) cemetreies are also recorded.

4.11.21 The tradition of rural settlement in the Iron Age continues into the Roman period. Enclosure complexes, such as those discussed in 4.11.16 and 4.11.17 are likely to have been occupied into the Roman period.

Early medieval (Anglo-Saxon, AD 410 – 1066)

4.11.22 Following the withdrawal of Roman rule in AD 410, social, economic and political organisation broke down. The region fragmented into small kingdoms and large-scale immigration from the middle of the 5th century changed the political organisation of the region. The main political power that emerged in the East Midlands was the kingdom of Mercia. However, by the 9th century, East Midlands came under Danish control after Viking incursions during this period. The Scheme study areas were administered and defended from the burh (a fortified

[107] Trent and Peak Archaeological Trust, (1991). Archaeology of the Fosse Way: Implications of the Proposed Dualling of the A46 Between Newark and Lincoln.

[108] Taylor, J. 2019 Roman Period. Available at: Roman Period - East Midlands Historic Environment Research Framework (researchframeworks.org)

[109] Allen Archaeology, (2010). Archaeological Evaluation Report: Trial Trenching of Land at Malt Park, Off Maltkiln Lane In Newark, Nottinghamshire.

[110] TPAT 2001 Archaeological Excavation and Monitoring at North Gate Retail Park, Newark, Nottinghamshire: Interim Summary of Results

settlement) at Nottingham, however this power shifted to Newark with the establishment of a new burh in the 10th century.[111]

4.11.23 During the 10th century, control of the area flitted between the Danes and the kingdom of Wessex, until its eventual amalgamation with Saxon England. The system of agrarian production and settlement also underwent reorganisation at this time. Populations relocated to nucleated villages, centred on the manor house and church. Burhs and other trading centres became urban settlements and foci for production and commerce.[112]

4.11.24 The presence of a settlement at Newark during the early medieval period, is reflected in the archaeological evidence. However, the extent and size of early medieval Newark is unknown and poorly recorded. Early occupation is reflected in the burial evidence, prior to Newark's establishment as a burh (a fortified settlement). A large cremation cemetery has been recorded at Millgate in Newark (outside of study area) and is thought to date to the 6th and 7th centuries. 367 cremation urns have been recorded since the 18th century and represent a pre-Christian tradition of burial.[113]

4.11.25 The town was granted burh status in the 10th century. Defences dating from this period have been identified on Slaughterhouse Lane.[114] There is tentative evidence for an early medieval religious foundation, within the grounds of Newark Castle, dating to when the town became a burh. Dressed stone fragments of what has been interpreted as a possible church, were recovered during excavations (MM519). This building was also associated with an extensive early medieval inhumation cemetery (MM518). The cemetery contained over 100 individuals, although only a small number have been archaeologically excavated. The cemetery was in use during the mid-10th to mid-11th centuries and burial was in the Christian tradition, on an east-west alignment and no grave goods.[115]

4.11.26 There is evidence for Newark becoming a foci for production and commerce as part of its role as a burh. Industrial activity within early medieval Newark is recorded at Kirkgate, in the form of pottery manufacturing.[116]

4.11.27 Documentary and archaeological evidence is poor for this period outside of Newark. Toponymy studies can provide an insight into settlement patterns. Place names with '-ham' suffixes suggest early

[111] Lewis, C. 2019 Medieval Period. Available at: Medieval Period - East Midlands Historic Environment Research Framework (researchframeworks.org)

[112] Lewis 2019

[113] Seville, K. 1970 MOW Archaeological Excavations - Newark

[114] Kinsley, G. 1989 Newark's Archaeological Resource

[115] Dixon, P. and Marshall, P. 1994 Newark Castle Studies: Excavations 1992-1993

[116] Abbott, C. 1994 Results of the Archaeological Watching Brief Conducted at the Co-operative Store, Kirkgate, Newark

foci for settlement, whilst those with '-thorp' suffixes, indicate the Scandinavian influence. The Domesday Survey of 1086 often recorded settlements that were established during the early medieval period. Both Kelham and Averham are recorded, as well as Winthorpe.

4.11.28 There is evidence for early medieval settlement within the grounds of Kelham Hall (MM525). Excavations here revealed a possible structure, dating to the 5th-8th centuries, as well as later 9th-10th century activity. Environmental evidence demonstrated that the wider landscape was cultivated.[117]

4.11.29 The reuse of prehistoric burial monuments during the early medieval period is a well-established tradition. One such example includes the burial of a high-status woman within the Neolithic long barrow at Winthorpe Road, Newark (MM521). She was accompanied by a rich array of grave goods, including beads, silver wrist clasps, a gilded circular mount and an ivory purse ring.[118]

High medieval (1066 to 1485)

4.11.30 The Norman conquest of 1066 saw the transfer of Saxon lord holdings to William of Normandy's followers. The impact of this is visible in the appearance of castles as well as monastic foundations. During the post-conquest period, the region was remote from border disputes and relatively secure. Across the Scheme study area, villages would have been laid out on new plans and Newark expanded and improved their defences.

4.11.31 Newark was a densely and permanently occupied centre of trade and industry during the medieval period, specifically for wool and cloth. The town developed as a planned town by the Normans, incorporating the existing burh[119]. The placename Newark derives from Old English for 'new work' and was created as a means to distinguish itself from an unidentified site nearby known as 'The Aldwark', recorded in 1316.[120] Aldwark may refer to the early medieval burh at Newark.

4.11.32 The first Newark Castle (MM001) was built shortly after the Norman Conquest. These were constructed to assert Norman authority, suppress the local population and discourage uprisings against

[117] PCAS Archaeology 2020 Land at Kelham Hall, Main Road, Kelham, Nottinghamshire, NG23 5QX: Archaeological Evaluation Report

[118] Samuels, J. and Russel, A.D. 1999 An Anglo-Saxon burial near Winthorpe Road, Newark, Nottinghamshire. Transactions of the Thoroton Society of Nottinghamshire 103: pp57-83

[119] Nicholson, A. n.d. Newark-on-Trent. Available at: The Nottinghamshire Heritage Gateway > Places > Newark-on-Trent > Overview (nottsheritagegateway.org.uk)

[120] Nicholson, A. (n. d). Newark-on-Trent. Available at: The Nottinghamshire Heritage Gateway > Places > Newark-on-Trent > Overview (nottsheritagegateway.org.uk) (Last accessed December 2023).

William I.[121] The location, on the site of a possible early medieval religious foundation, may have been a deliberate choice to assert this authority. Its location on the river cliff on the east bank of the River Trent and alongside the Fosse Way, demonstrates the strategic importance of these communication routes.

4.11.33 The second Newark Castle (MM001) was built under the authority of the lord of the manor, Bishop Alexander of Lincoln between 1123 to 1148. Under the license granted by Henry I, permission was also granted to divert Castle Gate and build a bridge over the River Trent. It is likely at this time than the ditch and rampart defences, were replaced with town walls. This enclosed an area defined by Lombard Street, Carter Gate and Appleton Gate, Slaughterhouse Lane and the west side of Castle Gate.[122]

4.11.34 The town itself was planned out after the Norman conquest, to the east of the Castle and included a number of religious foundations. The Church of St Mary Magdalene (MM022) was built in around 1180, at the opposite end of the town to the east and may have replaced an earlier ecclesiastical structure. During the later medieval period, the Newark Observant Friary was founded in 1499.[123]

4.11.35 St Leonard's Hospital (MM562) was established around the same time, outside the walls of Newark, in around 1130. It was founded as a leper hospital on North Gate, close to where the East Coast mainline runs. Excavations throughout the 20th century have found traces of the hospital and the extensive cemetery which accompanied it. Around 200 burials have been recorded through 20th century salvage excavations.

4.11.36 Archaeological evidence for the late 11th and early 12th century layout of the town is largely elusive. Within the town itself, settlement would have been organised in regularly, laid out plots. Later cartographic evidence[124] and archaeological evidence from the 13th century onwards demonstrates foci of settlement around St. Mark's Lane (outside of study area), Stodman Street (MM563) and Middle Gate.

4.11.37 A survey of 1225-1231 reveals that the town had extended beyond the defences and suburbs had grown along the roads approaching the town.[125] This includes suburbs at Northgate and Osmundthorpe (MM558), which were focused along the western side of North Gate to

[121] Lewis 2019

[122] Nicholson, n.d.

[123] 'Friaries: Observant friars of Newark', in *A History of the County of Nottingham: Volume 2*, ed. William Page (London, 1910), pp. 147-148. *British History Online* http://www.british-history.ac.uk/vch/notts/vol2/pp147-148 [last accessed December 2023]..

[124] Wood, J. 1829 A Plan of Newark from Actual Survey. Nottinghamshire Archives Ne 13S

[125] Nicholson n.d

the north of the town. Excavations show that properties fronted the North Gate and were defined by boundary ditches.[126]

4.11.38 Evidence for rural settlement is documented across the Scheme study areas. There is little evidence for medieval land organisation (see Section 4.8) and archaeological evidence for occupation at this time is limited. However, a medieval settlement is recorded at Langford (110m north west of the 1 kilometre study area). Both Averham and Kelham were occupied at this time. Averham is recorded with a church in the Domesday Survey and likely formed the focus for worship amongst the scattered farmsteads across the area.[127] Averham was under the ownership of one lord during this period, which meant there was a better opportunity to build a grand house. The lord had a moated manor (MM016), which dates to the 13th and 14th centuries.

4.11.39 During the medieval period, Kelham had a small village centre which would have formed the focus for dispersed farmsteads. The lack of settlement focus derives from ownership of land at Kelham, which was split between five different owners. There was no church until the late 12th century (MM024), although the present Church of St Wilfrid dates to the 14th century, and residents likely worshipped at Averham. Its plan was slightly different, with roads orientated towards the church and a river crossing which was first recorded in the 13th century[128] (MM643). A 14th century document details the toll rates for goods which were carried across Kelham Bridge at this time. There is a diversity of goods listed and indicates that Kelham held a position of strategic and commercial importance by the late medieval period.

4.11.40 The fortunes of Kelham and Averham became extricably linked when Averham fell under the ownership of the Sutton family during the 13th century, followed by Kelham in the 15th and 16th centuries. The Sutton family likely built a hall at Kelham during the early 16th century.[129]

4.11.41 There is further evidence for settlement across the Scheme study areas in the form of moated sites. The moated site at Hawton had an associated fishpond (MM004) although it is unclear whether this was an isolated site or was attached to the nearby settlement.

4.11.42 Agricultural patterns of the Scheme study areas during the medieval period are difficult to trace. There are very few areas which demonstrate surviving evidence for medieval farming practices (see Section 4.8) and there are very few ridge and furrow cropmarks. Land surrounding the villages like Kelham and Averham was portioned into

[126] TPAT 2001 Romano-British and Medieval Settlement at Northgate Retail Park, Newark, Nottinghamshire

[127] Beresford, M. 2019 Kelham Revealed! Archaeology Report. Available at: kelham-revealed.pdf (wordpress.com) (Last accessed December 2023).

[128] Beresford 2019, p140

[129] Beresford 2019, 110

large open fields, which were then divided into strips. Ridge and furrow dominated the surrounding landscape during this period as it was the best practice of agricultural regime. This can be seen at Langford (MM529; c.400m north of the Scheme area). Geophysical survey (MM1261) undertaken within the Order Limits of the Scheme at Kelham, Averham and Winthorpe shows traces of former ridge and furrow within existing agricultural fields to the north of the A46 and A617. Possible relict field boundaries also identified during geophysical survey, may date from this period (eg MM938; MM942; MM944).

4.11.43 Archaeological investigations focused on the Fosse Way (MM507) suggest the road was utilised for a short time during this period, however by the 12th century appears to be in decline again. Slightly east of Fosse Way further earthworks were identified which define the area of a medieval fishponds and ridge and furrow.[130]

4.11.44 A combination of overexploitation of the landscape, a series of poor harvests and the Black Death in the 14th century led to depopulation of some villages and towns.[131] However, rather than marking an immediate change, this series of events may have led to a more long-term decline. Langford (110m north-west of the 1km study area) shows evidence of shrinkage possibly linked to these events. The impact of these events on Newark's population is unclear, however it was recorded as one of the largest towns in England in 1377 with a population of 1,178 and 2,700 by the mid-16th century.[132] Any effect appears to have only been temporary.

Post medieval (1485 – 1750)

4.11.45 During the post-medieval period, Newark became Nottinghamshire's second town. By 1549, its population had grown to 2,700 and derived its wealth from trade in a variety of goods, brought along the well-connected road and river network. There is evidence of small-scale industrial activity, with lime kilns recorded on Slaughterhouse Lane (MM665). Documentary evidence recorded corn mills and a fulling mill during this period.[133] There is limited archaeological evidence for activity during this period in Newark, however, there are a number of buildings that date from this period.

4.11.46 This strategic position meant that Newark played a pivotal role during the Civil War (1642-1646). The town controlled the river crossing that

[130] CotswoldWessex Archaeology, 2011. A46 Newark to Widmerpool Improvements. Available at: Microsoft Word - Volume 1 Text incorporating comments ADC - re-structured.docx (archaeologydataservice.ac.uk)

[131] Lewis 2019

[132] Nicholson n.d.

[133] National Archives, Articles of enquiry about the mills at Newark; the ways of bringing water again to the... SP 46/49/fo122, 1593

linked York and the north with London and King Charles I headquarters in Oxford. Newark was a Royalist stronghold and was besieged on three separate occasions in 1643, 1644 and 1646. The Parliamentarians constructed a series of siegeworks around the town, taking advantage of the rural settlement and position of the Trent.

4.11.47 Newark is surrounded by a landscape of below ground and earthwork remains of offensive and defensive fieldworks which were raised during the Civil War (MM964). These have been extensively surveyed and recorded.[134] In order to raise the defensive works at Newark, the outer suburbs of the medieval town at Osmundthorpe and North Gate were largely destroyed. The Royalists anticipated attack during the earlier part of the war, by constructing a new defensive circuit beyond the medieval walls (MM682) in the winter of 1642. The upstanding remains of this circuit are located in Friary Gardens (MM006) and various excavations have traced fragments of it around the town. Following the 1644 siege, a number of defence works, known as sconces were also raised in defence of the town. This includes the Queen's Sconce (MM013) to the south of the town, the King's Sconce (MM639) which lay to the north of the town and Sandhills Sconce (MM015), which lay to the west.

4.11.48 The Parliamentarian siegeworks were focused along and around two lines of circumvallation. The first line (MM660) crosses the Scheme study area to the south of Farndon and around the A46 where it crosses Winthorpe Road. The second line (MM624) joins the first but was located to the north of Farndon. These were used in conjunction with fortifications in the surrounding villages to blockade Newark, such as those recorded at Winthorpe (MM640). These circumvallations were strengthened at intervals with supplementary fortifications, known as redoubts or bulwarkes. This includes the Civil War redoubt 680m north-west of Dairy Farm (MM009), Civil War redoubt 580m east north-east of sugar refinery (MM014) and the Civil War redoubt on Crankley Point (MM011).

4.11.49 The fieldworks also included defences and offensive works along the River Trent. A number of offensive redoubts (for example MM011; MM014) are located along the banks of the Trent. There are also a series of dams recorded, two of which are Royalist defences (MM646; MM647) and another which was constructed by the Parliamentarians (MM648). The Parliamentarian dam was intended to cut off the water supply to the mills of Newark, especially as some were utilised for gunpowder manufacture.

4.11.50 After the surrender of the King in 1646, many of the Civil War defences were demolished, except for Queen's Sconce (MM013). Newark Castle (MM001) was also largely demolished.

[134] Royal Commission on Historical Monuments (England) 1964, Newark-on-Trent, The Civil War Siegeworks. HMSO

4.11.51 The sieges of Newark also had a profound effect on the rural landscape, as large areas were fortified and enclosed. Clampe's map of 1646 shows how far across the rural landscape of the Scheme study area these offensive works stretched. Settlements located along the main communication routes at the time were fortified. Winthorpe (MM640), Coddington, Balderton and Farndon were all separately fortified. Kelham and Averham were not fortified however a redoubt was located along the western banks of the Trent (outside of study area) close to these settlements.

4.11.52 This period is also marked by gradual change in the agrarian economy. This is mainly reflected in the reorganisation of the landscape, with the piecemeal enclosure of open fields, visible around rural settlements such as Averham and Kelham (see Section 4.8).

4.11.53 An archaeological watching brief undertaken in 2014 for the installation of a water pipeline identified post medieval features to the south and east of Kelham Hall (MM018). These included a brick lined culvert (MM939) associated with a pond which formed part of the Kelham Hall parkland, as well as the course of a former Parish boundary ditch (MM940) which partially follows the course of the current ditch marking the boundary with Kelham Hall (MM018) but veers more easterly to the west of the airstrip. East of the River Trent the remains of part of a previously unknown former manor house (MM941) were discovered, which is thought to have been in use during the English Civil War.[135]

4.11.54 The settlement pattern during this period is characterised by small villages, located along a well-established road network. Isolated farmsteads would have been rare, as populations were centred on the manor and church. Clampe's Civil War map of 1646 is an idealised depiction of landscape and settlement at the time. However, it gives an indication that there were a number of large settlements across the Scheme study area that had continued to prosper.

4.11.55 Industrial activity within rural settlements has been identified from this period. The Sutton family owned two watermills between Kelham and Averham (MM539). In order to supply the leat which powered these mills, the Suttons were granted a license to 'have a water-course from the River Trent to direct water into the Grymesdyke rivulet and from there into Averham water rivulet and Sutton's two water mills at 'Kellome Water' in 1506.[136] However, this re-routing had the effect of reducing the water flow supplying the Old Trent Dyke and the mills of Newark. A lawsuit was launched against the Suttons in 1593, which

[135] Wessex Archaeology, 2017. River Trent Crossing, Nottinghamshire Archaeological Watching Brief Report

[136] Notts Archives, Tallents Collection, Copy of Letter Patent, DD/T/17/7 dated 1506

led to the commissioning of a weir (MM572) to even the flow of water and appease the Newark millers.[137]

Modern (1750 – present)

4.11.56 The Nottinghamshire HER identifies the modern period as post-dating 1750. Typically for this period the developments between the late post-medieval period and the modern period are difficult to discern. However, events leading to industrialisation of Newark and the Second World War stand out more significantly.

4.11.57 Industry continued to develop in Newark. Cartographic evidence illustrates increased development of warehouses and wharfs, such as an early 20th century wharf built to serve a nearby sugar beet factory (MM844) and an early 20th century abattoir (MM843). Additionally, multiple mills, malthouses and breweries are located sporadically along the River Trent. However, most of the breweries originating from this date are now disused and partially or fully demolished, such as Castle Brewery (MM109) and Northgate Brewhouse (MM303). Evident from the positioning of these industrial buildings is the continued use of the River Trent and multiple railways that connect Newark during this period. Historic mapping and the HER also records several windmills (for example MM819 to MM824) located within the agricultural landscape surrounding Newark. The majority of these were constructed in the late 18th to early 19th century to produce flour. The grade II listed Farndon Mill (MM139) is a disused windmill dating originally to 1823. Much like other windmills in the study area, Farndon Mill was most likely produced flour.

4.11.58 One of the most prominent industries in Newark during this time was Kelham Home Grown Sugar refinery (MM842), now known as British Sugar, which opened in 1921. The complex dominates the Great North Road and includes a factory, warehouse, garages and carport. Although there has been some alteration, the buildings still remain in original use.

4.11.59 During the Second World War several RAF stations were constructed in the surrounding area, including RAF Winthorpe (MM848). The base opened in 1940 as a satellite for RAF Swinderby and incorporated Coddington Hall which was requisitioned by the British army in 1917. Although inactive by 1959, the accommodation quarters were still in use until the 1960s. The site is now the location of Newark Air Museum. The ruins of a Second World War FW3/22 pillbox is located within the study area, Kelham (MM836).

4.11.60 During the 20th century the Scheme study areas underwent extensive sand and gravel quarrying, the aftermath of which can be seen

[137] Beresford 2019, p98

through current aerial imagery[138] which now depicts large open excavated areas filled with water.

4.11.61 Within the Scheme study areas several parkland landscapes associated with 18th and 19th century halls and institutions emerge. In the north-east of the 500 metre Scheme study area are the landscaped grounds (MM829) of the grade II* listed Langford Hall (MM026), built in 1780/90 (MM026). In 1790, Throsby described the grounds as being “planted with a variety of young trees", and Ordnance Survey maps from 1888-1913 show open parkland containing footpaths and woodland plantations.

4.11.62 Winthorpe Hall (MM027) lies on the north-western side of Winthorpe with the grounds (MM830) extending towards the River Trent. The hall was constructed in 1760, with the grounds likely being laid out at the same time. Throsby states that “the plantations, which are laid out with a degree of taste, at a nearer approach, although chiefly of a modem age, abound in variety". The grounds beyond the house were primarily open with sporadic trees, except in the north where a cluster of trees were planted to protect from winds.

4.11.63 Kelham Hall (MM018) was constructed between 1859-1861. The hall had formal gardens (MM828) laid out to the south with pathways, tree lined avenues and woodland visible on Ordnance Survey mapping from the late 19th and early 20th century. The parkland had a number of garden features in the 18th century, including a haha and tree belts. William Andrew Nestfields was commissioned in 1860 to create pleasure grounds for the hall, including a geometric garden. The parkland still extends to the west to Main Road but land to the south is now in agricultural use. A former fishpond is mapped to the south-west of the hall, and Ordnance Survey maps show sporadic trees and open grassland across the parkland.

4.11.64 In the east of Averham are the grounds of the parsonage (MM758), associated with the grade II listed Old Rectory (MM058). Small scale gardens in comparison to those at Winthorpe, Kelham and Langford Hall. Thornby states the gardens were “in their glory” when he visited in the late 18th century. Late 19th and early 20th century OS maps depict trees and pathways, but no defined avenues or other landscaped garden features are mapped at this time.

[138] Google Earth Pro, 2023.

5 Archaeological potential

5.1 Archaeological potential by period

5.1.1 The results of previous archaeological investigations alongside the programme of survey and assessment undertaken to inform the Scheme (see Appendices D to K) have identified archaeological remains and palaeoenvironmental deposits dating to the Prehistoric, Roman, early medieval, high medieval, post medieval and modern periods within the Order Limits of the Scheme. This potential is summarised below.

Palaeoenvironmental

5.1.2 Geoarchaeological investigations carried out to inform the Scheme (see Appendices H, I and K) have identified superficial deposits belonging to the Holme Pierrepoint Sand and Gravel Member within the Order Limits of the Scheme, specifically the area south of the Trent crossing, immediately north-east of Farndon. Combined with the nearby discovery of Late Upper Palaeolithic tools at Farndon (MM503) this small area has **high potential** to contain Palaeolithic and Mesolithic archaeological remains cutting the surface of the gravel.

5.1.3 Across the area of the current floodplain, the lower alluvial deposits are dominated by sands and gravels of broadly Pleistocene date, which means that there is **low potential** for in-situ archaeological remains of human activity within the Order Limits of the Scheme[139]. Coarse sediments of this type generally preserve palaeoenvironmental material poorly, and much material is likely to be re-worked.

5.1.4 The upper alluvial deposits, dominated by fine grained sediments have for the most part probably been subject to frequent re-working, and therefore there is **low potential** for palaeoenvironmental potential to survive in most of these deposits, however these alluvial deposits might seal archaeological remains.

5.1.5 The north-eastern most part of the Scheme Order Limits runs over an area mapped as Balderton Sands and Gravels Member. These deposits can contain organic material particularly at the interface between the sands and gravels and the underlying mudstone although none were observed during the watching brief. These are deposits are infilling a palaeovalley representing a former course of

[139] AMS (2023)

the Trent and therefore have **moderate potential** for paleoenvionmental remains of Pleistocene date.

5.1.6 Previous archaeological investigations alongside geoarchaeological assessment undertaken to inform the Scheme (see Appendix H, I and K) has revealed a series of palaeochannels (MM910 to MM912, MM931, MM948, MM950 to MM953 and (MM955 to MM962) within the Order Limits of the Scheme. The geoarchaeological assessment demonstrated that organic sediments survive in and around the mapped palaeochannel deposits within Areas 2, 8, 9, 14 and 18 of the Scheme Order Limits. These deposits have **high potential** to preserve multi-period waterlogged palaeoenvironmental organic matter and archaeological remains.

Prehistoric

5.1.7 The results of multiple phases of archaeological investigation at Farndon Fields have recorded hundreds of struck flints dating to the Palaeolithic (MM503), Mesolithic and Neolithic periods (MM502). The evidence suggests there is **high potential** for further unknown early prehistoric remains to be encountered, particularly within Area 40 of the Order Limits, which lies at the northern extent of Farndon Fields.

5.1.8 Previous aerial survey recorded on the Nottinghamshire HER, alongside geophysical survey undertaken to inform the Scheme (see Appendices F & G), has revealed a high concentration of evidence associated with possible late prehistoric settlement, agricultural activity and funerary monuments within Areas 20, 21, 24, 30 and 48 of the Scheme Order Limits. These include, the possible Neolithic Long Barrow at Winthorpe Road (MM504), Neolithic or Early Bronze Age ring ditch and barrows (MM937) and settlement (MM505) identified at Langford and the extensive areas of possible Iron Age enclosure and relict field systems identified at Kelham (MM859) and (MM945), Averham (MM869), Newark (MM876) and (MM896) and Winthorpe (MM930), (MM931), (MM933) and (MM934) (see Table 4-2 and Section 4.10). This evidence suggests that there is **high potential** for further unknown late prehistoric remains to be encountered within the Order Limits of the Scheme.

Roman

5.1.9 There is strong evidence for Roman occupation within the Scheme study area. There is evidence for Roman urban settlements focused along the Fosse Way (MM507) at Newark (MM512) and Crococalana at Brough (35m north of the Study area). The wider, rural, landscape was also populated during this period and it is likely that some of the possible Iron Age enclosures identified in Areas 20, 21, 24 and 48 of the Scheme Order Limits at Kelham, Averham, Newark and

Winthorpe, (see Table 4-2 and Section 4.10) continued to be utilised and occupied into the Roman period. It is therefore considered that there is high potential for further unknown archaeological remains associated with the Roman period to be encountered within the Order Limits of the Scheme.

Early medieval

5.1.10 The early medieval period saw the formation of many of the settlements that survive today within the Scheme study area. Averham, Kelham and Winthorpe are all recorded within the Domesday Survey of 1086, and toponymy studies suggest these settlements may have been established in the early medieval period. Whilst the majority of the known archaeological evidence for this period is focused on the town centre of Newark, evidence for early medieval activity has been recorded within Kelham and Winthorpe. At Kelham Hall (MM018) excavations revealed the remains of a Saxon settlement (MM525) dating from the 5th to 10th centuries and at Winthorpe there is evidence for the reuse of Neolithic Long Barrow for the burial of a high-status early medieval woman (MM521). It is therefore considered that there is **high potential** for further unknown archaeological remains associated with the early medieval period, to be encountered within the Scheme Order Limits.

High medieval

5.1.11 The early medieval settlements at Newark, Averham, Kelham and Winthorpe expanded during the high medieval period. As with the early medieval period much of this evidence comes from Newark. It was in this period that Newark Castle (MM001) was constructed and the towns early medieval enclosure ditch was replaced by the town wall (MM003) and (MM527). A number of buildings from this period survive and excavations within the town have revealed extensive archaeological remains from this period. Outside of Newark at Kelham medieval activity defined by pits, ditches and quarry pits (MM530) is recorded on the HER, and at Langford an extensive complex of irregular earthworks including hollows, banks and ridge and furrow (MM529) is also recorded. The high concentration of medieval features and archaeological remains across the Scheme study area suggests substantial human activity during this period. Therefore there is **high potential** for further medieval remains to be encountered within the Order Limits of the Scheme.

Post medieval

5.1.12 Extensive evidence for post medieval agricultural, settlement and industrial activity within the Scheme study area has been identified within the Nottinghamshire HER and by geophysical survey undertaken to inform the Scheme (Appendices F and G). Surrounding Newark a large number of below ground and earthwork remains of offensive and defensive English Civil War fieldworks, which collectively form the Newark Civil War landscape (MM964) have been extensively surveyed and recorded. These remains comprise a number of scheduled monuments, such as the Civil War redoubt 550m south-east of Valley Farm (MM007) which lies 5m north of the Scheme Order Limits. There are also a large number of non-designated assets associated with Civil War Activity such as the First (MM660) and Second (MM624) Lines of Circumvallation at Newark, which lie within the Order Limits of the Scheme. The high concentration of designated and non-designated heritage assets associated with the post medieval period suggests that there is **high potential** for further post medieval remains to be encountered within the Order Limits of the Scheme.

Modern

5.1.13 There is substantial cartographic, HER and aerial survey and geophysical survey evidence for archaeological remains associated with modern agricultural, settlement, transport and industrial activity across the Scheme study area. A number of 18th century halls with associated designed parklands survive within the study area such as Kelham Hall (MM018), Langford Hall (MM026) and Winthorpe Hall (MM027). Historic mapping and the Nottinghamshire HER also record several 18th or 19th century windmills within the study area including the grade II listed Farndon Mill (MM139). One of the most prominent industries in Newark during this this period was Kelham Home Grown Sugar refinery (MM842), now known as British Sugar, which opened in 1921. During the Second World War RAF Winthorpe (MM848) opened, which is now the location of Newark Air Museum. A Second World War FW3/22 pillbox is recorded within the study area, located at Kelham (MM836). The high concentration of designated and non-designated heritage assets associated with the modern period, suggests that there is **high potential** for further archaeological remains from this period to be encountered within the Order Limits of the Scheme.

6 Conclusion

6.1 Overview

6.1.1 This DBA has been prepared to inform and support Chapter 6 (Cultural Heritage) of the ES [APP-050]. This DBA has been prepared to provide a detailed assessment of the cultural heritage resource and sensitivities within the Order Limits of the Scheme and explores the potential effects the Scheme may have upon this resource.

6.1.2 Baseline research using the sources of information outlined in Chapter 4 of this DBA has identified 422 designated heritage assets and 370 non-designated heritage assets within the Scheme study area.

6.1.3 Designated heritage assets include 15 scheduled monuments, 401 listed buildings, five conservation areas and one registered park and garden. No World Heritage Sites, Protected Wrecks, or Registered Historic Battlefields are recorded within the Scheme study area (see Section 4.2).

6.1.4 Non-designated heritage assets include 242 archaeological assets, 123 historic buildings and five historic landscapes (see Section 4.3). The assessment has also identified high potential for further unknown archaeological remains and palaeoenvironmental deposits to be present within the Order Limits of the Scheme. Based on the evidence outlined in Chapter 4 of this DBA these unknown remains are likely to date to the Prehistoric, Roman, early medieval, high medieval, post medieval and modern periods.

6.2 Potential impacts

6.2.1 An assessment of the potential for direct physical impacts and changes to the setting of each individual heritage asset was undertaken to inform this assessment (see Appendix C).

6.2.2 A total of 37 designated heritage assets were identified through the assessment as having the potential to be impacted by the scheme. These assets are referred to as ‘key heritage assets’ and included four scheduled monuments, 27 listed buildings, five conservation areas and one registered park and garden, (see Section 4.2).

6.2.3 A further 92 key non-designated heritage assets were identified through the assessment as having the potential to be impacted by the scheme. These included 70 archaeological assets (see Table 4.2), 17 historic buildings (see Table 4-3) and five historic landscapes (see Table 4-4).

6.2.4 Each of the key heritage assets identified within this DBA will be further assessed to inform Chapter 6 (Cultural Heritage) of the ES. [APP-050]. This will include Assessment of Heritage Value (Appendix 6.2) [APP-133], Assessment of Cultural Heritage Effects During Construction of the Scheme (Appendix 6.3) [APP-134] and an Assessment of Cultural Heritage Effects During Operation of the Scheme (Appendix 6.4) [APP-135], contained in the ES Appendices).

6.3 Mitigation

6.3.1 An Archaeological Management Plan (AMP) has been developed [REP5-026].

6.3.2 The AMP details the scope, guiding principles and methods for the planning and implementation of archaeological work in relation to scheme. Any proposed investigation (excavation, monitoring or recording) set out in the AMP will be agreed with the relevant cultural heritage stakeholders through consultation. This will be formalised through appropriate task specific Written Schemes of Investigation (WSIs), which will require stakeholder approval in advance of undertaking the investigations.

7 References

7.1 Legislation, policy & guidance

Chartered Institute for Archaeologists (2014, updated 2020) *Standard and Guidance for desk-based assessment* [online] available at: https://www.archaeologists.net/codes/cifa (last accessed December 2023).

Department for Levelling Up, Housing and Communities (2019) National Planning Guidance, Historic Environment [online] available at: https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment (last accessed December 2023).

Department for Transport (2014) National Policy Statement for National Networks [online] available at: Microsoft Word - 141210 FINAL NPS_IAN (publishing.service.gov.uk) (last accessed December 2023).

Department for Transport (2022) Environmental Impact Appraisal [online] available at: TAG UNIT A3 Environmental Impact Appraisal (publishing.service.gov.uk) (last accessed December 2023).

Highways England (2017) Environment Strategy, Revision 1 [online] available at: Environment_Strategy_21_.pdf (publishing.service.gov.uk) (last accessed December 2023).

Historic England (2008) *Conservation principles policies and guidance for the sustainable management of the historic environment* [online] available at: Conservation Principles, Policies and Guidance | Historic England (last accessed December 2023).

Historic England (2015) *Historic Environment Good Practice Advice in Planning Note 2 Managing Significance in Decision Taking in the Historic Environment* [online] available at: Managing Significance in Decision-Taking in the Historic Environment (historicengland.org.uk) (last accessed December 2023).

Historic Environment (2017) *Historic Environment Good Practice Advice in Planning* Note *3 The Setting of Heritage Assets 2nd ed.* [online] The Setting of Heritage Assets | Historic England (last accessed December 2023).

Historic England (2019) Statements of Heritage Significance: Analysing Significance in Heritage Assets [online] available at https://historicengland.org.uk/images-books/publications/statements-heritage-significance-advice-note-12/ (Last accessed December 2023).

HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment [online] available at: 25 Year Environment Plan – GOV.UK (www.gov.uk) (last accessed December 2023).

National Highways (2020) *DMRB LA 104 – Environmental Assessment and Monitoring*, Revision 1 [online] available at: 0f6e0b6a-d08e-4673-8691-cab564d4a60a (standardsforhighways.co.uk) (last accessed December 2023).

National Highways (2020) *DMRB LA 106 – Cultural Heritage Assessment*, Revision 1 [online] available at: 8c51c51b-579b-405b-b583-9b584e996c80 (standardsforhighways.co.uk) (last accessed December 2023).

Newark & Sherwood District Council (2019) Amended Core Strategy [online] available at: amended-core-strategy-DPD.pdf (newark-sherwooddc.gov.uk) (last accessed December 2023).

Newark & Sherwood District Council (2023) Local heritage assets [online] available at: https://www.newark-sherwooddc.gov.uk/localheritageassets/ (last accessed December 2023)

Ministry of Housing, Communities and Local Government (December 2024) National Planning Policy Framework [online] available at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf (last accessed March 2025)

UK Government (1979) Ancient Monuments and Archaeological Areas Act 1979 [online] available at: Ancient Monuments and Archaeological Areas Act 1979 (legislation.gov.uk) (last accessed December 2023).

UK Government (1990) Planning (Listed Buildings and Conservation Areas) Act 1990 [online] available at: Planning (Listed Buildings and Conservation Areas) Act 1990 (legislation.gov.uk) (last accessed December 2023).

7.2 Secondary Sources

Publications

Baker, S. 2006 The palaeochannel record in the Trent Valley UK: contributions towards cultural heritage management. Internet Archaeology 20. https://doi.org/10.11141/ia.20.3

Bishop, Michael, nd. An Archaeological Resource Assessment of the Palaeolithic and Mesolithic in Nottinghamshire. http://archaeologydataservice.ac.uk/researchframeworks/eastmidlands/attach/County-assessments/NotPalMeso.pdf

Brown, A.G. (2008) Geoarchaeology, the four dimensional (4D) fluvial matrix and climatic causality. Geomorphology 101: 278-297

Cooke, Nicholas and Andrew Mudd, A46 Nottinghamshire: The Archaeology of the Newark to Widmerpool Improvement Scheme 2009, Cotswold Archaeology Monograph No. 7 and Wessex Archaeology Monograph No. 34, Cotswold Wessex Archaeology: Cirencester and Salisbury, 2014

Dixon, P. and Marshall, P. 1994 Newark Castle Studies: Excavations 1992-1993

Garton, D., Barton, D. and Bateman, M.D.(2020) Farndon Fields, Newark, Nottinghamshire: Windermere Interstadial deposits with potential for Late Upper Palaeolithic human activity. Mercian Geologist 20: p5-14

Howard. A. (2012) Updated Period Resource Assessment: The Palaeolithic Period: The East Midlands during the Late Upper Palaeolithic. [online] available at: https://researchframeworks.org/emherf/updated-period-resource-assessment-the-palaeolithic-period/?highlight=Farndon%20Fields#section-35 (accessed December 2023)

Knight, D. and Howard, Andy J., (2004) Trent Valley Landscapes: The Archaeology of 500,000 Years of Change. King's Lynn. Heritage Marketing and Publications Limited.

Krawiec, K. (2012), The Mesolithic to Bronze Age Landscape Development of the Trent-Derwent Confluence Zone at Shardlow Quarry: A multi-disciplinary contribution to the environmental reconstruction in an aggregate-rich landscape

Howard, A.J. (2005) The contribution of geoarchaeology to understanding the environmental history of the Trent Valley, UK. Geoarchaeology 20: p93-107

Kinsley, G. 1989 Newark's Archaeological Resource

Lewis, C. 2019 Medieval Period. Available at: Medieval Period - East Midlands Historic Environment Research Framework (researchframeworks.org)

Royal Commission on Historical Monuments (England) 1964, Newark-on-Trent, The Civil War Siegeworks. HMSO

Samuels, J. and Russel, A.D. 1999 An Anglo-Saxon burial near Winthorpe Road, Newark, Nottinghamshire. Transactions of the Thoroton Society of Nottinghamshire 103: pp57-83

Seville, K. 1970 MOW Archaeological Excavations - Newark

The Archaeology of the East Midlands: An Archaeological Resource Assessment and Research Agenda, Leicester Archaeology Monographs No. 13. University of Leicester Archaeological Services: Leicester, Cooper, Nicholas J, ed., 2006. https://content.historicengland.org.uk/images-books/publications/archaeology-east-midlands/em-res-framework.pdf/

Taylor, J. 2019 Roman Period. Available at: Roman Period - East Midlands Historic Environment Research Framework (researchframeworks.org)

Willis, S. 2019 Updated Period Resource Assessment: The Later Bronze Age and Iron Age. [online] available at: Updated Period Resource Assessment: The Later Bronze Age and Iron Age - East Midlands Historic Environment Research Framework (researchframeworks.org) (accessed December 2023).

Grey Literature

AMS (2022) Geophysical Survey Report of Lands along the A46 Newark Northern Bypass.

AMS (2023) Metal Detecting Survey Report of Lands along the A46 Newark Bypass. February 2023.

AMS (2023) Fieldwalking Survey Report of Lands along the A46 Newark Northern Bypass. February 2023.

AMS (2023) Regional Delivery Partnership A46 Newark Bypass. Geoarchaeological Desk Based Assessment.

AMS (2023) Addendum to Geophysical Survey Report of Lands along the A46 Newark Bypass. March 2023.

AMS (2023) A46 Newark Bypass. Geoarchaeological Coring Report, July 2023.

Abbott, C. 1994 Results of the Archaeological Watching Brief Conducted at the Co-operative Store, Kirkgate, Newark

Allen Archaeology, (2010). Archaeological Evaluation Report: Trial Trenching of Land at Malt Park, Off Maltkiln Lane In Newark, Nottinghamshire.

Archaeological Management Solutions (AMS) (2022). Metal Detecting Survey Report of Lands along the A46 Newark Northern Bypass: Phase 1.

Beresford, M. 2019 Kelham Revealed! Archaeology Report. Available here: kelham-revealed.pdf (wordpress.com) (last accessed December 2023).

Cotswold Wessex Archaeology, 2011. A46 Newark to Widmerpool Improvements. Available here: Microsoft Word - Volume 1 Text incorporating comments ADC - re-structured.docx (archaeologydataservice.ac.uk) (last accessed December 2023).

National Highways (2021) Regional Investment Programme: A46 Newark Bypass Environmental Assessment Report, PCF Stage 2, Volume I, Main Chapters, May 2021 (Document Ref: HE551478-ATK-EGN-RP-LM-000020).

National Highways (2021) Regional Investment Programme: A46 Newark Bypass Environmental Assessment Report, PCF Stage 2, Environmental Scoping Report, March 2021 (Document Ref: HE551478-ATK-EGN0-RP-LM-000001).

National Highways (2022) Regional Delivery Partnership: A46 Newark Bypass Preliminary Environmental Information Report, October 2022 (Document Ref: HE551478-MOTG-EGN-CONWI_CONW-RP-LE-00024).

National Highways (2022) Regional Delivery Partnership: A46 Newark Bypass Environmental Scoping Report, August 2022 (Document Ref: HE551478-MOTG-EGN-CONWI_CONW-RP-LE-00015).

Newark & Sherwood District Council (2007) Winthorpe Conservation Area Appraisal [online] available here Winthorpe-1.pdf (newark-sherwooddc.gov.uk) (last accessed December 2023).

Newark & Sherwood District Council (2022). Draft Newark Conservation Area Appraisal [online] available here: NEWARK CONSERVATION AREA APPRAISAL (newark-sherwooddc.gov.uk) (last accessed December 2023).

Newark & Sherwood District Council (2023) Kelham Conservation Area Map [online] available here: Kelham Conservation Area (newark-sherwooddc.gov.uk) (last accessed December 2023).

Newark & Sherwood District Council (2023) Farndon Conservation Area Map [online] available here: Farndon Conservation Area (newark-sherwooddc.gov.uk) (last accessed December 2023).

Newark & Sherwood District Council (2023) Averham Conservation Area Map [online] available here: Averham Conservation Area (newark-sherwooddc.gov.uk) (last accessed December 2023).

Newark & Sherwood District Council (2022). Draft Newark Conservation Area Appraisal [online] available here: NEWARK CONSERVATION AREA APPRAISAL (newark-sherwooddc.gov.uk) (last accessed December 2023).

Nottinghamshire County Council (2016, updated 2022) Nottinghamshire Historic Landscape Characterisation (HLC), [online] available here: Nottinghamshire Historic Landscape Characterisation (HLC): Introduction (archaeologydataservice.ac.uk) (last accessed December 2023).

PCAS Archaeology 2020 Land at Kelham Hall, Main Road, Kelham, Nottinghamshire, NG23 5QX: Archaeological Evaluation Report

RCHME 1999, The Nottinghamshire Mapping Project, A Report for the National Mapping Programme. Available at: https://historicengland.org.uk/research/results/reports/6885/TheNottinghamshireMappingProject_AreportfortheNationalMappingProgramme

Skanska Mott MacDonald (2022) Regional Delivery Partnership A46 Newark Bypass: Environmental Scoping Report [online] available at: (TR010065-000002-A46N - Scoping Report.pdf (planninginspectorate.gov.uk)) (last accessed July 2024)

Tetra Tech (2022) A46 North Newark Bypass: Factual Ground Investigation Report, March 2022.

Trent and Peak Archaeological Trust, (1991). Archaeology of the Fosse Way: Implications of the Proposed Dualling of the A46 Between Newark and Lincoln.

Trent & Peak Archaeology (2001) Archaeological Excavation and Monitoring at North Gate Retail Park, Newark, Nottinghamshire: Interim Summary of Results

Trent & Peak Archaeology (2001) Romano-British and Medieval Settlement at Northgate Retail Park, Newark, Nottinghamshire

Trent & Peak Archaeology (2019) *Great North Road Arches: Historic Building Survey and Statement of Significance*, Report No: 122/2019.

Wessex Archaeology (2017) River Trent Crossing, Nottinghamshire Archaeological Watching Brief Report REF. 101503.01

York Archaeological Trust (2022) A46 Newark North Bypass, Nottinghamshire. Archaeological and geoarchaeological monitoring of ground investigations, Report Number: YA/2021/009, February 2022.

7.3 Web sources

Archaeological Data Service (2023) Search data, [online] available at: https://archaeologydataservice.ac.uk/search-data/ (last accessed December 2023)

BBC (2011) Nottingham: Archaeologists look to Protect Rare Prehistoric Site [online] available here: BBC - Archaeologists look to protect rare prehistoric site (last accessed January 2023).Winthorpe-with-Langford Parish Council (2005)

British Geological Society (BGS) (2023) Geology of Britain viewer. [online] available at: BGS Geology Viewer (BETA) (last accessed December 2023).

Council for British Archaeology (2006) *Defence of Britain Archive* [data-set]. York: Archaeology Data Service [distributor] https://doi.org/10.5284/1000327 (last accessed December 2023)

Cranfield Soil and Agrifood Institute Soilscapes (2023). Available at: Soilscapes soil types viewer - Cranfield Environment Centre. Cranfield University (landis.org.uk) (last accessed December 2023).

Department for Levelling Up, Housing and Communities (2012) National Planning Policy Framework – Annex 2: Glossary [online] available at: National Planning Policy Framework - Annex 2: Glossary - Guidance - GOV.UK (www.gov.uk) (last accessed July 2024).

Doubleday, W. E. (1942) Notts Villages: Averham, *The Nottinghamshire Guardian* [online] available here: Nottinghamshire history > Articles > Notts Villages: Averham (nottshistory.org.uk) (last accessed December 2023).

Doubleday, W. E. (1947) Notts Villages: Kelham, The Nottinghamshire Guardian [online] available here Nottinghamshire history > Articles > Notts Villages: Kelham (nottshistory.org.uk) (last accessed December 2023).

Environment Agency (2021) National LIDAR Programme [online] available at: https://www.data.gov.uk/dataset/f0db0249-f17b-4036-9e65-309148c97ce4/national-lidar-programme (last accessed December 2023)

Highways Agency, 2007. A46 Newark to Widmerpool Improvement: Environmental Statement Volume 2 – Detailed Assessment and Supporting Information, prepared by Balfour Beatty, Jacobs and Scott Wilson. https://webarchive.nationalarchives.gov.uk/20150804212603/http://persona.uk.com/orga46newark/inquirydocuments.htm [accessed December 2023].

Historic England (2022) Heritage at Risk: Midlands Register, [online] available at https://historicengland.org.uk/images-books/publications/har-2022-registers/mid-har-register2022/ (last accessed December 2023)

Historic England (2023) The National Heritage List for England (NHLE): Search the List. Available at: https://historicengland.org.uk/listing/the-list

Howard, A.J. nd The Palaeolithic of the Trent Valley Gravels. Available at: https://www.agg-net.com/resources/articles/environment-restoration/the-palaeolithic-of-the-trent-valley-gravels (last accessed December 2023)

Natural England (2022) National Historic Landscape Characterisation 250m Grid (England) [online] available here: National Historic Landscape Characterisation 250m Grid (England) - data.gov.uk (last accessed December 2023).

Nicholson, A. (n. d). Newark-on-Trent. Available at: The Nottinghamshire Heritage Gateway > Places > Newark-on-Trent > Overview (nottsheritagegateway.org.uk) (Last Accessed December 2023).

Page, W. Ed. (1910) 'Friaries: Observant friars of Newark', in *A History of the County of Nottingham: Volume 2*, pp. 147-148. *British History Online* https://www.british-history.ac.uk/vch/notts/vol2/pp147-148 (last accessed December 2023).

RAF Winthorpe*, Village Scrap Book* Vol 3 [online] available here: The History of Winthorpe Airfield | Winthorpe Village, Nottinghamshire (last accessed December 2023).

Roman Britain, (n. d). Crococalana Settlement. Available at: Crococalana Settlement - Roman Britain (roman-britain.co.uk)

Topography viewer (2023). Available at: Free topographic maps, elevation, terrain (topographic-map.com) (last accessed December 2023)

Visit Nottinghamshire (2023). Kelham [online] available here: Kelham - Visit Nottinghamshire (visit-nottinghamshire.co.uk) (last accessed December 2023).

7.4 Cartographic sources

Richard Clampe (1645) A Description of the siege of Newark upon Trent. Available at Nottinghamshire Archives, Ref DD/597/12

James Shepphard (n.d, 18th century) Ground plan of the fortifications and entrenchments surrounding Newark when besieged March 1644/5 to May 1646 and coped from the original plan of Richard Clampe, chief engineer. Available at Nottinghamshire Archives, Ref MP/NW/27/S

W. Attenburrow (1790) Map of the town of Newark from a survey taken in 1790 by W. Attenburrow, land surveyor. Available at Nottinghamshire Archives, Ref DD/1440/102/R

Anon (1803) Newark Enclosure Map. Available at Nottinghamshire Archives, Ref EA/110/2

Beaumont (1820) Map of Newark and surrounding lands with key to ownership of property. Available at Nottinghamshire Archives, Ref MP/NE/10/L

Wood, J. 1829 A Plan of Newark from Actual Survey. Available at Nottinghamshire Archives Ref NE/13/S

George Sanderson (1835) Map of the county twenty miles around Mansfield. Available at Nottinghamshire Archives, Ref MP/N/3/1-2/R

Dewhurst and Nichols (1838) Map of the Borough of Newark showing parishes and wards. Available at Nottinghamshire Archives, Ref MP/NE/12/L

Anon (1842) Newark Tithe Map. Available at Nottinghamshire Archives, Ref AT/93/1C

George Shephard (1874) Map of the parish of Newark. Available at Nottinghamshire Archives, Ref MP/NE/13/L

National Library of Scotland (2023) *Ordnance Survey Six Inch, 1888-1913*, Explore Georeferenced Maps [online] available here: Explore georeferenced maps - Map images - National Library of Scotland (nls.uk) (last accessed December 2023).

7.5 Other Archives

Anon (1506) Copy of Letter Patent. Available at Nottinghamshire Archives, Tallents Collection, Ref DD/T/17/7

Anon (1593) Articles of enquiry about the mills at Newark; the ways of bringing water again to the... Available at National Archive, Ref SP 46/49/fo122

Appendix A: Gazetteer of heritage assets

A.1 Designated heritage assets recorded within 1km of the Scheme

A.2 Non-designated heritage assets recorded within 500m of the Scheme

A.3 Archaeological events recorded within 500m of the Scheme

Appendix Table 0-1: Designated heritage assets recorded within 1 kilometre of the Scheme (illustrated in Appendix B, Drawing B.2, Sheets 1 to 15)

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM001	1003474	Newark Castle	The monument includes the ruined and buried remains of an episcopal castle of the Bishops' of Lincoln, built c 1135-39 by Bishop Alexander on the site of a Norman motte and bailey castle which itself stands on a site occupied from the prehistoric period. The castle was rebuilt in the late 13th century/early-14th century, with the final episcopal alterations undertaken c 1471-80. It was restored as an aristocratic residence in c 1587-88 but following the third siege of Newark in 1646 was left as a roofless ruin. Newark was again restored in 1845-48, 1899 and 1979-90.	Scheduled Monument	12th century	SK 7966154028	90m
MM003	1003488	Newark town wall (Lombard Street)	The monument comprises the undated remains of Newark town wall which run along Lombard Street.	Scheduled Monument	Undated	SK 79616 53823	345m
MM004	1008258	Hawton moated site, fishpond, Civil War redoubt and ridge and furrow	The monument at Hawton is a moated site and fishpond that includes a redoubt constructed during the Civil Wars of the 1640s. The moat surrounds a large platform or island that measures approximately 130m by 90-140m, with the ditch surrounding the island varying in width from 8-15m and being up to 1.5m deep. An outer revetment bank was constructed along the east side, which may have fed a fishpond that is no longer extant. A well-preserved fishpond lies to the south, which is itself fed by a 5m wide channel from the stream. The moat was the site of a 15th century manor house built by Thomas Molyneux and was abandoned by the 17th century, indicating that the stream had been diverted by this time. During the Civil War, the abandoned moat became the site of a temporary fortress or redoubt that guarded Devon Bridge and commanded the road from Hawton to Newark and the road to Farndon.	Scheduled Monument	17th century	SK 78539 51245	550m
MM005	1012880	Standing cross known as Beaumond Cross	The monument includes the socle and shaft of a medieval standing cross standing on a modern calvary of four octagonal steps. The socle or socket stone is a moulded and decorated octagonal block with a battered (sloping) pedestal and is approximately 1m high and 1m in diametre. It is surmounted by a slender, tapering, fluted column which rises 3.5m to an ornate cross head which increases the height of the shaft to approximately 4m. At the base of the shaft is a recess containing a robed figure with raised hands. The figure is apparently male and may be a saint or a representation of Christ. The cross has been moved from its original location at the junction of Lombard Street, Carter Gate, Portland Street and London Road and now stands off London Road in Beaumond Gardens. There is some suggestion that it is an Eleanor Cross but there is also recorded evidence to suggest that it is a memorial to Viscount Beaumont, erected by his widow following his death at the Battle of Towmont on 29 March 1461. Records also indicate that it was repaired by Charles Mellich in 1778 and repaired again in 1801 by the Corporation. It was moved to its present location in c.1965 and, in addition to being scheduled, is Listed Grade II.	Scheduled Monument	17th century	SK 79941 53564	705m
MM006	1016020	Civil War town defences within the Friary Garden	The monument consists of the remains of the north-east corner of the Civil War town defences of Newark, located within the Friary gardens and adjoining properties to the south. The monument includes earthworks defining a bank, varying in width and height, representing the remains of a multi-phase rampart constructed between 1642 and 1646. An external ditch is also present, providing a quarry for material to increase the height of the ramparts as well as providing a line of defence. The rampart runs along the northern and eastern boundary of the adjacent Friary precinct, and the foundations of the medieval precinct wall are believed to survive in the base of the Civil War rampart. The rampart is depicted in a contemporary plan recording the Civil War fieldworks constructed by the Royalist garrison defending the town, and several contemporary documentary sources make reference to the construction and nature of the defences, which correspond closely with the physical remains identified and recorded during archaeological evaluations in 1982 and 1996. All walls, fences, pathways, and roads are excluded from the scheduling, although the ground beneath them is included.	Scheduled Monument	17th century	SK 80255 54013	520m
MM007	1016046	Civil War redoubt 550m south-east of Valley Farm	The monument is located on the north bank of a brook approximately 550m south-east of Valley Farm. It consists of the remains of a rectangular redoubt constructed by the Parliamentarian forces besieging Newark during the Civil War. The redoubt is approximately 27m by 27m and is surrounded by earthworks, including ramparts up to 0.7m high and varying between 2m and 4m in width. The ramparts widen internally in the south-west corner to form a rectangular raised area, identified as a gun platform. An external ditch, approximately 2m wide and 0.7m deep, is present to the north and west of the ramparts. Slight traces of a counterscarp bank are visible beyond the ditch to the north. The remains of an external ditch on the eastern side are visible as a linear depression. The redoubt is believed to have been constructed by the Scots who formed part of the Parliamentarian forces during the final siege of Newark between November 1645 and May 1646. A contemporary plan	Scheduled Monument	17th century	SK 79490 54785	5m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
			depicting the fieldworks of the Parliamentarians clearly shows the monument and attributes it to the Scots. The plan also shows an artillery piece on one corner of the redoubt, suggesting that it was designed to provide a clear field of fire over the Great North road. The location of the surviving platform on the ramparts further supports this hypothesis. The monument is a significant part of the Civil War heritage of the area and is of historical and archaeological importance.				
MM008	1016047	Gun platform 440m south-east of Muskham Bridge	The monument includes the remains of a gun platform used for defense during the Civil War, as well as earlier in the defense of Newark. The platform is located 440m south-east of Muskham Bridge and features a pear-shaped, flat-topped mound that measures around 23m north-south and 19m east-west. The top of the platform is circular and up to 12m in diametre, surrounded by an irregular quarry ditch up to 0.4m in depth and 1m in width. The mound slopes steeply to the north and gently to the south. The platform was built to defend the original course of the Great North Road and its crossing point over the River Trent. A drawbridge was constructed across the Trent at Muskham in 1536, and gun batteries were built around Newark to protect against possible attacks by Catholic rebels. The gun platform is believed to belong to this phase of town defense. It is likely that the platform was also used during the Civil War, as contemporary documents show that Muskham Bridge was stormed by attacking Parliamentarian forces during the second siege of Newark in March 1644. The platform may have functioned in conjunction with the sconce situated 500m to the north-west, enabling both the bridge and the Great North Road to be enfiladed from either side.	Scheduled Monument	17th century	SK 78962 55880	945m
MM009	1016048	Civil War redoubt 680m north-west of Dairy Farm	The monument includes the remains of a Civil War redoubt, constructed by the Parliamentarian forces besieging Newark, 680m north-west of Dairy Farm on the north-east bank of a stream known as the Old Trent Dyke. It consists of earthworks defining a sub-rectangular banked enclosure approximately 35m square internally. The enclosure is interpreted as a redoubt with ramparts up to 0.8m high and c.3m in width. The ramparts project outwards on the northern and eastern corners to form two demi-bastions, and have gaps approximately 1.5m across in the eastern side and on the southern corner. An area of raised ground immediately to the east of the monument beyond the break in the eastern rampart is considered to suggest the presence of external features in association with the original entrance. An external ditch varying between 1.5m and 3m in width follows the north-west and north-east sides of the ramparts and continues to the tip of the eastern demi-bastion. A short linear feature approximately 10m in length, 2.5m in width and up to 0.8m deep projects from the south-west corner of the ditch and runs into the Old Trent Dyke. The monument is one of several redoubts constructed by the Scots who comprised part of the besieging Parliamentarian forces during the final siege of Newark between November 1645 and May 1646.	Scheduled Monument	17th century	SK 78693 54458	70m
MM010	1016049	Civil War fieldwork on Crankley Point	The monument includes the remains of a Civil War fieldwork constructed by the Royalist forces defending Newark. The monument lies immediately south of a water filled gravel quarry on Crankley Point. The remains include earthworks defining two parallel banks up to 3m in width and between 0.6m and 0.8m high running on an approximately east-west axis for a distance of c.56m. The southern bank is visible for its entire length and has an external ditch c.2m in width and 0.8m in depth and a centrally placed ramp and entrance of approximately 2m across. The northern bank is of similar dimensions but is only intermittently visible and has no readily discernible ditch. Traces of a north facing bastion survive at the eastern end as a slight continuation of the parallel banks which converge to form a point. The monument is a fieldwork constructed by the Royalist forces defending Newark during one of the first two sieges.	Scheduled Monument	17th century	SK 8005256113	315m
MM011	1016050	Civil War redoubt on Crankley Point	The monument includes the remains of a Civil War fieldwork constructed by the Royalist forces defending Newark. The monument lies immediately south of a water filled gravel quarry on Crankley Point. The remains include earthworks defining two parallel banks up to 3m in width and between 0.6m and 0.8m high running on an approximately east-west axis for a distance of c.56m. The southern bank is visible for its entire length and has an external ditch c.2m in width and 0.8m in depth and a centrally placed ramp and entrance of approximately 2m across. The northern bank is of similar dimensions but is only intermittently visible and has no readily discernible ditch. Traces of a north facing bastion survive at the eastern end as a slight continuation of the parallel banks which converge to form a point. The monument is a fieldwork constructed by the Royalist forces defending Newark during one of the first two sieges.	Scheduled Monument	17th century	SK 80035 56047	300m
MM012	1016051	Moated site 750m north-west of Dairy Farm	The monument includes the site of a house known as the Red or Stoke Lodge and its surrounding moat. The site lies in the north-west corner of a field adjacent to the Newark- Kelham road 750m north-west of	Scheduled Monument	17th century	SK 78654 54535	95m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
			Dairy Farm. It consists of earthworks defining a sub-rectangular platform approximately 40m by 31m and up to 0.6m in height, the southern and western edges of which are defined by an L-shaped linear depression approximately 4.5m in width. The sub-rectangular platform is interpreted as the site of a house and the L-shaped linear depression abutting it represents the infilled remains of the moat which originally enclosed the site. On the northern side of the site the moat has been disturbed and partly destroyed by a modern field drain, while on the eastern side it has been obscured by an old field boundary and adjacent trackway. The monument is the site of the Red or Stoke Lodge. A house named the Red Lodge is clearly depicted and named on a contemporary plan recording the fieldworks of the Parliamentarian forces besieging Newark during the Civil War. Field survey and aerial photography also revealed the existence of a field track running parallel with and immediately beyond the western side of the moat from the Kelham Road to the Old Trent Dyke. This trackway was also clearly depicted on the contemporary Parliamentarian plan, leading eventually to a large fort described as `a worke of the Scots pallisadoed about'.				
MM013	1016150	Queen's Sconce	The monument is a Civil War sconce built by Royalist forces in Newark. It is located in Devon Park and consists of earthworks with ramparts up to 9m high and 17m wide, including angle bastions for artillery. The ramparts are surrounded by a V-shaped ditch up to 21m wide and 4.5m deep with an external palisade. A triangular platform with pitfalls and a linear depression also forms part of the defences. The sconce was built in conjunction with another work to the north of town after the second siege in 1644 and completed before the third and final siege in 1645. It was strategically located to cover the southern approach to town and deny control of high ground to attacking Parliamentarians.	Scheduled Monument	17th century	SK 79062 53052	500m
MM014	1016152	Civil War redoubt 580m ENE of sugar refinery	The monument is a Civil War redoubt built by Parliamentarian forces besieging Newark. Located 580m ENE of the sugar refinery on the western bank of the River Trent, it consists of earthwork ditches forming a sub-rectangular enclosure of approximately 85m by 35m, with the southern ditch including a central causeway interpreted as the original entrance. The redoubt is clearly depicted on contemporary plans and attributed to the Scottish army under the Earl of Leven. It was likely constructed to prevent incursions onto the island between the two courses of the Trent and to provide overlapping fields of fire with other fieldworks.	Scheduled Monument	17th century	SK7992855417	125m
MM015	1017402	Civil War sconce 650m north-west of Devon Bridge	The monument includes the remains of a Civil War sconce constructed by the Royalist forces defending Newark and subsequently occupied by the Parliamentarians. The monument is located 650m north-west of Devon Bridge. The remains include earthworks defining an irregular star-shaped platform up to 4.5m in height and covering an area approximately 46m by 47.5m. Triangular projections situated on the north, south, east and western corners of the platform are interpreted as representing the remains of angle bastions. Faint indications of a surrounding ditch are also visible. The monument is one of several fieldworks constructed by the defending Royalist garrison prior to the final siege of Newark between November 1645 and May 1646. A contemporary plan of Royalist origins clearly depicts the monument and refers to it as the `Sandhills Sconce'. The location of the sconce astride a contemporary trackway, and its orientation in relation to a fording point over the Old Trent Dyke and other Royalist fieldworks, suggest that it was initially constructed to protect the western approaches to Newark. Following its capture it provided a base for the continuing Parliamentarian assault on the town.	Scheduled Monument	17th century	SK 78651 53804	125m
MM016	1017687	Averham moat and enclosure	The monument is the moated site of Averham manor, which includes a rectangular island surrounded by a steep-sided ditch measuring 3m deep and 8-9m wide. The island measures 12m by 69m and is connected to an adjacent enclosure to the south-east via a bridging point. The enclosure is marked by two parallel banks, with the south-western bank being the best-preserved and projecting south-eastwards from the south end of the moat. The remains of domestic or ancillary buildings are likely to be present on the island and in the enclosure, with concentrations of brick indicating the possible existence of additional features to the south-east. However, the extent and survival of these features are not well understood and are not included in the scheduling. All boundary fencing and garden fixtures are excluded from the scheduling, but the ground beneath is included.	Scheduled Monument	17th century	SK 76550 54347	265m
MM018	1045982	Kelham Hall	Country house. Gothic revival style. 1859-61 By (Sir) George Gilbert Scott for John Manners-Sutton. Incorporates service range, 1844-46 by A. Salvin for the same client. Service range in Renaissance revival style. Brick and ashlar with ashlar dressings, gabled, hipped and pyramidal slate roofs. Fireproof design with iron and concrete structure. Moulded and chamfered plinths, sill and lintel bands, machiolated and moulded eaves, moulded balustrades with some crocketed finials, coped gables. Four side wall and four ridge stacks grouped and with decorative brick and ashlar caps. Polychrome brick	Grade I Listed Building	19th century	SK 77435 55510	250m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
			bands, opening heads and diaper work. Windows are lancets, mostly with shafts with foliate capitals and hood moulds, and mullioned and transomed casements, some with shafts. Some panelled and shouldered architraves. Glazing is plain sashes or plate glass casements. All facades are asymmetrical. Three storeys plus attics. Nine bays wide by three bays deep. Irregular L-plan with spinal corridors.				
MM019	1046008	Church of St Michael	Church. Includes a west tower, nave, chancel, north chancel chapel, and south porch. The tower dates back to the 11th and 13th centuries, and features a chamfered plinth, coved string course, and crenellated parapet with shields and crocketed pinnacles. The nave has four bays, with diagonal and intermediate buttresses and restored triple lancet windows on both sides. The chancel has two bays, with lancet and quintuple lancet windows and a north chancel chapel with a 15th century style double lancet window. The south porch dates back to the early 16th century and features a restored south doorway and a 16th century principal rafter roof with moulded timbers and curved braces. The interior includes stone benches, 16th century corbels, and a traceried panelled Perpendicular screen in the chancel, as well as stained glass windows from various periods. The roof, which is in the 14th century style, features 16th century foliate and mask corbels carrying arched braces to tie beams, and further curved brackets above, all with pierced spandrels. The tower arch is 13th century and double chamfered and rebated with hood mould and mask stops, octagonal imposts with moulded bases, and mask and monster capitals with foliage. The church was restored multiple times in the 19th and 20th centuries, with various improvements made to the structure and interior.	Grade I Listed Building	12th century	SK 76812 54367	410m
MM020	1196278	Remains of Newark Castle	Castle. The ruined remains of an episcopal castle of the Bishops' of Lincoln, built c 1135-39 by Bishop Alexander on the site of a Norman motte and bailey castle which itself stands on a site occupied from the prehistoric period. The castle was rebuilt in the late 13th century/early-14th century, with the final episcopal alterations undertaken c 1471-80. It was restored as an aristocratic residence in c 1587-88 but following the third siege of Newark in 1646 was left as a roofless ruin. Newark was again restored in 1845-48, 1899 and 1979-90.	Grade I Listed Building	12th century	SK 79635 54068	120m
MM021	1196430	Town Hall	Town Hall and former gaol. Built between 1774-6 by John Carr of York, with later additions in the late 18th and mid 19th centuries. The building was restored between 1989-91 by Guy St John Taylor Associates and James Brotherhood Associates. The building is constructed of Mansfield white sandstone ashlar and brick, with a slate roof. It has a plinth, frieze, dentillated cornice, and an open balustrade with urns at the corners. The windows are glazing bar sashes, and there are three storeys with a seven window range. The projecting three-bay centre has a giant tetrastyle Doric portico with a balustrade and pediment containing the Town Arms, topped with a central figure of Justice renewed c1983. The ground floor is rusticated and has round arched openings with multiple keystones and an impost band. In the centre, there are three doorways with wrought iron grilles and gates. Beyond these are single glazing bar windows, and beyond again, single doorways with half-glazed doors with fanlights. To the left, there is a late 18th-century addition forming the Mayor's Secretary's office, which is red brick with ashlar lintels and a slate roof. The interior of the building is also noteworthy, with an outstanding ballroom that features paired pilasters and domed apsidal ends, screened by pairs of giant Corinthian columns. The coved compartmented ceiling was created by Kilminster of Derby. There is a central enriched marble fireplace on each side wall, and the front has four doors in decorated surrounds, while the rear has two doors. The central council chamber has a metope and triglyph frieze, ceiling bosses, and door and window architraves with cornices. The Town Hall is considered "a fine example of its type and period" by architectural historian Nikolaus Pevsner, and is a good example of the work of John Carr.	Grade I Listed Building	18th century	SK 79810 53908	350m
MM022	1279450	Church of St. Mary Magdalene and attached Railing	Church. Crypt and crossing piers dating back to around 1180, the crossing and west tower to around 1220, and various other parts added over the centuries up until the early 16th century. The church was restored in the mid-19th century by Sir George Gilbert Scott, and further restorations were carried out in the early 20th century. The chapel of St George was decorated by Caröe around 1920, and the chapel of the Holy Spirit was decorated by Comper in 1930. The church is made of ashlar with lead roofs, and features a continuous roof covering the nave and chancel, as well as various chapels, transepts, and other structures	Grade I Listed Building	12th century	SK 79945 53928	405m
MM023	1297633	Governor's House	House, now bakery and cafe. 1474, with late 18th century addition and early and late 19th century and 20th century alterations. Restored and converted 1987 by Guy St John Taylor Associates. Timber framed, with coursed rubble and brick underbuild and rendered nogging, and colourwashed brick, with pantile roof. Close studded front has coved jettied floors with billeted bressummers, coved eaves and coped gables. Single external rear wall and gable stacks. 3 storeys, 6 bays. L-plan. This building is an	Grade I Listed Building	15th century	SK 79810 53853	395m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
			important example of timber framing, which was predominant in Newark before c1660. It was the headquarters of the town governor during the sieges of 1643 and 1646.				
MM024	1302213	Church of St Wilfrid	Parish church. 14th century, 15th century, Early 18th century, restored 1874 by Hodgson Fowler. Ashlar, dressed stone and coursed rubble with ashlar dressings and slate roofs. Continuous crenellated parapet. West tower, nave, north aisle, north porch, south aisle, south porch, south chancel (Lexington) chapel.	Grade I Listed Building	14th century	SK 77377 55391	120m
MM025	1045983	Gazebo and Garden Wall at Kelham Hall	Gazebo and section of garden wall c.1844-46. Probably by A. Salvin for J.H. Manners-Sutton. Possibly incorporates columns designed by George Gilbert Scott c.1858. Brick with fishscale leaded octagonal dome with finial. Ashlar dressings, granite columns, string course, moulded and dentillated eaves. Single storey, single bay, octagonal plan. South-west front has three bay round headed arcade with round piers with moulded bases and capitals, and matching responds. Moulded arches with corniced keystones. Interior has ribbed timber roof with round headed blind arcade above wall plate. Adjoining garden wall, brick, with moulded ashlar plinth and ramped ashlar coping. Pair of cruciform gate piers with stepped Renaissance revival finials.	Grade II* Listed Building	19th century	SK 77513 55543	295m
MM026	1046033	Langford Hall	Country house, c.1780/90 by John Carr of York for the Duncombes. Red brick under a hipped slate roof with ashlar dressings and standing on an ashlar plinth. 2½ storeys. Symmetrical facade of 5 bays, the central 3 bays slightly project and are surmounted by a pediment with ashlar cornice and swag. The central doorway is on a platform of 5 steps up. There is a single storey brick extension to the rear. Interior, has good original fireplaces, doors, architraves and coving. The contemporary staircase is lit by a large Venetian window.	Grade II* Listed Building	18th century	SK 82337 57444	45m
MM027	1178886	Winthorpe Hall	Country house, c.1760. Begun for Dr. Robert Taylor of Newark, completed for Roger Pocklington, the Newark banker. Probably to designs by John Carr of York. With a 19th century addition to the east. Ashlar and brick with a hipped slate roof with lead flashing. 3 ashlar stacks, modillion cornice. Set on a plinth with thick plain band topping basement. 2½ storeys, 5 bays.	Grade II* Listed Building	18th century	SK 81218 56578	290m
MM028	1196076	Club Room and Stables at Rear of Ossington Hotel	Club room and stables. 1882. By Ernest George & Peto for Viscountess Ossington. Brick, with blue brick dressings, plain tile roof and tile hung gables. Single and 2 storey plus attics, 3 bays. To left, 2 large jettied gables. The left one has an altered pair of glazed doors with sidelights, and above them a weatherboarded gallery under a segmental arch. To right, an external stair with gabled tile roof and weatherboarded gable. At the head of the stair, a close boarded door with double sidelight and to right, a fixed light with glazing bars. Right gable has an 8-light strip window with glazing bars, and a central close boarded door above and below it. Stable range to right has a central pair of close boarded doors with sidelights, now boarded up.	Grade II* Listed Building	19th century	SK 79746 54134	120m
MM029	1196098	Martin Forster House	Vicarage, now offices. c1730, altered early 19th century. Brick with stone dressings and Welsh slate roof, with 2 gable and single side wall stacks. Plinth, first floor and eaves band, moulded wooden eaves band and coped gables. 2 storey and attic. Street front has 7 window facade arranged 3:1:3. Basement has brick vaulted cellars. Original roof trusses visible in attic.	Grade II* Listed Building	18th century	SK 80023 53886	490m
MM030	1196290	Kiln Warehouse	Former maltings, now warehouse. 1857, with late 20th century alterations. Built for John Hole, brewer. Mass concrete, rendered externally, with hipped Welsh slate roofs. Plinth, first and second floor bands, moulded eaves. Modified regular fenestration, mainly with segment headed openings. 3 storeys; 18 window range, the river front divided into 6 hipped bays. Fourth bay has a central door on each floor, the top one extending into the roof as a gabled dormer. In front of them, a steel hoist gantry. Third bay has on the first floor two inserted segment headed 3-light casements, and below, a door to left. Second bay has a door to right on ground and first floors. Rear has a recessed centre with 6 windows and at either end a double door. Interior has wooden floors carried on iron columns, and wooden staircases. Kilns have furnace spaces below and perforated tile floors above. This building is an early example of mass concrete construction.	Grade II* Listed Building	19th century	SK 79755 54359	15m
MM031	1196426	Former White Hart Hotel	Former hotel, now building society office. Dated by dendrochronology as follows: rear (south) wing c1312, extended c1526 and remodelled 17th century. East wing c1320. Front range c1470, rear gallery and stair turret early 16th century, glazed mid 17th century. Altered c1870. Main ranges restored 1983 and south wing restored 1990, by Guy St John Taylor Associates. Timber framing with rendered rubble and brick nogging, with pantile roofs and plain tile verges. Close studded 3 storey front range, 3 storeys, 4 bays, has to left a recessed unjettied bay with a 16 pane sash.	Grade II* Listed Building	14th century	SK 79897 53840	450m
MM032	1215654	Shalem House, the Friary 1 to 4	House, now house and flats. Early 17th century, remodelled c1720. North and east wings, entrance hall and porch in Gothic style, 1868-77. Restored and remodelled c1987. Coursed squared rubble with ashlar	Grade II* Listed	17th century	SK 80194 54040	540m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
			and brick dressings, with hipped and gabled slate and plain tile roofs with 2 ridge stacks.	Building			
MM033	1278230	43, Market Place	Former coaching inn, now shops and offices. Early 18th century, with mid 19th century and late 20th century alterations. Brick with stone and stucco dressings. Roof not visible. 2 ridge stacks. Rusticated quoins and pilasters dividing the front 3:1:3, cornice and central pediment replaced by 20th century stucco bands, panelled parapet. 3 storeys; 7 window range. Also known as: Clinton Arms Yard.	Grade II* Listed Building	18th century	SK 79853 53846	425m
MM034	1287626	Ossington Hotel and adjoining Garden Walls and Summerhouse	Former temperance coffee house, now an hotel, and adjoining garden walls and summerhouse. 1882, by Ernest George & Peto for Viscountess Ossington. Brick, with blue brick and stone dressings and plain tile roof with single prominent side wall, rear wall and ridge stacks, all coped. Vernacular Revival style. Plinth, pargetted frieze, moulded wooden eaves. 2 storeys plus attics; 6 window range of square oriel windows of 12 lights, with wooden mullions and transoms. Between the fourth and fifth, an inscribed sundial	Grade II* Listed Building	19th century	SK 79723 54108	135m
MM035	1288060	Former Magnus School and adjoining Headmaster's House and English School	Former grammar school and adjoining headmaster's house and English School, now the District Education Office and Newark Museum. Founded 1529 by the Rev. Thomas Magnus and built 1532. Headmaster's house 1817 by John Sadler Shepherd. English School 1835. Addition 1835, raised 1902. Restored 1912. Former grammar school, coursed rubble and brick with ashlar dressings, and timber box framing with rendered nogging and plain tile roof. Set back street front, to right of Headmaster's house, has a 3-light mullioned window and to its right a single light.	Grade II* Listed Building	16th century	SK 80042 53903	490m
MM036	1297635	27 and 28, Market Place (see details for further address information)	House, now offices and shops. c1730, with late 19th century and 20th century alterations. Brick with stone dressings and hipped slate roof, with 2 ridge and single rear wall stacks. Plinth, incomplete first floor band, second floor band, deeply coved eaves. This building housed the printing press where Byron's first work (Hours of Idleness, 1806) was produced. Includes: Nos.1,3,5 Bridge Street.	Grade II* Listed Building	18th century	SK 79942 53880	440m
MM037	1297637	40 and 41, Market Place	Former coaching inn, now shop and bank. 1721, with late 20th century alterations. Brick, with stone dressings and hipped pantile roof with 2 ridge stacks. Chamfered quoins, second floor band, moulded eaves. 3 storeys; 8 window range of plain sashes, those to first floor with brick flat arches. In the centre of the first floor, a niche with Saracen's Head bust. Ground floor has an 8 bay Tuscan arcade with continuous cornice. In the fourth bay, a carriage entrance. To its left, a fully glazed late 20th century shopfront. Also known as: Nos.12 & 13 Saracen's Head Yard.	Grade II* Listed Building	18th century	SK 79871 53848	430m
MM038	1297721	Concrete Footbridge Across River Trent	Concrete footbridge. 1915, restored late 20th century. Reinforced concrete with stone abutments and steel tube handrails. Single segmental span. On either side, chamfered walls to the approaches, approx. 10M long, and rusticated stone faced abutments. On the east side, a rusticated stone embankment with steel tube handrail, carrying the towpath under the bridge. This building is a striking early example of the structural use of reinforced concrete.	Grade II* Listed Building	20th century	SK 80143 55107	Within the Scheme
MM039	1323680	Winthorpe Bridge Carrying Bypass Over River Trent	Road Bridge over river. 1964. A Goldstein, engineer of R Travers Morgan and Partners. Prestressed concrete bridge superstructure, reinforced concrete piers and abutments. Three span continuous structure: 130-260-13Oft. Nine small box girders cast in-situ on falsework. Outer faces formed with vertically fluted surface, fascia precast concrete units with exposed dark blue Shap granite aggregate. Abutment wing walls unusual, surfaces are tilted cylinders. The character of this well designed and detailed bridge appears to be transitional between 1950s and 1960s - having continuous box girders but a large number of small ones with n o edge cantilever. Included as an architecturally exceptional example of an unusual type of bridge	Grade II* Listed Building	20th century	SK 80528 56733	210m
MM040	1045587	Pilgrim Cottage	House. Late 18th century. Red brick. Pantile roof. 2 red brick gable stacks. Raised, brick coped gables with kneelers. Dentil eaves. Blue brick band at base. 2 storeys, 3 bays.	Grade II Listed Building	18th century	SK 77030 51792	625m
MM043	1045944	Former Monastic Buildings adjoining Kelham Hall	Former monastic buildings and chapel, now offices and function room. Designed 1927-29 by Charles Clayton Thompson. Brick and concrete. Three ranges of buildings around a courtyard with the chapel to the north.	Grade II Listed Building	20th century	SK 77382 55564	290m
MM044	1045945	Viaduct 450 Metres South of Muskham Bridge	Viaduct. 1770 designed by Smeaton and widened 1922. led brick. 9 round arches with buttresses between, pluc brick parapets topped by ashlar coping with scrolled and ramped ends with round brick piers. Part of Smeaton's Causeway built as improvements to the Great North Road by John Smeaton.	Grade II Listed Building	18th century	SK 78907 55780	890m
MM045	1045984	Garden Boundary Wall at Kelham Hall	Garden wall to river front. Mid 19th century. Brick with moulded ashlar plinth and coping. Tapering external buttresses. Square intermediate piers. Pierced with decorative openings, some using moulded brick. Some pier capitals replaced in concrete. Approximately 200 metres long.	Grade II Listed Building	19th century	SK 77511 55477	230m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM046	1045985	Blacksmith Cottage	House. 17th century. Timber framed and brick, with brick nogging, rendering and steep pitched hipped and gabled pantile roof. Brick plinth, 2 ridge stacks. 2 storeys, 3 plus single bays. Main west front has off-centre door flanked by single Yorkshire sashes and beyond, single casements. Above, 2 Yorkshire sashes and a single casement. To left, single storey, single bay extension, brick with pantile roof, rebated eaves and coped gable with kneelers. North gable has central door. At rear, continuous outshut with door to right, flanked to left by 2 Yorkshire sashes and to right by 20th century casement.	Grade II Listed Building	17th century	SK 77493 55722	465m
MM047	1045986	4,6,8, Blacksmith Lane	House. 17th century. (Nos. 4 & 6). Timber framed. Adjoining house. Early 18th century. (No. 8). Brick. Together forming a single range with 2 facades. Timber framed section, to south, has brick cladding and nogging, partly rendered, and steep pitched hipped and gabled concrete tile roof. Single gable and single ridge stacks. 2 storeys, 3 bays. L-plan. Front windows and door all 20th century. West front has lean-to addition to north, and off-centre door, flanked by single casements of different sizes. Beyond, to left, 2 casements and to right, a single casement. Above, to left, a single casement. South end has brick diaper work and remains of corner posts. East front has to right, 20th century door flanked by single casements of different sizes. Above, 3 various casements. Rear wing, brick with pantile roof and dentillated eaves, has to south door to left and 2 casements to right. Interior has principal rafter roof with pegged collars and purlins. Chamfered and moulded span beams and chamfered fireplace bressummer. No.8, to north, has steep pitched concrete tile roof, first floor band, partly dentillated eaves, coped gables with kneelers, and single gable stack. 2 storeys, 2 bays. Windows are mostly 19th century casements. West front has off-centre plank door with segmental head, flanked to left by a Yorkshire sash and to right by a tiny casement. Above, to right, a single casement. North gable has a single fixed light.	Grade II Listed Building	17th century	SK 77508 55765	510m
MM048	1045987	Farm Buildings at Home Farm	Late 18th century with extensive alterations and additions mid 19th century. Possibly by George Gilbert Scott for John Manners-Sutton. Brick with gabled and pyramidal patterned and plain tile roofs, plus tile hanging and shingles. Blue brick diaper work and details, dentillated eaves, coped gables with kneelers. Single roof stack. Single and 2 storeys. 11 bays. H-plan.	Grade II Listed Building	18th century	SK 77314 55705	415m
MM049	1045988	Kelham Bridge	Road Bridge. 1857. Brick with ashlar dressings. 5 segmental arches of various sizes. 4 canted ashlar-faced piers. Chamfered ashlar soffits and hood moulds. Chamfered string course. Corbelled ashlar pedestrian refuges. Plain ashlar coping, partly renewed.	Grade II Listed Building	19th century	SK 77602 55652	420m
MM050	1045996	Stable Block at Winthorpe House	Stable block. Late 18th century. Red brick with ashlar dressings. Hipped slate roof with wooden modillion cornice. Set on a brick plinth. 3 bays plus single bay outer projecting wings. 1½ storeys. The centre bay has a pair of doorways, each under a segmental arch with keystone and with double doors. The doorways are separated by a brick pilaster. Flanking the bay are similar pilasters supporting an ashlar arch with floral decorated keystone. Over is an open modillion pediment. The bays either side of this each have a doorway with traceried fanlight. Above, to the east, is a dormer with glazing bar sash which breaks into the eaves. To the west there is a fixed light with the remnants of tracery.	Grade II Listed Building	18th century	SK 81457 56654	315m
MM051	1045997	Pennywise House	House. Late 18th century. Red brick with whitewashed ashlar dressings. 20th century slate roof with coped gables and 2 brick gable stacks. 2 storeys, 3 bays with 1st floor ashlar band. Central doorway with panelled door and rectangular traceried overlight, having a single fluted wooden column either side set on a pedestal and supporting an architrave and flat hood. Flanking the doorway are single glazing bar sashes with ashlar lintels and keystones with 3 similar windows above. To the rear is a brick 2 storey wing.	Grade II Listed Building	18th century	SK 81341 56614	375m
MM052	1045998	Conservatory at the Grove	Conservatory. Late 19th century. Wood and glass with brick rear wall. Glass roof with 3 sided canted bay front, on brick plinth. Central glazed double doors. The glass panes are arched at the eaves.	Grade II Listed Building	19th century	SK 81232 56302	85m
MM053	1045999	Lowwood	House dated 1787. Red brick with hipped tiled roof and 2 brick stacks. Modillion cornice and let floor band. 2 storeys with symmetrical facade having 4 windows to each floor and a central doorway. There is a slightly projecting 2 window central bay of alternate red and white headers. The panelled door with plain surround has a plaque above inscribed "The: first stone of this house was laid by Roger Pocklington jun and his sister Elizabeth on June 25th 1787 aged 11 yrs and 10 yrs". All windows have glazing bar sashes and all the openings flat headed with segmental relieving arches. There is a later traceried wooden porch with tiled roof, this extends the length of the projecting bay. To the rear is a brick 2 storey, 2 bay, wing. The projecting bay once had a pediment.	Grade II Listed Building	18th century	SK 81278 56217	35m
MM054	1046000	The Academy	House. 18th century with c19 extensions and alterations. Colourwashed brick with ashlar dressings, pantile roof with coped gables and kneelers, single gable stack to the south and 2, ridge stacks. 2 storeys with irregular and varied fenestration.	Grade II Listed Building	18th century	SK 81339 56694	435m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM055	1046001	The Old Rectory Farmhouse	House. Early 18th century and 20th century additions. Red brick under a pantile roof with 2 gable stacks. 2 storeys plus attic, 3 bays with 1st floor dentillated double brick and eaves bands.	Grade II Listed Building	18th century	SK 81392 56844	415m
MM056	1046005	Yew Tree Cottage	Cottage, formerly a pair. 18th century and 19th century. Brick with pantile roof. Coursed rubble plinth, dentillated eaves, 2 coped gables with kneelers, single gable and single ridge stacks, 2 storeys, 4 bays.	Grade II Listed Building	18th century	SK 76504 54494	200m
MM057	1046006	Rectory Cottage	House. 18th century and 19th century. Brick, partly rendered, with gabled and hipped interlocking tile roof. Rebated and dentillated eaves. 2 gable and single ridge stacks. 2 storeys, 3 bays. L-plan.	Grade II Listed Building	18th century	SK 76678 54392	350m
MM058	1046007	The Old Rectory	Rectory. 1838-39. By William Patterson. Brick, stuccoed, with slate roofs. Ashlar plinth, deep eaves, lead rainwater heads with peacock motif, 3 side wall and 2 ridge stacks. 3 storeys, 6 unequal bays. L-plan.	Grade II Listed Building	19th century	SK 76752 54365	400m
MM059	1046034	Coach House, to the West of the Stables, at Langford Hall	Coach house, c.1780/90. Probably by John Carr of York. Red brick under a hipped slate roof with a single brick stack and ashlar dressings. Eaves band, ground floor band, sill band, impost band. Single storey with 1 1/2 storeys central slightly projecting bay of 3 arches containing double doors with wood panelling and square light over, that to the west has had the panelling bricked in and door altered.	Grade II Listed Building	18th century	SK 82283 57475	100m
MM060	1178530	Chestnut Farm House	Farmhouse. Late 18th century with early 19th century alterations. Red brick. Pantile roof. 2 red brick gable stacks. Raised, brick coped gables. Dentil eaves. L-plan. Two and a half storeys, 3 bays with first and second floor bands.	Grade II Listed Building	18th century	SK 76966 51858	705m
MM061	1178591	Stables, to the west of Langford Hall	Stables, c.1780/90. Probably by John Carr of York. Red brick under a hipped slate roof with an ashlar sill band. The north side has 5 bays, 1½ storeys, flanked by single bays of one storey. The central slightly projecting 3 bays are surmounted by a pediment with ashlar cornice.	Grade II Listed Building	18th century	SK 82309 57462	75m
MM062	1178819	The Grove	Small country house. Late 18th century. Rendered brick. Hipped slate roof with central large stack. 2 storeys plus basement. 3 bays with 1st and 2nd floor and eaves bands, flanked by single bay outshuts of single storey plus basement, with let floor bands and shaped ashlar coped parapets each with single finial at the outer edge.	Grade II Listed Building	18th century	SK 81273 56306	110m
MM063	1178837	Church of All Saints	Parish Church. 1886-8 by S. G. Parry. Red brick with ashlar dressings. Tiled roof, stone coped gables with kneelers to nave and chancel and crosses. Buttressed and set on a plinth. North-west tower and spire with north porch, nave, north aisle, north organ chamber and vestry, chancel.	Grade II Listed Building	19th century	SK 81206 56360	135m
MM064	1178838	Thompson Tomb in Church of All Saints, Church Yard, 15 feet south of Baptistry	Table top tomb, c.1801 by R. Chamberlain Newark (engraved on inset plaque), for the Thompson family. Ashlar, consisting of a podium with a central tomb surrounded by 8 free standing fluted shafts with embellished capitals. The shafts taper towards their bases and support a decorated entablature which is surmounted by an acanthus decorated urn.	Grade II Listed Building	19th century	SK 81184 56351	110m
MM065	1178868	Seven Garden Urns at Kelham Hall	Garden urns. Mid 19th century. Terracotta. Cruciform moulded ashlar plinth, foliate terracotta base. Each urn has cruciform foot and cabled stem with cusped tulip shaped bowl with foliate decoration.	Grade II Listed Building	19th century	SK 77450 55505	245m
MM066	1178872	Dial House	House, late 18th century and 20th century. Red brick under a hipped pantile roof with 3 brick stacks. 2 storeys, the 1st floor being a 20th century addition, 3 bays. With an eaves band of 2 rows of single headers and stretches and an intercalated row of dogtooth.	Grade II Listed Building	18th century	SK 81414 56712	360m
MM067	1178929	Stable at No 6	Stable with loft over. Mid 18th century. Brick with pyramidal pantile roof. Rebated eaves. Square plan. 2 storeys, single bay. South front has central close boarded door with segmental head. Above, to right, boarded window with segmental head in altered opening. East side has 3 slit ventilators	Grade II Listed Building	18th century	SK 77367 55752	470m
MM068	1178966	Thirty-Six Railing Piers at Kelham Hall	Railing piers. Mid 19th century. Brick. Foundation wall carrying thirty-six square piers with blue brick bands and chequerwork, cogged eaves and moulded brick cornice. Now linked by 20th century timber paling.	Grade II Listed Building	19th century	SK 77442 55677	410m
MM069	1178972	Manor Farm House	Late 18th century. Raised 19th century and altered 20th century. Brick with 20th century pantile roof. First floor band, dentillated and rebated eaves, 3 coped gables with kneelers. 2 storeys plus garrets, 4 bays, L-plan. Windows are 19th century plain sashes. All openings have segmental heads. Main south front has projecting gabled wing to left, with 2 windows.	Grade II Listed Building	18th century	SK 77395 55785	510m
MM070	1196038	7 and 9, Bridge Street	2 houses, now shops. Mid 18th century, with late 19th century and 20th century alterations. Brick with stone and brick dressings, roof not visible. Dentillated moulded eaves cornice. Multiple keystone lintels. 3 storeys; 5 window range with four 16 pane sashes to left and a dummy 8 pane sash to right.	Grade II Listed Building	18th century	SK 79942 53872	450m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM071	1196039	15, 17, 19, 23, Bridge Street (see details for further address information)	Includes: No.1 APPLETON GATE. Houses, now shops. Early 19th century with mid and late 20th century alterations. Colourwashed stucco fronts with gabled and hipped pantile and concrete tile roofs and 2 rendered side wall stacks.	Grade II Listed Building	19th century	SK 79969 53858	475m
MM072	1196040	25, Bridge Street	House, now 2 shops. Early 18th century, with mid and late 20th century alterations. Brick with stone dressings. Roof not visible. Single ridge and single gable stacks. Rusticated quoins, second floor and eaves bands, coped parapet with blank panels, single coped gable at rear. 3 storeys; 7 window range of segment headed glazing bar sashes with keystones and moulded architraves.	Grade II Listed Building	18th century	SK 79980 53836	500m
MM073	1196041	12-14, Bridge Street (see details for further address information)	3 houses, now shop and store. Late 18th century, partly refenestrated mid 19th century, altered mid 20th century. Brick, the Carter Gate front colourwashed, with stone dressings. Includes: Nos.12-14 BRIDGE STREET.	Grade II Listed Building	18th century	SK 79954 53837	485m
MM074	1196042	The White Hind Public House	Public house. Late 18th century and early 19th century, altered early and mid 20th century. Colourwashed brick with hipped pantile and gabled slate roofs. First and second floor bands, wooden modillion eaves. 2 gable stacks. Main block, to right, 3 storeys; 4 window range of segment headed glazing bar sashes, the second from left blank.	Grade II Listed Building	18th century	SK 79969 53809	515m
MM075	1196043	4-8, Carter Gate	3 houses, now 2 shops. Late 18th century, refenestrated mid 19th century, altered late 20th century. Colourwashed brick with pantile roof. Dentillated eaves, 2 gable and single ridge stacks. 3 storeys; 7 window range of plain sashes with 3 blanks. Above, similar fenestration with smaller windows. Below, off-centre close boarded door flanked by late 20th century shopfronts, all under continuous fascia.	Grade II Listed Building	18th century	SK 79943 53830	485m
MM076	1196044	5 and 7, Carter Gate	Former public house, now 2 shops. Early 19th century, altered late 20th century. Brick with stone dressings and concrete tile roof. First and second floor sill bands, half-round brick dentillated eaves, coped gables, 2 gable stacks.	Grade II Listed Building	19th century	SK 79965 53808	515m
MM077	1196045	13-17, Carter Gate	3 houses, now 3 shops. Early 19th century with mid and late 20th century alterations. Brick with stone dressings and concrete tile and slate roofs. Second floor band, partly moulded modillion eaves, 2 gable and 2 ridge stacks. Shallow off-centre projection, 2 windows. 3 storeys; 8 window range of glazing bar sashes, the 3 central ones altered.	Grade II Listed Building	19th century	SK 79956 53792	525m
MM078	1196046	25, Carter Gate	House, now shop. Early 18th century, with late 20th century alterations. Brick with stone dressings, rendered west gable and steep pitched pantile roof. Chamfered first floor band, moulded wooden eaves with gutter on brackets, single coped gable, single gable stack.	Grade II Listed Building	18th century	SK 79933 53737	560m
MM079	1196047	39 and 41, Carter Gate	2 houses, now shop and store. Mid 18th century, ground floor rebuilt 19th century and late 20th century. Rear range late 20th century. Brick with stone dressings and Roman tile roof. Cogged and dentillated eaves, coped gables. 2 storeys; 5 window range of glazing bar sashes.	Grade II Listed Building	18th century	SK 79878 53709	550m
MM080	1196048	Crown and Mitre Hotel	House, now a hotel. Early 19th century, with late 19th century and 20th century alterations. Brick with yellow brick dressings to ground floor, and slate roof. Chamfered plinth, single gable stack. 3 storeys; 3 window range of plain sashes, with wrought iron sign bracket to left. L-plan.	Grade II Listed Building	19th century	SK 79633 53876	300m
MM081	1196049	9, Castlegate	House, now offices. Late 18th century, with late 19th century and mid 20th century alterations. Colourwashed brick with stone dressings, rendered ground floor and slate roof. plinth, first floor band, rebated eaves, single ridge and single gable stacks. 3 storeys; 4 window range glazing bar sashes, the left one enlarged, arranged 1:2:1.	Grade II Listed Building	18th century	SK 79774 54056	205m
MM082	1196050	Former Corn Exchange, now Silverline Bingo	Former corn exchange, now bingo hall. Dated 1847 on inscribed foundation stone, altered internally mid and late 20th century. By Henry Duesbury with sculpture by John Bell. Ashlar and brick, with ashlar dressings and partly glazed ridge and furrow roof. Italian Baroque style. Steps, plinth, giant Corinthian double pilasters, cornice and balustrade with double corner pedestals with finials. Front single storey, rear 2 storeys plus basement. 3x8 bays. 3 round headed alcoves with pilasters and keystones and coffered panelled heads, each with a pair of half-glazed doors.	Grade II Listed Building	19th century	SK 79607 53943	230m
MM083	1196051	25, Castlegate	House, now restaurant and shop. Mid 18th century with late 20th century alterations. Brick with stone dressings and slate roof. Plinth, modillion eaves and pediment, corner pilasters, single gable stack. Projecting pedimented centre, 3 windows. 3 storeys; 5 window range of glazing bar sashes, the central 3 with keystones.	Grade II Listed Building	18th century	SK 79705 53977	235m
MM084	1196052	28 and 30, Castlegate	2 houses, now vacant. c1760, with early 19th century alterations. Brick with concrete pantile roof. First floor band, dentillated eaves, single coped gable, single gable and single ridge stacks. 2 storeys plus attics; 4 window range of glazing bar sashes with lintels.	Grade II Listed Building	18th century	SK 79596 53911	260m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM085	1196053	36 and 38, Castlegate	Former public house, now shop and office. Mid 18th century, raised and refronted c1840, with mid 19th century additions and late 20th century alterations. Brick with stucco front, stone dressings and slate roof. Plinth, rusticated quoins, first and second floor bands, renewed coped gables, single external gable and single rear wall stacks. 3 storeys; 4 window range of plain sashes with pilastered surrounds, diamond faced keystones and balustraded aprons.	Grade II Listed Building	18th century	SK 79580 53992	280m
MM086	1196054	46 and 48, Castlegate	2 houses, now a shop. Early 18th century, altered mid 19th century, restored c1987. Brick with partly rendered front and left gable, pantile and slate roofs. Cogged eaves, 2 gable and single ridge stacks. 2 storeys; 6 window range. L-plan. 3 glazing bar sashes, unequally spaced, the right one reglazed mid 19th century, with 3 blank openings between. Below, to left, a wooden shopfront c1840, with cornice and late 19th century sunblind. Central 2-leaf half glazed door with overlight, flanked by single glazing bar windows. To right, a panelled door and a mid 19th century sash, both with segmental heads.	Grade II Listed Building	18th century	SK 79565 53873	300m
MM087	1196055	60 and 62, Castlegate	2 houses. Early 19th century. Brick, with slate roofs. 60 colourwashed and with rendered right gable. 2 gable stacks, one of them external. Segment headed openings. 2 storeys; 3 window range. L-plan. To left, a boarded up window and to right, at a higher level, 2 glazing bar sashes. Below, a close boarded door flanked to left by a boarded up window and to right by a glazing bar sash and a close boarded door.	Grade II Listed Building	19th century	SK 79546 53855	320m
MM088	1196056	Former Gilstrap Library	Former public library, now disused. 1882 by William Henman of Henman & Beddoes of Birmingham for William Gilstrap, a local maltster who was mayor of Newark in 1888. Rear addition 1933, in sympathetic style. Rockfaced stone with ashlar dressings and plain tile roof with octagonal wooden lantern with leaded ogee dome. Jacobean Revival style. Chamfered plinth, sill band, moulded eaves, shouldered coped gables with ornate finials, single gable stack.	Grade II Listed Building	19th century	SK 79692 54022	190m
MM089	1196057	11 and 13, Appleton Gate	2 houses, now office and dental surgery. Mid 18th century, with mid 19th century and late 20th century alterations. Brick with concrete tile roof, 2 gable and single ridge stacks. Incomplete first floor band, second floor band, cogged and dentillated eaves, renewed coped gables. 2 storeys plus attics; 11 window range.	Grade II Listed Building	18th century	SK 80030 53937	460m
MM090	1196058	15-19, Appleton Gate	3 houses, now cafe, shop and houses. c1800, with late 19th century and mid 20th century alterations. Brick with stone dressings and concrete tile roof. Dentillated eaves, single coped gable, 2 gable and single ridge stacks. 3 storeys; 5 window range of segment headed glazing bar sashes, the left one replaced by a 20th century cross casement and that to its right blank.	Grade II Listed Building	19th century	SK 80038 53942	460m
MM091	1196059	21, Appleton Gate	House, now house and shop. c1800, with mid 19th century additions and late 19th century and late 20th century alterations. Brick with stone dressings and slate roof. Half-round dentillated eaves, coped gables, single gable and single rear wall stacks. L-plan. 3 storeys; 3 window range of glazing bar sashes with rubbed brick heads. Above, 3 similar sashes, the central one blank. Full width late 19th century shopfront, altered late 20th century, with rendered surround.	Grade II Listed Building	19th century	SK 80046 53956	460m
MM092	1196060	29 and 31, Appleton Gate	2 houses, now houses and shops. Mid 18th century, raised early 19th century, with mid 19th century and late 20th century alterations. Brick with concrete pantile roof and 2 gable stacks. Second floor band, dentillated eaves. 2 storeys plus attics; 5 window range with segment headed openings. Central blank flanked to left by a larger 2-light casement and beyond, a blocked window.	Grade II Listed Building	18th century	SK 80058 53974	455m
MM093	1196061	37, Appleton Gate	House, now shop. Mid 18th century, with late 19th century and 20th century alterations. Brick, the ground floor partly painted, with steep pitched slate roof and 2 gable stacks. First and second floor bands, dentillated eaves. 3 storeys; 4 window range of segment headed plain sashes. Above, 4 flat headed 9 pane sashes, the first from left blank. Early 20th century full width wooden shopfront with brackets to fascia cornice and two 2-light windows with toplights.	Grade II Listed Building	18th century	SK 80072 54003	450m
MM094	1196062	39 and 41, Appleton Gate	2 houses, now houses and shop. Mid and late 18th century, with mid 19th century and early and late 20th century alterations. Brick with slate and pantile roofs with 2 gable stacks. Incomplete first floor band, second floor band, plain eaves to left, dentillated eaves to right. 3 storeys. Single and 2 windows.	Grade II Listed Building	18th century	SK 80080 54010	455m
MM095	1196063	47 and 49, Appleton Gate	Former coach house and attached cottage, now two houses. c1800, with extensive 19th century and late 20th century alterations. Brick with rendered front and stone dressings, with gabled and hipped concrete tile roof with single ridge stack. Rebated eaves. 2 storeys. To street, long blank range to left.	Grade II Listed Building	19th century	SK 80112 54051	460m
MM096	1196064	Jalland's Row	4 cottages. c1800, restored 1982. Brick with pantile roofs and 2 ridge stacks. 2 storeys; 9 window range. Blind backs. Windows are mainly 2-light Yorkshire sashes. Doors are close boarded. Ground floor openings have segmental heads. 2 off-centre sashes flanked to left by a single smaller casement and to right by 2 similar casements. This building is a similar type of urban housing to the courts of Nottingham.	Grade II Listed Building	19th century	SK 80056 54036	420m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM097	1196065	Northgate Railway Station	Railway station. c1850, with 20th century alterations. Built for the Great Northern Railway Company. Brick, timber and cast iron, with hipped and gabled slate roofs, with various tall chimney stacks. The main brick station and entrance blocks have been largely altered. Single and 2 storeys; 22 bays. Southern range, containing waiting rooms, has unusual construction with iron posts projecting above the roof and supporting the valanced canopy by suspension rods. There are also traceried brackets under the canopy.	Grade II Listed Building	19th century	SK 80493 54486	295m
MM098	1196066	Alishaan Restaurant	Public house. late 18th century, with 19th century and mid 20th century alterations and additions. Brick, rendered and painted, with slate roof and single ridge stack. Plinth, first floor band, cogged eaves. 2 storeys plus attics; 6 windows range of 12 pane sashes, the fifth one from the left replaced by a name board.	Grade II Listed Building	18th century	SK 80422 54508	230m
MM099	1196067	Boundary Wall and Gatepiers to the Friary	Boundary wall and gatepiers. Mid 19th century with late 20th century alterations. Coursed rubble with ashlar dressings. Main range, approx. 115M long and 2M high, fronting Appleton Gate, has an off-centre pair of square gatepiers with quoins and caps with domed finials. Stone coping to right of gateway, brick coping to left.	Grade II Listed Building	19th century	SK 80156 54077	490m
MM100	1196068	2, Balderton Gate	House. Late 18th century with 20th century alterations. Brick, colourwashed, with pantile roof and 2 ridge and single gable stacks. Dentillated eaves. 2 storeys; 3 window range of 20th century segment headed casements, the left one set between floors. Below, to right, segment headed door with overlight, and to its left a boarded up square headed window. To left again, a 19th century wooden shopfront, part of the adjoining no. 4.	Grade II Listed Building	18th century	SK 79976 53812	515m
MM101	1196069	12, Balderton Gate	House, now office. Mid 18th century, altered late 19th century. Colourwashed brick with steep pitched pantile roof. Dentillated eaves, gutter on brackets, single coped gable, single gable stack. 2 storey lean-to addition at rear. 2 storeys; 2 window range of glazing bar sashes. Full-width late 19th century wooden shopfront with panelled pilasters and cornice. Splayed central doorway flanked by single pane windows.	Grade II Listed Building	18th century	SK 79996 53786	550m
MM102	1196070	25 and 27, Balderton Gate	2 houses, now 2 shops and flats. Late 18th century, with late 19th century and early and late 20th century alterations. Brick with pantile roof. First floor band, cogged eaves, single coped gable, single ridge stack. 2 storeys plus attics; 5 window range with 2 blanks and 2 plain sashes with segmental heads.	Grade II Listed Building	18th century	SK 80029 53762	590m
MM104	1196072	Nottinghamshire County Council Social Services office	House, now Social Services offices. Mid 18th century, with late 19th century and mid 20th century additions in matching style. Built for Dr Bernard Wilson, vicar of Newark. Brick with stone dressings and hipped slate roof. Chamfered quoins, first and second floor bands, coped parapet, 3 ridge and single side wall stacks. Square 5 bay main block, 3 storeys, with 2 bay wings, 2 storeys. Windows are glazing bar sashes of various shapes. 5 sashes with keystone lintels and above, 5 smaller sashes with rubbed brick heads. Parapet has 5 blank panels. Central coped square porch with projecting doorway, double door and overlight, flanked by single sashes.	Grade II Listed Building	18th century	SK 80022 53692	640m
MM105	1196073	30-36, Barnby Gate	4 houses, now 4 shops and flats. Early 19th century, with mid 19th century and late 20th century alterations. Brick with pantile roof. Partial plinth, first and second floor bands, dentillated eaves, 2 ridge stacks. 3 storeys; 5 window range of plain sashes, that to left replaced by a 20th century casement. Above, similar smaller windows, 2 sashes and 3 casements. All these windows have segmental heads. Below, central chamfered round headed entry with close boarded door.	Grade II Listed Building	19th century	SK 80105 53779	625m
MM106	1196074	Newark town and District Club	House, now club. Early 18th century, with mid 19th century and late 19th century additions and alterations. Brick with stone dressings and slate roofs. First floor band and sill band, second floor band, eaves cornice, coped parapet and gables, moulded brick dentilled eaves at rear, 4 gable stacks. Front has projecting central bay. Double range plan. 3 storeys; 5 window range of wooden cross casements, the central one with moulded architrave and keystone.	Grade II Listed Building	18th century	SK 80117 53806	615m
MM107	1196075	Barnby Gate Methodist Church and attached Railings	Methodist church and attached railings. c 1845. Brick with ashlar dressings. Roof not visible. Plinth and coped parapet. 2 storeys; 4x6 bays. Front has quoins and entablature with 2 higher sections in the parapet. Upper storey has 4 round headed glazing bar sashes arranged 1:2:1, alternating with paired pilasters.	Grade II Listed Building	19th century	SK 80068 53841	555m
MM108	1196077	15-21, Boar Lane	4 houses, now 3 shops. Early and mid 18th century, altered early and late 19th century and mid 20th century. Colourwashed brick with pantile roofs. Single ridge and single gable stacks. 2 storeys and 2 storeys plus attics; 9 window range. 15, to left, has plinth, first and second floor bands and dentillated eaves.	Grade II Listed Building	18th century	SK 79774 53982	270m
MM109	1196096	Castle Brewery	Brewery, now disused and partially demolished. 1885-90. By William Bradford for the brewers Caparn & Hankey. Brick, with steel and cast iron internal structure, moulded brick dressings and hipped and gabled plain tile roof. Enriched Italianate style.	Grade II Listed Building	19th century	SK 79824 53573	650m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM110	1196097	1a and 3, Appleton Gate	2 houses, now shops. Early 19th century, with mid 19th century and late 20th century alterations. Stucco with concrete tile roof. First floor lintel band, parapet, single coped gable. 3 storeys; 7 window range of plain sashes. Above, 7 smaller plain sashes. Below, 2 late 20th century shopfronts, the larger right one with recessed windows.	Grade II Listed Building	19th century	SK 79970 53865	470m
MM111	1196257	18, Kirkgate	House, now ironmonger's shop. Late 17th century, refronted early 19th century, with mid and late 19th century shopfronts. Colourwashed brick with rendered first floor and steep pitched pantile roof. Interior may contain timber framing. 2 ridge and single gable stacks. 2 storeys; 3 window range of glazing bar Yorkshire sashes.	Grade II Listed Building	17th century	SK 79970 53865	235m
MM112	1196258	20, Kirkgate	House, now shop. Late 18th century, altered mid and late 20th century. Brick with colourwashed front and pantile roof. Rebated eaves, single gable and single ridge stacks. 3 storeys; single segment headed glazing bar sash. Above, 20th century casement with smaller casement to left. Pilastered wooden shopfront with recessed half glazed door to left and shop window with triple ovelight to right.	Grade II Listed Building	18th century	SK 79823 54043	240m
MM113	1196259	22 and 24, Kirkgate	2 houses, now butcher's shop. Late 15th century, restored and altered mid 19th century and mid 20th century. Timber framed, with arch braces and rendered nogging, colourwashed brick underbuild and steep pitched Roman tile roof. First floor jetty on brackets on 2 sides. External rendered gable stack. 2 storeys; 4x3 bays.	Grade II Listed Building	15th century	SK 79840 54022	265m
MM114	1196260	23 and 25, Kirkgate	2 houses, now shop. Late 18th century, altered c1925 and 1989. Brick with stone dressings and faience shopfront and slate roof. Second floor band, cogged and dentillated eaves, single side wall and single gable stacks. 3 storeys; 5 window range of segment headed plain sashes, and above, 5 similar flat headed windows. Full-width Classical style shop front has pilasters and cornice, and recessed central doorway flanked by double windows with overlights, all under 1989 fascia.	Grade II Listed Building	18th century	SK 79866 54063	255m
MM115	1196261	27 and 29, Kirkgate	2 houses, now shop. Late 17th century, and dated 1797 on datestone on rear wing. Altered mid 19th century and late 20th century. Brick, colourwashed, the rear rendered and colourwashed, with steep pitched pantile roof with sprocketed eaves at front. Interior may contain timber framing. Single coped gable, 2 gable stacks. 2 storeys plus attics; 3 window range of plain sashes, and above, 2 raking dormers with glazing bar casements.	Grade II Listed Building	17th century	SK 79852 54038	260m
MM116	1196262	31, Kirkgate	House, now shop, and 3 attached cottages. Late 18th century, with additions and alterations early 19th century and further altered late 19th century and late 20th century. Brick, the front colourwashed and the left gable rendered, with gabled and hipped pantile roofs. Plain eaves, 2 ridge and single gable stacks. 3 storeys; 2 window range of glazing bar sashes, and above, 2 smaller sashes. Late 19th century pilastered shopfront with cornice and splayed central doorway with 2-leaf door flanked by single windows.	Grade II Listed Building	18th century	SK 79860 54031	275m
MM117	1196263	33 and 33a, Kirkgate	House, now shop and flat. Early 19th century, altered late 19th century and c1988. Brick, mainly rendered and colourwashed, with slate roof. Eaves with half-round brick dentils. 2 gable stacks. 3 storeys; 4 window range of segment headed glazing bar sashes, the central pair blank. Above, identical fenestration with smaller plain sashes. restored late 19th century pilastered wooden shopfront with cornice and splayed central doorway with glazed door and overlight, flanked by single windows. To left, a close boarded entry door with moulded jambs.	Grade II Listed Building	19th century	SP 79862 54023	280m
MM118	1196264	35 and 35a, Kirkgate	House, now shop and flat. Mid 18th century with shopfront c1900. Brick with stone dressings and steep pitched pantile roof. Moulded stone eaves cornice, single coped gable, 2 gable stacks. Windows have rubbed brick heads. 3 storeys; 4 window range of glazing bar sashes. Above, 4 smaller sashes, the first from left blank.	Grade II Listed Building	18th century	SK 79865 54015	290m
MM119	1196265	37 and 39, Kirkgate	2 houses, now coffee house, restaurant and florist. Late 16th century and early 17th century, with early and mid 19th century and late 20th century alterations. Timber framing with rendered nogging and underbuild, and 20th century pantile roof. 2 ridge stacks. 37, to left, has box framing with projecting eaves and wooden brackets. 2 storeys; 4 bays. 2 window range of glazing bar Yorkshire sashes, that to the right larger.	Grade II Listed Building	16th century	SK 79872 54010	295m
MM120	1196266	44, 46, 46a, Kirkgate	2 houses and shop. c1875, altered c1890. Brick with stone and brick dressings and slate mansard roof. First and second floor impost bands, modillioned eaves cornice, low coped parapet, 2 gable stacks. Slightly projecting single bay centre. 3 storeys plus attics; 4 window range. Near-central canted oriel window with plain sashes in shouldered openings, flanked to left by a single plain sash and to right by a pair of similar sashes, all with segmental heads, hood moulds, keystones and aprons.	Grade II Listed Building	19th century	SK 79879 54961	340m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM121	1196267	6 and 6a, Lombard Street	House, now offices. Early 19th century, altered late 20th century. Brick with concrete tile roof. Plinth, first floor band, moulded brick dentilled eaves, gable band, 2 gable stacks. Openings have rubbed brick heads. 3 storeys; 2 window range of plain sashes. Above, 2 smaller plain sashes. Below, off-centre 20th century door with overlight, flanked by single 20th century casements.	Grade II Listed Building	19th century	SK 79843 53720	525m
MM122	1196268	Newark Area Health Authority offices	House, now offices. Early 19th century, converted mid 20th century. Brick with colourwashed front, stone dressings and hipped slate roof. Plinth, sill bands, the upper one moulded, eaves board. 2 storeys; 3 window range of gazing bar sashes with moulded surrounds with flat hoods on scroll brackets. Central double-pilastered doorcase with panelled frieze and cornice. 2-leaf panelled door and overlight. On either side, single glazing bar sashes with moulded surrounds. Interior has round headed doors and recesses.	Grade II Listed Building	19th century	SK 79748 53722	480m
MM123	1196269	Elmhurst Hotel	4 houses, now hotel and hairdressers. Late 18th century. Brick with stone and stucco dressings and slate roofs. Plinth, first and second floor bands, moulded wooden eaves cornice and pediment, coped gables, 2 gable and 2 side wall stacks. Windows are mainly glazing bar sashes, all with rubbed brick heads. 3 storey central block with recessed 2 storey wings. Main 5 window range has larger central sash with moulded surround.	Grade II Listed Building	18th century	SK 79643 53792	385m
MM124	1196270	Maurice Key Furnishings	Former church, now a furniture store. 1836. By J D Paine. Converted c1987. Yellow brick with stone dressings and slate roofs. Early English style. Plinth to west end, moulded string courses, sill band, corbel table, moulded coped parapets and gables. 3 octagonal corner stacks with billeted caps. Nave, aisles, sanctuary, vestries. Nave west end has gabled buttresses topped with spired pinnacles, and gable with cross.	Grade II Listed Building	19th century	SK 79697 53974	395m
MM125	1196271	Castle and Falcon Public House and attached Outbuildings	Public house and attached outbuildings. Early and mid 19th century, with late 20th century alterations and rear addition. Brick with slate roof. Dentilled eaves, single gable stack. 2 storeys; 2 window range of 20th century casements. Below, central door flanked by single casements, all 20th century, with segmental heads. Long single storey rear wing has slate and pantile roofs, dentilled eaves and single ridge stack.	Grade II Listed Building	19th century	SK 79858 53611	630m
MM126	1196272	Abbeywood	House. c1900. Brick with stone and terracotta dressings and hipped slate roof with single ridge and 3 side wall stacks. Dentillated eaves, Corinthian angle pilasters. 2 storeys plus attics; 6 window range of 8 pane sashes. To left, canted bay window with domed roof and to right, 4 sashes with glazing bars in the top lights, and alternating segmental and gabled pediments. Left return has a reeded stone doorcase with shell hood and half-glazed panelled door. This is one of the best houses of its date surviving in Newark.	Grade II Listed Building	19th century	SK 80057 53526	805m
MM127	1196274	Beaumond Cross	Market cross. 14th century, restored 1778 and 1801, resited late 20th century. Ashlar. 20th century octagonal plinth, 4 steps. Octagonal pedestal. Tapered clustered shaft with tiered finial and renewed cap. At the foot of the shaft, a gabled niche with figure. On the pedestal, a brass plate inscribed "Repaired and ornamented 1778 at expense of Charles Mellish, Recorder".	Grade II Listed Building	14th century	SK 79942 53565	710m
MM128	1196275	Lilley and Stone School	School. 1898, with late 20th century alterations. Designed by C Mallows as the School of Science and Art. Brick with stone dressings and slate roof with 5 coped ridge stacks. Domestic revival style. First floor band, angle pilasters, dentillated wooden eaves, open pedimented gables. 2 storeys; 3 bays.	Grade II Listed Building	19th century	SK 79979 53479	800m
MM129	1196276	5, 6, 7, Market Place (see details for further address information)	3 houses, now 3 shops. Mid and late 18th century, with early and mid 19th century and late 20th century alterations. Colourwashed brick with stone dressings and steep pitched slate roof with 2 brick ridge stacks. Quoins, moulded first floor band, half-round brick eaves, gutter on brackets, kneelers. 3 storeys plus attics; 5 window range of segment headed windows. Includes: No.9 Chain Lane.	Grade II Listed Building	18th century	SK 79845 53917	360m
MM130	1196277	Ritz Video	Former Subscription Library, now shop. c1830, with late 20th century alterations. By William Fowler. Brick with yellow brick front, red brick and stone dressings, hipped slate roof and rear wall stack. Plinth, panelled first floor band, moulded cornice and blocking course. 2 storeys; 5 window range of 12 pane sashes with flat arches. Includes: No.1 Ritz Video Church Street.	Grade II Listed Building	19th century	SK 79875 53926	365m
MM131	1196279	7, Chain Lane	3 houses, then public house, now shop. Late 18th century and early 19th century, with late 20th century alterations. Colourwashed brick with hipped and gabled pantile roofs. Main block has first floor band and rebated eaves. 3 storeys; 5 window range of 16 pane and 12 pane segment headed sashes. Formerly known as: King's Head public house.	Grade II Listed Building	18th century	SK 79820 53941	325m
MM132	1196280	10, Chain Lane	3 houses, now shop. Mid 18th century, with late 20th century alterations. Brick, rendered and colourwashed, with pantile roof and single gable stack. 2 storeys; 3 window range. To left, two 2-light casements and to right, a square wooden oriel window, all 20th century. Below, to left, a shopfront with single window, and door to right. To right, a larger 6-light shop window.	Grade II Listed Building	18th century	SK 79822 53920	345m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM133	1196281	2 and 3, Church Street	2 houses, now shop. c1830, with late 19th century and mid 20th century alterations. Colourwashed brick with slate roof. Moulded wooden eaves, single ridge stack. 3 storeys; 3 window range of segment headed plain sashes, the central one blank.	Grade II Listed Building	19th century	SK 79875 53938	355m
MM134	1196282	4 and 4a, Church Street	House, now hairdresser's salon and flat. c1830, altered late 19th century and mid 20th century. Colourwashed brick with slate roof and 2 gable stacks. 3 storeys; 3 window range of segment headed plain sashes. Above, 2 larger plain sashes. Full-width late 19th century wooden shopfront with panelled pilasters and curved brackets to fascia. In the centre, a 3-light shop window with toplights, flanked by single recesses containing doors.	Grade II Listed Building	19th century	SK 79878 53946	350m
MM135	1196283	5 and 5a, Church Street	House, now shop and flat. Early 18th century, with shopfront c1875. Colourwashed brick with concrete tile roof. Second floor band, cogged eaves, coped gables, single gable stack. 3 storeys; 2 window range of segment headed glazing bar sashes. Above, 2 similar sashes with flat heads. Full width glazed brick shopfront with cornice with cast iron crest. Central beaded panelled stable door with slatted vent above. to its left, a segment headed entry with close boarded door and vent above it. To right, a single pane shop window.	Grade II Listed Building	18th century	SK 79880 53950	350m
MM136	1196284	1 and 2, Church Walk	2 houses, now house and shop. Early 18th century, with early 19th century and mid 20th century alterations. Brick with steep pitched concrete tile roof. First floor band, modillioned wooden eaves, gutter on brackets, single gable and single ridge stacks. 2 storeys plus attics; 4 window range of segment headed glazing bar sashes, the third from left blank.	Grade II Listed Building	18th century	SK 79991 53884	470m
MM137	1196285	Kirkwood House	House. c1840, with late 20th century rear addition. Brick with stone dressings, rendered right gable and slate roof. First floor sill band, rebated eaves, single gable stack. Windows have splayed lintels. Double range plan. 2 storeys; 3 window range of glazing bar sashes.	Grade II Listed Building	19th century	SK 80000 53943	435m
MM138	1196286	Freestanding Chimney 10 metres south-east of Church of St Mary Magdalene	Freestanding chimney. c1875. Brick with stone and blue brick dressings and iron reinforcement. Square base with plain band, carrying tapered octagonal shaft with coped top. Probably part of the church heating system.	Grade II Listed Building	19th century	SK 79952 53902	430m
MM139	1196287	Farndon Windmill	Windmill, now disused. Dated 1823 on datestone over west door, with mid 19th century and 20th century alterations. Plinth, dentillated curb. Openings have segmental heads. Windows are cast iron casements, unglazed. Those to east replaced by smaller 20th century casements. Battered round tower, 5 stages. Doors to east and west, and irregularly staggered windows on each floor. Interior has floors but no machinery.	Grade II Listed Building	19th century	SK 77971 52763	10m
MM140	1196288	Causeway Arch 1300 metres north-west of Level Crossing	Causeway arch. 1770. South-west side rebuilt during road widening in 1922. Parapet partly rebuilt late 20th century. Brick with stone coping. Single semicircular arch with flanking pilasters. Coped parapet wall with ramped curved ends and round piers. Part of a causeway carrying the Great North Road across the flood plain of the Trent.	Grade II Listed Building	18th century	SK 79083 35374	445m
MM141	1196289	Causeway Arches 650 metres north-west of Level Crossing	Causeway arches. 1770. South-west side rebuilt during road widening in 1922. Designed by John Smeaton. Brick with stone coping. 15 semicircular arches with intermediate pilasters. Coped parapet wall with ramped curved ends with round piers. Part of a causeway carrying the Great North Road across the flood plain of the Trent.	Grade II Listed Building	18th century	SK 79306 54845	Within the Scheme
MM142	1196291	The Clock tower	Office building with clock tower. c1860. Red brick and render with ashlar dressings. Slate hipped roofs. Moulded first floor band, and eaves cornice. 2 storey office with 3 storey clock tower to the north-west. South-east, river front has a pair of 3 light windows within an ashlar arcade with 7 round arches and 6 columns.	Grade II Listed Building	19th century	SK 79669 54217	10m
MM143	1196292	3 and 5, King Street	Pair of houses. Early 19th century. Brick with stucco dressings and pantile roof with 2 gable stacks. First floor band. Windows are glazing bar sashes with multi keystoned lintels. Symmetrical front has 2 sashes. Central pair of moulded wood doorcases with paterae. Moulded 6 panel doors with overlights. On either side, a single window.	Grade II Listed Building	19th century	SK 79262 53496	540m
MM144	1196293	15, 17, 19, King Street	3 houses incorporating former shop. c 1820. Brick with stone dressings and slate roof. Cogged eaves, 2 ridge stacks. Openings have splayed lintels. 2 storeys; 4 window range of plain sashes, that to the right replaced by a casement. Below, to left, a sash flanked by single doors.	Grade II Listed Building	19th century	SK 79299 53464	580m
MM145	1196294	Former King's Arms Public House	Former public house and shop, now 2 houses. c1800. Brick with stone dressings and pantile roof with single ridge stack. Front openings have multi keystoned lintels. 2 storeys plus garrets; 3 window range with a glazing bar sash to the right and 2 20th century imitation sashes to left. Below, 2 imitation sashes flanked to left by a 20th century door with overlight	Grade II Listed Building	19th century	SK 79335 53437	615m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM146	1196295	5, Kirkgate	House, now shop and restaurant. c1770, with late 19th century and late 20th century alterations. Brick, with rendered left return and pantile roof, with 2 gable stacks. Incomplete first floor band, second floor band, cogged eaves, coped gables. 3 storeys; 4 window range of segment headed 12 pane sashes, and above, 4 flat headed 9 pane sashes, one of them blank.	Grade II Listed Building	18th century	SK 79797 54098	180m
MM147	1196296	16, Kirkgate	House, now shop. c1800, with late 20th century alterations. Brick, with colourwashed front and pantile roof. Dentillated eaves, single ridge stack. 3 storeys; single glazing bar sash, and above, a similar smaller sash. Both windows have segmental heads. Late 20th century wooden shopfront in late 19th century style, with panelled stallboard and pilasters and cornice.	Grade II Listed Building	19th century	SK 79813 54054	225m
MM148	1196381	37 and 37a, Stodman Street	House, now offices. Early 18th century, altered late 20th century. Colourwashed brick with stone dressings. Roof and stacks not visible. Rendered plinth, first and second floor bands with blocks above the windows, coped parapet with 4 blank panels. 3 storeys; 4 window range of plain sashes and above, 4 glazing bar sashes, the central ones blank. All have panelled lintels with keystones.	Grade II Listed Building	18th century	SK 79721 53874	330m
MM149	1196382	45, Stodman Street	House, now shop. late 19th century, altered late 20th century. Brick with stone dressings and slate roof. First floor band, moulded eaves, 2 gable stacks. 3 storeys; 4 window range. 2 elliptical arched recesses with keystones, each containing 2 plain sashes.	Grade II Listed Building	19th century	SK 79682 53893	300m
MM150	1196383	Mount School	School. Schoolroom 1826, by W M Fowler. Cross wing 1838. Bell tower dated 1877. Stucco and painted brick, with stone dressings, gabled and hipped slate roofs and 2 side wall stacks. Plinth and rebated eaves. Pilastered single storey schoolroom, 6 bays, has a pedimented gable end-on to the street, with two 15 pane sashes.	Grade II Listed Building	19th century	SK 80017 54027	395m
MM151	1196384	Warehouse at Rear of 7 Bargate	Warehouse. Mid 18th century, refenestrated mid 19th century. Brick with stone dressings and concrete tile roof. Plinth, first floor band, cogged and dentillated eaves, single gable stack. 2 storeys; 5 window range of segment headed plain sashes, 2 of them blank. Below, 5 similar sashes with internal shutters.	Grade II Listed Building	18th century	SK 79792 54143	145m
MM152	1196385	Longstone Bridge	Bridge carrying towpath over a side channel of the River Trent. 1819. For the Newark Navigation Co. Ashlar of 2 types. String course. 7 segmental arches with keystones. Solid coping walls with splayed ends	Grade II Listed Building	19th century	SK 79243 53676	360m
MM153	1196386	37, Victoria Street	House. c1840. Brick with stone and stucco dressings and slate roof. First floor band, moulded stone eaves, single coped gable. 3 gable stacks. L-plan. 2 storeys; 3 window range of glazing bar sashes with multi keystoned lintels.	Grade II Listed Building	19th century	SK 79482 53444	665m
MM154	1196387	62, Victoria Street	Corner shop and house. c1820. Brick, partly colourwashed, with stucco dressings and hipped and gabled pantile roof with 2 ridge stacks. Plinth, brick pilasters, multi keystoned lintels. 2 storeys. Rounded corner with 16-pane window and below it, 2-leaf half glazed door with overlight. Victoria Street front has 2 dummy glazing bar sashes, flanked by single cross casements.	Grade II Listed Building	19th century	SK 79424 53439	645m
MM155	1196388	72 and 74, Victoria Street	2 houses. c1800, with late 20th century alterations. Brick with stone and stucco dressings and pantile and concrete tile roofs. 72, to right, has a rendered ground floor. Plinth, first and second floor sill bands, multi keystoned splayed lintels, 2 gable stacks. 3 storeys; 3 window range of glazing bar sashes, the central one blank.	Grade II Listed Building	19th century	SK 79394 53422	650m
MM156	1196389	15, Wilson Street	Former end pavilion to a terrace, now flats. 1766, restored and converted c1980. Built for the Rev. Bernard Wilson, vicar of Newark. Brick with stone dressings and hipped pantile roof with 3 ridge stacks. First and second floor bands, modillion eaves. Windows have brick flat arches. 3 storeys; 3 x 3 windows.	Grade II Listed Building	18th century	SK 79941 54040	325m
MM157	1196402	87-91, Millgate	Terrace of 3 houses. c1820. Brick with stucco dressings and pantile roof. 2 gable and single ridge stacks. Windows are glazing bar sashes. Doors have 6 moulded fielded panels and geometrical overlights. All openings have lintels with keystones. 3 storeys; 4 window range, the third window from left being blank.	Grade II Listed Building	19th century	SK 79270 53524	515m
MM158	1196403	93-101, Millgate	5 houses. Late 18th century, restored late 20th century. Brick with pantile roofs. First floor band, rebated eaves, single gable and 2 ridge stacks. Doors have segmental heads. 2 storeys; 5 window range with central 20th century casement flanked by single Yorkshire sashes.	Grade II Listed Building	18th century	SK 79268 53521	515m
MM159	1196404	Crow View	House, now house and architect's office. Early 19th century. Brick with stone dressings and slate roof. Plinth, first floor band, moulded eaves, coped gables, 2 gable stacks. Windows are glazing bar sashes with splayed multi keystoned lintels. 2 storeys, 3 window range, the central window being smaller.	Grade II Listed Building	19th century	SK 79246 53487	540m
MM160	1196405	Millbank (British Red Cross Society) and attached Walls	House, now offices, and attached garden and boundary walls. c1800, with mid 19th century and 20th century alterations. Brick with stone dressings and concrete tile roof. plinth, corner pilasters, moulded eaves, 4 gable stacks, 3 of them capped. Projecting single bay centre. 2 storeys plus attics; 3 window range of margin light sashes, the central one being smaller. Above, 2 gabled dormers with glazing bar Yorkshire sashes.	Grade II Listed Building	19th century	SK 79242 53461	565m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM161	1196406	Millgate Folk Museum, The Navigation Company Brasserie	Former Trent navigation Co. warehouse and adjoining maltings, now a museum and brasserie. Dated 1870 on the wall ties and chimney base, with 19th century and mid and late 20th century alterations. The maltings built by W Duke, builder, probably for one of the Gilstrap family, maltsters, whose monogram appears on the wall ties. Brick with slate roofs. Mostly regular fenestration with segment headed openings. River frontage has the hipped warehouse to left. 5 storeys; 6 window range with loft doors in the third bay. T-plan.	Grade II Listed Building	19th century	SK 79367 53725	360m
MM162	1196407	The Spring House Public House	Public house. Early 19th century, with late 19th century and 20th century alterations. Brick, rendered and colourwashed, with pantile roof. Rebated eaves, 2 gable stacks, that to the left external. 3 storeys; 2 window range of glazing bar sashes.	Grade II Listed Building	19th century	SK 79152 53328	630m
MM163	1196408	Transport House (3)	2 houses, now architects' offices. Late 17th century, with late 19th century and late 20th century alterations. Brick with stone dressings and hipped and gabled concrete tile and pantile roofs. First floor band, quoins, wooden modillioned eaves, gutter on brackets, single coped gable, 2 ridge and single gable stacks. 2 storeys plus attics; 4 window range. Windows are mainly glazing bar sashes. 3 gable headed and 1 segment headed sashes.	Grade II Listed Building	17th century	SK 79816 54164	150m
MM164	1196409	13 and 15, Northgate	House and adjoining boundary wall. Late 18th century, raised early 19th century, with early 19th century additions. Brick with stone and stucco dressings. Roof not visible. Sill bands to basement and first floor, first floor band, modillion eaves cornice, plain parapet with 5 blank panels, 3 ridge and single side wall stacks. 3 storeys plus basement; 5 window range of glazing bar sashes with multi keystone lintels. Central steps with 20th century brick cheeks and moulded early 19th century doorcase with multi keystone lintel and hood on consoles. Half glazed door with overlight.	Grade II Listed Building	19th century	SK 79878 54234	175m
MM165	1196410	Northgate House and adjoining Boundary Wall	2 houses. Early 19th century. Brick with pantile roof. First floor band, cogged eaves, single gable and single rear wall stacks. Windows are glazing bar sashes, mainly with segmental heads. 3 storeys; 4 window range, the third window from left being altered.	Grade II Listed Building	18th century	SK 79870 54163	195m
MM166	1196411	The Old Malt Shovel Public House	Public house. Mid 18th century, with 19th century rear addition and full width single storey front c1900. Brick and faience, with steep pitched pantile roof. Main block has dentillated eaves, single coped gable, 2 gable, single corner and single rear wall stacks. 2 storeys plus attics; 5 window range of segment headed glazing bar sashes and above, a central raking dormer with glazing bar sash.	Grade II Listed Building	18th century	SK 79922 54282	195m
MM167	1196412	38, Northgate	House, now offices. Late 18th century, with early 19th century wings. Brick with stone dressings, hipped slate and pantile roofs. Plinth, first floor band, moulded eaves cornice and low parapet, 4 side wall stacks. 3 storey main block, 3 windows, with the central bay projecting under a pediment. 2 storey wings, single windows, those to right wing with segmental heads.	Grade II Listed Building	18th century	SK 79913 54232	205m
MM168	1196413	Maltings 70 metres north-west of Northgate Brewery	Maltings, now disused. Dated 1864 by datestone on north-east gable inscribed "P W Archt. 1864". Disused since 1964. Red brick with yellow brick dressings and gabled and hipped slate and artificial slate roofs. Cogged plinth, first floor band and dentillated eaves. Openings have moulded brick segmental polychrome heads. Most of them are barred. Gabled malthouse range, 3 storeys plus basement, has an addition of 1934 covering most of the north-west side.	Grade II Listed Building	19th century	SK 80053 54596	105m
MM169	1196414	1, Parliament Street	Former Presbytery, now a students' hostel, and attached wall. Early 17th century, possibly incorporating an earlier building, with late 18th century and early 19th century alterations. Brick with stone dressings and hipped and gabled steep pitched slate roofs. Chamfered plinth, moulded first and second floor bands, quoins, coped gables, single valley and single gable stacks. 3 storeys; 3x2 bays. Double range plan. Double gabled front to Parliament Street has 2 glazing bar sashes and above, similar smaller windows, the left windows being dummies.	Grade II Listed Building	17th century	SK 79316 53551	505m
MM170	1196415	3 and 5, Parliament Street	2 houses. c1840. Brick with stucco dressings and pantile roofs with 2 gable stacks. Sill bands, first floor band, moulded eaves cornice. Openings have splayed lintels. 2 storeys; projecting 3 window range of glazing bar sashes flanked by set back single bays with smaller blank windows.	Grade II Listed Building	19th century	SK 79337 53531	530m
MM171	1196416	20, Parliament Street	Former shop and house, now a house. c1835. Brick with stucco dressings and pantile roof. Single gable stack. 2 storeys plus garrets; 2 window range of glazing bar sashes with splayed lintels.	Grade II Listed Building	19th century	SK 79325 53506	550m
MM172	1196417	40 and 42, Parliament Street	2 houses. c1825. Brick with stone dressings and pantile roof. Rebated eaves, 2 gable stacks. 2 storeys; 3 window range of glazing bar sashes with segmental heads. Central round headed entry with blocked fanlight, flanked by single beaded 6-panel doors with overlights and round headed scrapers.	Grade II Listed Building	19th century	SK 79336 53467	600m
MM173	1196418	27 and 29, Pelham Street	Pair of houses. Early 19th century, with late 20th century alterations. Brick with pantile roofs. Cogged eaves, 2 gable stacks. 3 storeys; 3 window range, all with segmental heads. Central blank flanked by 20th century casement to left and glazing bar sash to right.	Grade II Listed Building	19th century	SK 79555 53602	565m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM174	1196419	15, 17, 19, Portland Street	3 houses, now 2 houses and shop. c1800, with late 19th century alterations. Brick with stone dressings and pantile roof. Rendered left gable. Dentillated eaves, 2 ridge and single external gable stacks. 2 storeys; 4 window range of glazing bar sashes.	Grade II Listed Building	19th century	SK 79743 53615	580m
MM175	1196420	23 and 25, Portland Street	2 houses, now shop and flat. Early 19th century, with mid 20th century alterations. Brick with stone dressings and slate roof. First floor band, single gable and 2 ridge stacks. 3 storeys; 3 window range of glazing bar sashes, the central one a dummy.	Grade II Listed Building	19th century	SK 79725 53602	590m
MM176	1196421	Riverside Cottage and 2 Riverside Cottage	House. Early 18th century, restored and with additions 1989. Brick with 20th century pantile roof and single ridge stack. Cogged eaves, coped gables. Three storeys; two window range of segment headed six-pane sashes, the right one smaller.	Grade II Listed Building	18th century	SK 79625 53964	215m
MM177	1196422	Trustees Savings Bank	2 houses, now bank. Mid 19th century and late 18th century, altered 1969 to form a single front. Stucco with stone dressings and slate roof. Plinth, pilasters to corners and between third and fourth windows, eaves cornice. 3 storeys; 5 window range of glazing bar sashes with moulded surrounds, keyblocks and bracketed sills.	Grade II Listed Building	19th century	SK 79792 53851	385m
MM178	1196423	19, Market Place	House, now office. Late 18th century, with mid 19th century and late 20th century alterations. Brick with stone dressings and concrete tile roofs with 2 gable stacks. Third floor sill band and single coped gable. 4 storeys; 2 window range of plain sashes and on the fourth floor, 2 smaller 6 pane sashes. All these have multiple keystones. Ground floor has 20th century replica wooden shopfront with full width fascia.	Grade II Listed Building	18th century	SK 79913 53907	405m
MM179	1196424	25 and 26, Market Place	2 houses, now disused library. Early 18th century, with mid 19th century alterations. Brick, the ground floor painted , with concrete tile roof , 2 gable and single side wall stacks. Plinth, bands to each floor, coped parapet with 5 blank panels, single coped gable. 3 storeys; 5 window range of glazing bar sashes, the 2 to left partly reglazed.	Grade II Listed Building	18th century	SK 79948 53888	440m
MM180	1196425	Midland Bank	Bank. c1895. Ashlar, flat roof. Baroque Revival style, Moulded plinth, rusticated ground floor and pilasters, first floor and eaves cornices, balustrade. 2 storeys; 2x3 bays. Hexagonal corner tower has three 8-pane sashes with friezes, segmental pedimented Tuscan doorcase, and lead dome with round window and finial. Also known as: No.2 Midland Bank BRIDGE STREET.	Grade II Listed Building	19th century	SK 79927 53855	455m
MM181	1196427	36-39, Market Place	2 houses, now shop and store. c1800 and c1850, ground floors rebuilt c1980. Taller left range, c1850, brick with stone dressings with slate roof, has single gable stack and cogged eaves. 3 storeys; 2 window range of top hung casements and fixed lights, with above, 2 plain sashes.	Grade II Listed Building	19th century	SK 79889 53843	445m
MM182	1196428	46, Market Place	House, now shop. Mid 18th century, with mid 19th century and late 20th century alterations. Painted brick with stone dressings, and slate roof. 2 gable stacks. Incomplete first floor band, moulded eaves cornice, low parapet, coped gables. 3 storeys plus attics; 3 window range of plain sashes.	Grade II Listed Building	18th century	SK 79829 53840	415m
MM183	1196429	Pair of K6 Kiosks 1 metre south-west of 12 and 13	Pair of K6 telephone kiosks. c1930. Designed by Sir Giles Gilbert Scott. Made by various contractors. Cast iron. Square plan. Saucer domed roof and margin light glazing to sides and door.	Grade II Listed Building	20th century	SK 79863 53915	370m
MM184	1196431	12 and 14, Middlegate	2 houses, now office. Early 18th century, altered late 19th century and late 20th century. Brick with the front roughcast and colourwashed, the left gable part rendered, with steep pitched pantile roof. First floor band on left gable, coped gables, single gable stack. 2 storeys plus garrets; 2 window range of glazing bar sashes.	Grade II Listed Building	18th century	SK 79796 53998	265m
MM185	1196432	23, Middlegate	Former public house, now shop. Early 18th century, restored 1989. Brick with steep pitched plain tile roof. Plinth, first floor band, cogged and dentillated eaves, coped gables. 2 storeys plus attics; 4 window range of segment headed glazing bar sashes.	Grade II Listed Building	18th century	SK 79787 53950	300m
MM186	1196433	8-13, Mill Lane	6 houses. Late 18th century, restored late 20th century. Brick with pantile roofs and 5 gable stacks. First floor band, dentillated eaves, segment headed ground floor openings. Doors are mostly beaded with 6 panels, windows are mainly 16 pane sashes.	Grade II Listed Building	18th century	SK 79366 53690	395m
MM187	1196434	5, Millgate	House. Late 18th century. Brick with pantile roof. 20th century rendered plinth, rebated eaves, central ridge stack. 2 storeys; 2 window range of glazing bar sashes. Below, 2 glazing bar sashes and to left, a fielded 6-panel door, all with segmental heads.	Grade II Listed Building	18th century	SK 79533 53810	365m
MM188	1196435	16 A-16e, Millgate	House, now flats. Early 19th century, altered mid 19th century, converted to flats 1981. Brick with stone dressings and gabled and hipped slate roof. Plinth, first and second floor bands, splayed lintels, single side wall stack, slightly projecting right bay. 3 storeys; 3 window range of plain sashes and above, 3 smaller plain sashes.	Grade II Listed Building	19th century	SK 79495 53802	375m
MM189	1196436	23 and 23a, Millgate	House, now offices. c1780, with late 19th century and 20th century alterations. Brick with stone dressings and pantile roof. Plinth, first floor band, moulded wooden eaves, coped gables with kneelers, 2 gable and single side wall stacks. Windows are glazing bar sashes with rubbed brick heads. 3 storeys; 5 window	Grade II Listed Building	18th century	SK 79498 53768	400m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
			range. L-plan. Front has 5 sashes and above, 5 smaller sashes. Below, steps to central Classical style doorcase with Doric piers and dentilled open pediment. Fielded 6-panel door and overlight. Formerly known as: National Farmers' Union offices.				
MM190	1196437	Railing and Gate to Left of 26 and 28	Railing and gate. Early 19th century. Round topped stone plinth carrying cast iron spearhead railing with fluted balusters. Near-central replacement gate.	Grade II Listed Building	19th century	SK 79460 53752	390m
MM191	1196438	27, Millgate	House. Late 18th century, with mid 19th century alterations. Brick with stone dressings and pantile roof. Plinth, first floor band, dentilled eaves, coped gables, single gable and single ridge stacks. 3 storeys plus basement; 3 window range of plain sashes with segmental heads, the central one blank.	Grade II Listed Building	18th century	SK 79485 53757	400m
MM192	1196439	31, Millgate	House. c1750, with late 19th century and 20th century alterations. Brick with pantile roof. 20th century rendered plinth, first floor band, rebated eaves, gutter on brackets, single rear wall stack. 2 storeys; 2 window range of 2-light glazing bar Yorkshire sashes. Below, off-centre 20th century door flanked by single similar sashes, all with segmental heads. To right, round headed entry with 20th century door. Above it, a cast iron plate inscribed "Cottams' Yard".	Grade II Listed Building	18th century	SK 79479 53753	400m
MM193	1196440	34, Millgate	Former public house, now a shop, and adjoining outbuildings. Late 16th century, altered late 18th century, enlarged and remodelled mid 19th century, restored late 20th century. Used as a public house 1819-1935. Brick with remains of internal timber framing and slate and pantile roofs. 2 gable, single ridge and single side wall stacks. 2 storeys; 2 window range of glazing bar sashes. Formerly known as: Duke of Wellington Inn. Formerly known as: Lord Nelson Inn.	Grade II Listed Building	16th century	SK 79440 53741	385m
MM194	1196441	Millgate House Hotel and adjoining Boundary Wall	House, now hotel, and adjoining boundary wall. Late 18th century, with mid 19th century and 20th century alterations and additions. Brick with stone and stucco dressings and slate roof with 2 ridge stacks. Plinth and rebated eaves. Windows are mainly 16 pane sashes. s storeys plus attics; 3 window range with stucco lintels.	Grade II Listed Building	18th century	SK 79398 53661	430m
MM195	1196442	The Watermill Public House	Public house. Early 19th century, with early and late 20th century alterations. Brick, colourwashed at the front, with hipped pantile roof. Plinth, first floor band, rebated eaves, single ridge stack. 3 storeys; 2 window range of glazing bar sashes with segmental heads.	Grade II Listed Building	19th century	SK 79351 53602	470m
MM196	1196443	The White House and adjoining Outbuildings, Wall and Railings	House, now flats, and adjoining outbuildings wall and railing. Late 18th century, with early and mid 19th century and 20th century additions and alterations. Brick, roughcast and colourwashed, with slate roofs with 5 gable and 3 ridge stacks. 2 storeys. 2 main blocks each with 2 windows, the south-west one a triple range. L-plan.	Grade II Listed Building	18th century	SK 79248 53541	490m
MM197	1215019	13-17, Albert Street (see details for further address information)	Includes: No.1 ALBION STREET. 4 houses. Early 19th century, with 20th century alterations. Brick with gabled and hipped pantile roofs, with single gable and 2 ridge stacks. Cogged eaves. Ground floor openings are segment headed. 2 storeys; 5 window range.	Grade II Listed Building	19th century	SK 79757 53564	635m
MM198	1215678	The Palace theatre	Theatre and 2 shops. Built 1920 for Miss Emily Blagg. Altered mid 20th century, altered and restored 1988. Brick with stucco front and stone and stucco dressings. Hipped and mansard slate and artificial slate roofs. Single external rear wall stack. 2 storeys, 7x12 bays. Angled front has round towers at the angles, topped with cupolas with onion domes, and coped parapets.	Grade II Listed Building	20th century	SK 80092 53938	505m
MM199	1215748	4, Balderton Gate	House, now shop. Mid 18th century, with late 19th century and 20th century alterations. Brick, colourwashed, with steep pitched pantile roof with sprocketed eaves. Cogged eaves band. 2 storeys; single 20th century casement. 2 late 19th century wooden shopfronts with panelled pilasters and continuous cornice.	Grade II Listed Building	18th century	SK 79979 53810	520m
MM200	1215824	9, 10 and 11a, Balderton Gate	2 houses, now shop and flat. Late 18th century with late 20th century alterations. Colourwashed brick with pantile roof. Rebated eaves. 2 storeys; 4 window range of glazing bar sashes with splayed rendered lintels. late 20th century shopfront with central door flanked by splayed single pane windows.	Grade II Listed Building	18th century	SK 80011 53796	550m
MM201	1215845	14, Balderton Gate	2 houses, now 2 shops, one of them vacant. Early 18th century, with late 19th century and late 20th century alterations. Colourwashed brick with steep pitched pantile roof. Bracketed gutter, 2 coped gables, single ridge stack. 2 storeys; 5 window range. Off-centre plain sash flanked by a single glazing bar sash to left and 3 to right. Late 19th century style wooden shopfront with panelled pilasters and bracketed fascia.	Grade II Listed Building	18th century	SK 80005 53773	565m
MM202	1215966	14d, E, F, and 16, Barnby Gate	2 houses, now 2 shops and flats. Late 18th century, with mid 19th century alterations, restored late 20th century. Brick with rendered right return, pantile roof and 3 gable stacks. Plinth, first floor band and dentillated eaves. 2 storeys; 4 window range. L-plan. Four 12 pane sashes. 2 mid 19th century single pane shop windows with pilastered surrounds and cornices, each flanked to right by a 20th century fielded 6-panel door with overlight. Right return has a similar door to right.	Grade II Listed Building	18th century	SK 80054 53802	575m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM203	1216121	38, 38a 40, Barnby Gate	2 houses, now house, shop and flat. Early 19th century, with late 20th century alterations. Brick with stone dressings and slate roof. Plinth, ground floor impost band, first floor sill band, moulded wood eaves, 2 gable and single ridge stacks. 3 storeys; 3 window range of glazing bar sashes with segmental heads, those to the third floor being smaller.	Grade II Listed Building	19th century	SK 80116 53774	635m
MM204	1216276	46, Barnby Gate	2 houses and shop, now house. c1800, with mid 19th century shopfront. Brick with pantile roof. Dentilled eaves, 2 gable stacks. 2 storeys; 2 window range of glazing bar sashes with segmental heads. Below, off-centre degment headed half glazed door with ogee scraper to its left.	Grade II Listed Building	19th century	SK 80138 53762	660m
MM205	1216589	Castle Cycles	House and attached warehouse, now house and shop. c1800, altered late 19th century and late 20th century. Brick with hipped pantile roofs. Plinth, incomplete first floor band, second floor band, dentillated eaves, 2 side wall and single ridge stacks. 3 storeys; 2 window range of segment headed glazing bar sashes.	Grade II Listed Building	19th century	SK 79747 53977	255m
MM206	1227865	19, Carter Gate	House, now shop. Mid 18th century, altered early 19th century and mid 20th century. Brick with slate mansard roof. Second floor band, 2 gable stacks, that to right external. Incomplete ashlar pilaster to right. 3 storeys plus attics; 2 window range of segment headed glazing bar sashes.	Grade II Listed Building	18th century	SK 79944 53773	535m
MM207	1227883	29, Carter Gate	House, now estate agent's office. c1800. Brick with stone dressings and pantile roof with 2 gable stacks. 3 storeys; 3 bay range of plain sashes and above, 3 smaller sashes, the central one blank.	Grade II Listed Building	19th century	SK 79897 53723	550m
MM208	1227900	34,36,36a, 38, Carter Gate	3 houses, now 3 shops and flat. Early 19th century with late 19th century and early 20th century alterations. Colourwashed brick with slate roof. Gutter on brackets, single gable and rear wall stacks. 2 storeys; 3 window range with central segment headed glazing bar sash flanked by single tripartite sashes.	Grade II Listed Building	19th century	SK 79901 53766	520m
MM209	1228192	40-44, Carter Gate	3 houses, now 2 shops. Early 17th century with late 19th century rear addition, altered and restored 20th century. Close studding with rendered nogging, brick, and rendered underbuild, with pantile roof. Single gable and single ridge stacks. Jettied first floor with billeted bresummer, coved eaves. 2 storeys; 4 window range with 3 three-light Yorkshire sashes and to right a 2-light casement. Off-centre inserted carriage opening with close boarded doors.	Grade II Listed Building	17th century	SK 79896 53761	520m
MM210	1228239	7, Castlegate	Former public house, now nightclub. Mid 18th century and early 19th century, refenestrated mid 19th century. Brick with pantile roof. Rebated eaves, incomplete eaves band, 2 ridge and single gable stacks.	Grade II Listed Building	18th century	SK 79790 54066	205m
MM211	1228245	11, Castlegate	House, now furniture shop. Mid 18th century, converted to garage early 20th century, converted and restored 1987 by Guy St John Taylor Associates. Brick with stone dressings and hipped slate roof. Plinth, first floor band, dentillated eaves, 2 ridge stacks. Projecting centre, single window, with quoins and pediment. 2 storeys plus attics; 5 window range of glazing bar sashes.	Grade II Listed Building	18th century	SK 79764 54049	205m
MM212	1228260	14 and 16, Castlegate	2 houses, now restaurant and dental surgery. Late 18th century, with mid 19th century and mid 20th century alterations. Brick with stone dressings and slate roof. First and second floor bands, coped gables, 4 gable and single ridge stacks. 3 storeys; 8 window range of glazing bar sashes and above, 8 smaller sashes.	Grade II Listed Building	18th century	SK 79630 53942	235m
MM213	1228316	Royal Oak Public House	Public house. Early 18th century and early 19th century, with 20th century alterations. Colourwashed brick with steep pitched pantile roof. Interior may contain timber framing. Single coped gable, 2 ridge and single gable stacks. 2 storeys; 3 window range. L-plan.	Grade II Listed Building	18th century	SK 79745 54027	215m
MM214	1228382	Ram Hotel	Hotel. Late 18th century, incorporating 2 mid 18th century buildings in the rear wing, with mid and late 19th century and mid 20th century additions and alterations. Brick with plain tile roof. plinth, first and second floor bands, rebated and cogged eaves, gutter on brackets, coped gables, 2 ridge and single gable stacks. Windows have painted flat arches, those to ground and first floors with keystones. 3 storeys; 7 window range of plain sashes, with a wrought iron sign bracket between the fifth and sixth from left.	Grade II Listed Building	18th century	SK 79739 54013	225m
MM215	1228412	22 and 24, Castlegate	2 houses, now offices. Late 18th century and early 19th century, refenestrated mid 19th century, with late 20th century alterations. Brick with stone dressings and pantile roofs. Dentillated eaves, coped gables, 2 gable and single ridge stacks. 24 has first floor band, and 22 has similar band broken through by lowered windows. Windows have segmental heads. 3 storeys; 7 window range of plain sashes arranged 4:3.	Grade II Listed Building	18th century	SK 79604 53918	255m
MM216	1228417	27 and 29, Castlegate	House, now offices. Late 18th century with mid and late 20th century alterations. Brick with stone dressings and slate roof. Probably built as a matching addition to 25, to left. Single corner pilaster, wooden first floor band, modillion eaves, single ridge stack. 3 storeys; 3 window range of 20th century single pane windows.	Grade II Listed Building	18th century	SK 79691 53973	230m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM217	1228423	Maltsters' Association of Great Britain National Farmers Newark Area Internal Drainage Board	House, now offices. Mid 18th century with late 18th century addition, one window, in matching style. Brick with stone dressings and slate roof. Plinth, sill bands, moulded eaves and pediment, gutter on brackets, 2 gable stacks. Projecting pedimented centre, single window. Windows have flat arches with multiple keystones. 3 storeys; 4 window range of glazing bar sashes arranged 3/1.	Grade II Listed Building	18th century	SK 79696 53956	245m
MM218	1228427	35, Castlegate	House, now house and restaurant. c1800 with mid 19th century and late 20th century alterations. Brick with concrete tile roof. First floor band, dentillated eaves, 2 gable stacks. 3 storeys; 2 window range of plain sashes with a single sash to left and tripartite one to right.	Grade II Listed Building	19th century	SK 79676 53941	250m
MM219	1228443	39 and 41, Castlegate	2 houses, now 2 shops and flats. Late 18th century, with mid and late 19th century and 20th century alterations. Brick with colourwashed gable and ground floor, stone dressings and slate roof. Incomplete first floor band, second floor band, moulded dentillated eaves, single coped gable, single ridge and gable stacks. 3 storeys; 3 window range of glazing bar sashes and above, 3 smaller similar sashes, all with flat arches	Grade II Listed Building	18th century	SK 79638 53906	275m
MM220	1228451	43-47, Castlegate (see details for further address information)	4 houses, now 3 shops and flat. c1800, with late 19th century and mid and late 20th century alterations. Brick, 51 colourwashed, with rendered gable and pantile and slate roofs. Incomplete plinth, first and second floor bands, dentillated eaves, single coped gable, 2 ridge stacks. 3 storeys plus attics; 8 window range of segment headed glazing bar sashes with 4 blanks.	Grade II Listed Building	19th century	SK 79628 53889	290m
MM221	1228459	57 and 59, Castlegate	2 houses, now cycle shop. c1700, with late 18th century brick cladding and late 19th century and late 20th century alterations. Colourwashed brick with internal timber framing and steep pitched pantile roof. Dentillated wooden eaves, single gable, single rear wall and 2 ridge stacks. 2 storeys; 3 window range. T-plan. Three 2-light Yorkshire sashes. Blocked central doorway flanked to right by lat 19th century single pane shop window with wooden pilasters and cornice.	Grade II Listed Building	18th century	SK 79614 53872	305m
MM222	1228461	64, Castlegate	House. Late 18th century, refenestrated mid 19th century. Brick with stone dressings and pantile roof. First floor sill band, gutter on brackets, coped gables, 2 gable stacks, one of them shared with 66, to left. 3 storeys; 2 window range of segment headed plain sashes.	Grade II Listed Building	18th century	SK 79540 53848	325m
MM223	1228478	Boundary Wall and Gatepiers at Former Gilstrap Library	Boundary wall and gatepiers. 1882. By William Henman for William Gilstrap. Rockfaced ashlar with ashlar dressings. Jacobean Revival style. Moulded coping, formerly with railing. 2 central octagonal piers with square bases and domed caps, topped with ornate wrought iron lanterns. 2 similar terminal piers.	Grade II Listed Building	19th century	SK 79700 54012	200m
MM224	1228608	Church House	House. Mid 18th century, partly refenestrated late 19th century. Brick with stucco front and side, stone dressings and hipped and gabled slate roof. Plinth, chamfered quoins, first floor band, moulded and dentillated eaves, parapet, coped gables, multi keystone lintels, 2 gable and single ridge stacks. Projecting centre with 1 window. 2 storeys; 5 window range of glazing bar sashes.	Grade II Listed Building	18th century	SK 79978 53893	455m
MM225	1228681	War Memorial 30 metres east of Church of St Mary Magdalene	War memorial. 1921. Possibly by Sir R Blomfield. Portland stone. Octagonal base with 3 unequal steps carrying inscribed octagonal pedestal. Tapered cross shaft with bronze sword on east side.	Grade II Listed Building	20th century	SK 79995 53912	450m
MM226	1228701	Castle Railway Station	Railway station, now disused. 1846. Built for the Midland Railway Co. Yellow brick with ashlar dressings and hipped slate roofs with 4 ridge stacks. Italianate style. Plinth, chamfered quoins, cornice and blocking course. Single storey; 9 window range of 8 pane sashes, some of them boarded up, arranged 1:2:3:2:1. Main block has on the entrance front a 3 bay projecting centre with paired pilasters flanking the doorway and single pilasters at the angles.	Grade II Listed Building	19th century	SK 79608 54320	65m
MM227	1228717	Former Station Master's House at Castle Station	Former station master's house, now house. c1860. Brick with stone dressings and hipped slate roof, with 3 coped side wall stacks. Plinth, dentillated eaves, bracketed sills. 2 storeys; 3 window range of margin light sashes arranged 2:1.	Grade II Listed Building	19th century	SK 79575 54279	50m
MM228	1228733	Causeway Arches 500 metres north-west of Level Crossing	Causeway arches. 1770. South-west side rebuilt during road widening in 1922. Designed by John Smeaton. Brick with stone dressings. 9 semicircular arches with intermediate pilasters. Above each arch, a stone spout. Coped parapet with ramped curved end walls and round brick piers. Part of a causeway carrying the Great north Road across the flood plain of the Trent.	Grade II Listed Building	18th century	SK7934654751	Within the Scheme
MM229	1228754	Causeway Arches 900 metres north-west of Level Crossing	Causeway arches. 1770. South-west side rebuilt during road widening in 1922. Parapet and coping rebuilt late 20th century. Designed by John Smeaton. Brick with stone coping. 2 semicircular arches with intermediate pilaster. Coped parapet wall with ramped curved ends and round piers. part of a causeway carrying the Great North Road across the flood plain of the Trent.	Grade II Listed Building	18th century	SK7919855103	150m
MM230	1228781	Causeway Arches and Embankment Walling 50 metres north-west of	Causeway arches and embankment walling with gates. 1770 with mid 19th century alterations. Designed by John Smeaton. Red brick with ashlar dressings. Walling runs for 80metres along the south-west side of the Great North Road, with buttresses at regular intervals.	Grade II Listed Building	18th century	SK7957254186	Within the Scheme

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
		Trent Bridge					
MM231	1228791	Causeway Culvert 135 metres north-west of Level Crossing	Causeway arches and embankment walling with gates. 1770 with mid 19th century alterations. Designed by John Smeaton. Red brick with ashlar dressings. Walling runs for 80metres along the south-west side of the Great North Road, with buttresses at regular intervals.	Grade II Listed Building	18th century	SK7950254391	Within the Scheme
MM232	1228797	Goods Warehouse 150 metres north-east of Castle Station	Goods warehouse, now disused. c1875. Brick with blue and yellow brick and stone dressings and hipped slate roof, with single corner stack. Chamfered plinth, pilasters, brick modillion eaves with stone cornice. Blocked ground floor windows have round heads, second floor windows segmental ones. 2 storeys; 13 x 3 bays. Symmetrical front to yard has 15 windows, 4 of them paired and 3 blocked. Most are unglazed.	Grade II Listed Building	19th century	SK 79703 54468	Within the Scheme
MM233	1228818	North Malt Warehouse	Maltings, now warehouse. c1870, with mid 20th century alterations. Built for John Hole, brewer. Mass concrete, rendered externally, with hipped Welsh slate roofs. Regular fenestration with segment headed windows. 3 storeys; 18 window range, the river front divided into 6 hipped bays.	Grade II Listed Building	19th century	SK 79780 54422	25m
MM234	1228861	2, Guildhall Street	House. c1800. Brick with pantile roof and single gable stack. 2 storeys. single 2-light Yorkshire sash. Below, similar sash flanked to right by moulded 4-panel door, both segment headed.	Grade II Listed Building	19th century	SK 80127 53761	650m
MM235	1228886	2-10, King Street	5 houses. c1800. Brick with stone and stucco dressings and pantile roofs with 2 gable and 2 ridge stacks. Rebated eaves, multi keystoned lintels. Doors are mainly 6-panel beaded, with overlights and plain jambs. 2 storeys; 5 window range of glazing bar sashes, the second from left replaced by a 20th century casement.	Grade II Listed Building	19th century	SK 79276 53462	575m
MM236	1228909	Former Infants' School	Former infants school. Dated 1840. Brick with stone dressings and pantile and slate roofs. Parapet wall to left, single rear wall stack. Single storey; 2 window range. L-plan. Central panelled door with flanking panels, the lintel inscribed "Infants School" and dated. On either side, a wooden cross casement with glazing bars.	Grade II Listed Building	19th century	SK 79272 53490	545m
MM237	1228916	12 and 14, King Street	Pair of houses. c1800. Brick with stucco dressings and pantile roof with central ridge stack. Dentilled eaves, first floor band, multi keystoned lintels. Symmetrical front. 2 storeys; 4 window range of glazing bar sashes, the outer ones being smaller. Below, 2 sashes flanked by single beaded 6-panel doors with overlights, and beyond, single round headed entries with brick imposts and keystones, and close boarded doors.	Grade II Listed Building	19th century	SK 79288 53451	590m
MM238	1228922	13, King Street	House. c1820. Brick with pantile roof. Left gable rendered and colourwashed. Single gable stack. Openings have segmental heads. 2 storeys; 2 window range of glazing bar sashes. Below, central door flanked by similar single sashes.	Grade II Listed Building	19th century	SK 79292 53468	575m
MM239	1228946	29 and 31, King Street	Pair of houses. c1800. Brick with stucco dressings and pantile roof and central ridge stack. 2 storeys; 2 window range of glazing bar sashes with multi keystone stucco lintels. 20th century door to left and a 19th century 4-panel door to right. Each door has an ogee headed iron scraper and an overlight.	Grade II Listed Building	19th century	SK 79327 53444	610m
MM240	1228959	Purefoy House (British Rabbit Council)	House, now office and flat. Early 19th century with mid 20th century alterations. Stucco, roof not visible. Classical Revival style. Rusticated ground floor, double pilasters above, frieze with wreaths, pediment. 2 storeys; 2 window range of 12 pane sashes. Central 20th century single pane window flanked to left by a small plain sash and to right by a fielded 6-panel door with overlight.	Grade II Listed Building	19th century	SK 79808 54094	190m
MM241	1228969	Evening Post office	House, now newspaper office. Mid 19th century with late 20th century alterations. Brick with stucco dressings and concrete tile roof. First and second floor bands, dentillated eaves, single gable stack. 3 storeys; 3 window range of plain sashes, the central one blank.	Grade II Listed Building	19th century	SK 79812 54061	220m
MM242	1229111	36 and 38, Kirkgate	2 houses, now 2 shops. Mid 18th century, altered late 19th century and mid 20th century. Brick with concrete tile and pantile roofs. Elaborate cogged and dentillated eaves, single coped gable, single gable stack. 2 storeys and 2 storeys plus attics; 4 window range with 2 20th century casements to left and 2 glazing bar sashes to right, all with segmental heads.	Grade II Listed Building	18th century	SK 79856 53984	310m
MM243	1229140	42, Kirkgate	Former public house, now 2 shops and offices. Mid 18th century, with late 18th century and early 19th century additions, altered c1890 and mid and late 20th century. Brick with stone dressings and slate roof. Plinth, first floor band, second floor sill band, moulded modillion eaves cornice, coped gable, single gable and single ridge stacks. Front has 2-bay projecting centre. 3 storeys; 4 window range with 2 canted oriel windows with plain sashes and 2 plain sashes with toplights. The sashes have multi keystone lintels.	Grade II Listed Building	18th century	SK 79869 53966	330m
MM244	1229217	School of Violin Making	Former bank and manager's house, now school of violin making. Dated 1887. By Watson Fothergill for the Nottingham & Notts Bank. Tower reduced in height, 1957. Converted c1975. Red brick, with blue brick, terracotta and stone dressings and gabled and hipped plain tile roofs. Single ridge and 2 side wall	Grade II Listed Building	19th century	SK 79888 53990	320m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
			stacks, the latter with twisted double shafts. Italian Gothic Revival style. Rockfaced chamfered plinth. 2 and 3 storeys plus 4-stage tower.				
MM245	1229294	The Blue Man Public House and adjoining Cottages to Right	Public house and adjoining cottages. Early 19th century, with late 19th century and 20th century alterations. Brick, the public house painted, with gabled concrete tile and hipped pantile roofs. Public house has single ridge and single gable stacks, the cottages a central ridge stack. Public house has first floor band, the cottages dentillated eaves. Cottage windows are boarded up. 3 storey block to left has 2 segment headed casements with shutters and above, 2 small Yorkshire sashes.	Grade II Listed Building	19th century	SK 80309 54659	45m
MM246	1229348	8, 8a, 8b, Lombard Street	House, now cycle shop and flats. Late 18th century, with mid 19th century and 20th century additions and alterations. Brick with colourwashed stucco front and hipped and gabled pantile roofs. Moulded brick dentilled eaves, coped gables, 2 gable stacks. 3 storeys; 2 window range of plain sashes.	Grade II Listed Building	18th century	SK 79834 53723	515m
MM247	1229374	Lombard House	House. Late 18th century, altered late 19th century. Brick with stone dressings and steep pitched slate roof. Plinth, first and second floor bands, moulded brick eaves, coped gables, single gable and single ridge stacks. Windows are glazing bar sashes, those to ground and first floors with segmental heads. 3 storeys; 5 window range. Third floor windows are smaller.	Grade II Listed Building	18th century	SK 79714 53732	460m
MM248	1229395	Fosseway Hotel	House, now hotel. Early 19th century with mid 19th century and 20th century alterations. Brick, the front colourwashed, with brick dressings and slate roof. Plinth, sill band, 2 gable and single side wall stacks. Windows have rubbed brick heads. 2 storeys; 3 window range of plain sashes. Below, central 20th century pedimented wooden doorcase, flanked by single plain sashes.	Grade II Listed Building	19th century	SK 79624 53813	365m
MM249	1229418	8, London Road	House. Late 19th century, partly refenestrated mid 19th century. Brick with colourwashed front and pantile roof with sprocketed eaves. First and second floor bands, cogged and dentilled eaves, 2 gable stacks. Windows have rubbed brick heads. 3 storeys; 3 window range of plain sashes and above, 3 smaller glazing bar sashes.	Grade II Listed Building	19th century	SK 79851 53622	615m
MM250	1229422	The Mail Coach Public House	Public house. Late 18th century, with mid 19th century alterations and additions, restored 1989. Brick with colourwashed stucco front and pantile roofs. Plinth, wooden gutter on brackets, coped gables, 2 gable stacks. Front windows are glazing bar sashes with segmental heads. U-plan around rear yard. 2 storeys plus attics; 5 window range.	Grade II Listed Building	18th century	SK 79862 53658	590m
MM251	1229482	Bowling Club House	Bowling Club house. Dated 1809 in Roman numerals on datestone on pediment. Brick with stone dressings and slate and pantile roofs. Gothic style. Front has plinth and ground floor sill band. Coped gables, the front ones crenellated, 3 octagonal gable stacks. 2 storeys; 4 window range, the central 2 bays projecting. 2 margin light sashes, flanked to right by a larger similar sash and to left by a door.	Grade II Listed Building	19th century	SK 79828 53449	765m
MM252	1231081	National Westminster Bank	Bank. c1902. Ashlar and brick, with slate mansard roof and 3 ridge and 2 gable stacks, all coped. Baroque Revival style. Chamfered plinth with rockfaced ashlar panels, channelled rusticated ground floor with sill band and cornice, enriched modillion eaves cornice, coped gables. 3 storeys plus attics. 3x4 bays.	Grade II Listed Building	20th century	SK 79818 53875	380m
MM253	1231115	6 and 8, Portland Street	3 houses, now a cafe. c1790, with late 19th century and mid 20th century alterations. Brick, rendered and colourwashed, with concrete pantile roof. Large ridge stack, raised 19th century. 2 storeys; 5 window range of 20th century 2-light casements.	Grade II Listed Building	18th century	SK 79736 53634	560m
MM254	1231119	The Horse and Gears Public House	Public house. Early 19th century. Brick with stone dressings and concrete pantile roof. Second floor band, wooden gutter on shaped brackets, 2 brick coped gable stacks. 3 storeys; 4 window range of 20th century imitation sashes, that to the right blank.	Grade II Listed Building	19th century	SK 79736 53608	585m
MM255	1231257	47, Market Place	House, now shop. c1875, with late 20th century alterations. Brick with stone dressings and slate roof, with single ridge, gable and side wall stacks. Moulded cornices at each floor and at eaves, double coped gable to right. 3 storeys plus attics; 3 window range. Two 2 storey canted wooden oriel windows each with 3 plain sashes, and between them, a single plain sash on each floor.	Grade II Listed Building	19th century	SK 79823 53850	405m
MM256	1231283	The Arcade	Shopping arcade. c1880, incorporating remains of a 16th century house and a 18th century house and shop; 20th century alterations. Market place front, early and mid 18th century, colourwashed brick with stucco dressings. Roof not visible. Side wall stack. Rusticated quoins, first and second floor bands linked to the window keystones, coped parapet. 3 storeys; 3 window range of plain sashes.	Grade II Listed Building	19th century	SK 79909 53841	455m
MM257	1231304	Water Pump and Trough	Water pump and trough. Mid 19th century. Pump has obelisk shaped panelled cast iron case, with renewed spout, and above it the Town Arms. Curved wrought iron handle to right and roundels with wreaths on the other sides. Renewed stone trough.	Grade II Listed Building	19th century	SK 79863 53905	380m
MM258	1231361	16, Middlegate	House, now office and flat. Early 19th century, altered early and late 20th century. Brick with pantile roof. Half-round brick dentillated eaves, single ridge stack. 2 storeys; 2 window range of glazing bar sashes	Grade II Listed	19th century	SK 79788 53994	265m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
			with tumbled brick arches. Full-width early 20th century rendered shopfront with fascia and sunblind, splayed central doorway with glazed door, flanked by single pane windows.	Building			
MM259	1231363	32, 32a, 34, Middlegate	2 houses, now shop. Late 18th century, restored and altered c1988. Brick with stone dressings and slate roof. Dentillated eaves, single coped gable, single gable tack. Segment headed windows with flat arches. 3 storeys; 3 window range of glazing bar sashes with central blank.	Grade II Listed Building	18th century	SK 79747 53945	285m
MM260	1231365	1 and 3, Millgate	Pair of houses. Early 18th century, porch mid 19th century, restored late 20th century. Timber framed, with brick underbuild and rendered, colourwashed first floor and pantile and slate roofs. Single central ridge stack. 2 storeys; 2 window range of renewed glazing bar sashes.	Grade II Listed Building	18th century	SK 79538 53818	355m
MM261	1231367	14, Millgate	House. c1835. Brick with stone dressings and gabled and hipped slate roofs. Moulded wooden eaves, 2 coped gables, single ridge stack. 2 storeys; 2 window range of plain sashes. Square plan.	Grade II Listed Building	19th century	SK 79508 53814	365m
MM262	1231371	18a-18e, Millgate	House, now flats. Early 19th century, altered mid 19th century, converted to flats 1981. Brick with stone dressings and slate roof. Plinth, first floor band, plain wooden eaves, coped gables, 2 gable stacks. Projecting central bay. 3 storeys; 3 window range of plain sashes, and above, 3 smaller plain sashes. below, central plain wooden doorcase with Gothic arched scraper to left, and open pediment on scroll brackets.	Grade II Listed Building	19th century	SK 79486 53791	375m
MM263	1231385	26 and 28, Millgate	2 houses, now 3 houses. Late 18th century. Brick with stone dressings and slate roof. Rebated eaves on rear wing, coped gables, 3 gable stacks. Windows are mainly glazing bar sashes with segmental heads. 2 storeys plus garrets; 5 window range, the right window being blank. L-plan. Paired central wooden Classical style doorcases with cornices, and fielded 6-panel doors with overlights.	Grade II Listed Building	18th century	SK 79463 53762	385m
MM264	1231395	33, Millgate	House. c1730. Brick with 20th century pantile roof. First and second floor bands, dentilled eaves, coped gables, single 20th century ridge stack. Openings have mainly segmental heads. 2 storeys plus attics; 2 window range of 2-light Yorkshire sashes. Above, an off-centre gabled dormer with a plain Yorkshire sash. Below, near-central 20th century close boarded door flanked by single Yorkshire sashes. To right, a round headed entry with close boarded door and above a cast iron plate inscribed "TAYLOR'S YARD".	Grade II Listed Building	18th century	SK 79474 53746	405m
MM265	1231411	52 and 54, Millgate	Former public house and house, now shop and house. Late 18th century, with mid 19th century alterations. Brick with stone dressings and pantile roof. Plinth, first floor band, dentilled eaves, gable band, 2 gable and single ridge stacks. 2 storeys plus attics; 6 window range of segment headed glazing bar sashes arranged 3/3, the central windows being smaller.	Grade II Listed Building	18th century	SK 79382 53680	410m
MM266	1231420	60, Millgate	House. c1775. Brick with slate roof. Plinth, first floor band, cogged eaves, 2 gable stacks. Windows are glazing bar sashes. Openings have rubbed brick heads. 3 storeys; 5 window range. Above, 5 smaller windows. Below, central fielded 6-panel door with fanlight, flanked by 2 windows.	Grade II Listed Building	18th century	SK 79358 53652	425m
MM267	1231427	69 and 71, Millgate	2 houses with attached steps and railings. Late 18th century, with late 20th century alterations. Brick with stone dressings and slate roof. Plinth, first floor band, rebated eaves, 2 gable stacks. 2 storeys plus basement; 3 window range. slightly projecting central bay with round headed recess containing a round headed glazing bar sash.	Grade II Listed Building	18th century	SK 79342 53596	470m
MM268	1231516	1, Navigation Yard	Formerly known as: No.20 MILLGATE. House. Late 18th century and early 19th century. Brick with hipped slate and pantile roofs with single ridge stack. Rebated eaves. 2 storeys. 2 single window ranges. L-plan. Street front has a renewed 12 pane sash to left, and 2 similar sashes below.	Grade II Listed Building	18th century	SK 79467 53778	375m
MM269	1231520	the Chestnuts	House. Late 17th century, with early and late 19th century and late 20th century alterations and additions. Lias limestone rubble and brick, with brick dressings and pantile roof. First floor band, dentillated eaves, 2 coped gables, 2 gable and single ridge stacks. 2 storeys plus attics; 4 window range. 4 renewed glazing bar sashes and above, 2 gabled dormers with plain sashes.	Grade II Listed Building	17th century	SK 79818 54172	145m
MM270	1231524	Handley House and adjoining Former House to Left	House and adjoining former house to left, now architects' offices. Late 17th century and early 18th century, with late 18th century and late 19th century additions. Brick, with stone dressings and hipped slate roofs. Chamfered plinth and quoins, first floor band, wooden modillioned eaves, 2 ridge stacks. Windows are glazing bar sashes. 2 storeys plus attics; 5 window range with flat arches and keystones.	Grade II Listed Building	17th century	SK 79834 54208	145m
MM271	1231534	12, Northgate	2 houses, now shop. Early 19th century, with late 19th century and late 20th century alterations. Brick with stone dressings and gabled and hipped slate roofs. Dentillated eaves, single ridge and 2 rear wall stacks. 2 storeys; 5 window range with off-centre blank flanked by 2 small glazing bar sashes, all segment headed.	Grade II Listed Building	19th century	SK 79852 54163	180m
MM272	1231535	Newark Physical Culture Club	Former carriage house and stable, now physical culture club. Early 19th century, altered mid 20th century. Brick with stone dressings and slate roof. 2 storeys; 3 window range. Central 6-pane fixed light	Grade II Listed	19th century	SK 79881 54172	200m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
			flanked by single similar lights set higher. All have segmental heads. Below, off-centre blocked carriage entrance with close boarded door inserted to left. To its left, a blocked segment headed window.	Building			
MM273	1231601	16, Northgate	House, now vacant and boarded up. Mid 19th century. Brick with stone dressings and hipped slate roof. Openings have splayed lintels. Single rear wall and single side wall stacks. 2 storeys; 4 window range. L-plan. Off-centre door with 2 windows to left and one to right. Rear has mainly segment headed openings.	Grade II Listed Building	19th century	SK 79880 54184	195m
MM274	1231611	20, 22, 24, Northgate	3 houses, now vacant and boarded up. Late 18th century, raised early 19th century. Brick with stone dressings and pantile roof. Dentillated eaves, coped gables, 2 gable, single ridge, side wall and rear wall stacks. 2 storeys; 5 window range, with 3 Yorkshire sashes and 2 blanks.	Grade II Listed Building	18th century	SK 79870 54192	180m
MM275	1231619	Number 35 and adjoining Malthouse, Kiln and Stable	House, adjoining malthouse and stable. Late 18th century and early 19th century, with mid 19th century and late 20th century alterations. House, brick with hipped slate roof and 2 side wall stacks, has plinth, first floor band and dentillated eaves. 3 storey main block, 3 windows, has projecting centre with pediment. Three 12 pane sashes and above, a plain sash to left and two 6-pane sashes to right.	Grade II Listed Building	18th century	SK 79920 54318	185m
MM276	1231688	40, Northgate	House, now disused offices. c1740 with late 18th century rear addition. Brick with stone dressings and pantile roof. Plinth, first and second floor bands, cogged and dentillated eaves, coped gables, 2 gable and single side wall stacks. 3 storeys; 4 window range of segment headed glazing bar sashes.	Grade II Listed Building	18th century	SK 79927 54240	215m
MM277	1231702	2-14, Parliament Street	7 houses. Early 19th century, restored late 20th century. Brick with pantile roofs. Cogged eaves, 3 ridge and single gable stacks. Windows are renewed glazing bar sashes, those to the ground floor being larger. Doors, flanked by Gothic pointed scrapers, have 6 beaded panels and overlights. Most openings have segmental heads. 2 storeys; 7 window range.	Grade II Listed Building	19th century	SK 79294 53536	510m
MM278	1231703	13, Parliament Street	House. Early 19th century, refenestrated 1991. Brick with stone dressings and pantile roof. First floor band, single gable stack. Most openings have panelled splayed lintels with keystones. 2 storeys; 2 window range of imitation plain sashes.	Grade II Listed Building	19th century	SK 79353 53517	550m
MM279	1231705	Britannia Buildings	House and shop, now a house. Early 19th century with late 19th century alterations. Brick with concrete tile roof. Single gable and single ridge stacks. 2 storeys plus garrets; 2 window range of renewed glazing bar sashes. Between them, an overpainted sign. Below, to left, a 2-light plate glass shop window, and to its right a single similar window.	Grade II Listed Building	19th century	SK 79364 53496	570m
MM280	1231721	28-38, Parliament Street	Former shop and 5 houses, now 6 houses. c1830, with late 20th century alterations. Brick with stone and stucco dressings and pantile roofs. First floor band, rebated eaves and gable band, 5 ridge and 2 gable stacks. Beaded 6-panel doors with overlights and Gothic arched scrapers. 2 storeys plus garrets; 8 window range of glazing bar sashes with multi keystoned lintels.	Grade II Listed Building	19th century	SK 79357 53476	590m
MM281	1231731	Pelham Mews Workshops	House and former livery stable, now house and workshops. Early 19th century. Brick with stone dressings and pantile roof. Cogged eaves, single gable and single ridge stacks. 2 storeys; 3 window range of plain sashes. Between the left windows, a painted advertisement.	Grade II Listed Building	19th century	SK 79546 53605	560m
MM282	1231738	24, 24a, 24b, Portland Street	House, now 2 shops and flats. c1840,with late 19th century alterations. Brick with stone and wood dressings and slate roof. Rendered right gable. Plinth, first and second floor sill bands, brick pilasters, modillioned eaves, coped gables. 3 bay front with slightly projecting centre with a 2-storey round headed recess. 3 storeys.	Grade II Listed Building	19th century	SK 79686 53610	575m
MM283	1231751	37-43, Portland Street	Terrace of 5 houses, now 4 houses and shop. c1785, with late 19th century and 20th century alterations. Brick with stone and stucco dressings and hipped and gabled pantile roofs. Dentillated eaves, 3 ridge, 2 gable and single rear wall stacks. 3 storeys; 6 window range with, to left, a dummy sash flanked to left by an imitation sash and to right by a cross casement.	Grade II Listed Building	18th century	SK 79685 53578	605m
MM284	1231801	8, Stodman Street	House, now shop. Late 18th century, altered late 19th century and mid 20th century. Brick with pantile roof. Incomplete first floor band, second floor band, cogged eaves, single renewed coped gable. 3 storeys; 2 window range of 20th century casements, all with rendered lintels. Below, altered late 19th century wooden shopfront with glazed door and overlight to right and single pane window to left. To right again, a round headed entry with cast iron plate inscribed " Harston's Yard". Included for group value.	Grade II Listed Building	18th century	SK 79693 53906	290m
MM285	1231811	25 and 26, Stodman Street	2 houses, now shop and offices. Mid 18th century, altered late 20th century. Brick with stone dressings and slate roof. Chamfered quoins, first floor sill band, coved eaves, 2 side wall stacks. 4 storeys; 5 window range of glazing bar sashes, those to the third floor being smaller. Central window on each floor has moulded surround, and the remainder have lintels with keystones.	Grade II Listed Building	18th century	SK 79804 53849	395m
MM286	1232004	38, 39, 40, Stodman Street	3 houses, now 3 shops. Mid 18th century, altered early and mid 19th century and mid and late 20th century. Stucco with slate roof. First and second floor lintel bands, coped parapet with 7 blank panels, single gable stack. 3 storeys; 7 window range. On the first floor, to left, 2 large 3-light 20th century	Grade II Listed Building	18th century	SK 79712 53876	325m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
			windows, and to their right, 3 plain sashes.				
MM287	1232012	43, Stodman Street	House, now shop. Late 18th century, altered late 20th century. Brick with slate roof. First and second floor bands, half-round brick dentillated eaves. 3 storeys; 3 window range of glazing bar sashes with flat arches, and above, 3 similar sashes, the central one blank.	Grade II Listed Building	18th century	SK 79691 53890	305m
MM288	1232018	The Woolpack Public House	Public house. 1452, altered early 19th century and late 20th century. Timber-framed with rendered and colourwashed front, and brick, with pantile roof. Comprises the central and right-hand bays of a Wealdon house. Deep coved eaves to left bay with curved bracket to right, and jettied right bay suppoted on curved brackets. 2 brick gable stacks. 2 storey, 2 bays.	Grade II Listed Building	19th century	SK 79674 53896	295m
MM289	1232021	51 and 53, Stodman Street	Also known as: No.39 CASTLEGATE. 2 houses, now 3 shops. Late c18, with mid and late 19th century and late 20th century alterations. Colourwashed brick with pantile roof. rebated eaves, wooden gutter on brackets, single gable and single ridge stacks. 4 storeys; 5 window range.	Grade II Listed Building	18th century	SK 79647 53895	285m
MM290	1232038	Warehouse adjoining Warehouse at Rear of 7 Bargate	Warehouse. Late 18th century, altered mid 19th century. Brick with concrete tile roof. Rendered plinth, dentillateed eaves. 2 storeys; 4 window range with 2 margin light sashes to right and a close-boarded hatch and a Yorkshire sash to left	Grade II Listed Building	18th century	SK 79778 54150	130m
MM291	1232051	1 and 3, Victoria Street	Pair of houses. c1800. Brick with stone dressings and hipped pantile roof. Plinth, first and second floor bands, moulded wooden eaves. 2 ridge and 2 side wall stacks. Windows are glazing bar sashes with rubbed brick heads. 3 storeys; 5 window range. U-plan.	Grade II Listed Building	19th century	SK 79661 53556	620m
MM292	1232068	33, Victoria Street (see details for further address information)	House, now flats. c1840. Brick with stone dressings and hipped slate roof. Rendered plinth, first and second floor sill bands, moulded eaves, reeded splayed lintels, 2 party wall and single side wall stacks. 3 storeys plus basement; 3 window range. Square plan. Includes: No.35 CROWN STREET.	Grade II Listed Building	19th century	SK 79495 53454	660m
MM293	1232080	39, Victoria Street (see details for further address information)	2 houses. c1840. Yellow brick with stone and stucco dressings and slate roof with single gable, ridge and side wall stacks. Plinth, first and second floor bands, dentillated eaves, pedimented gables. Windows are mainly glazing bar sashes with multi keystone lintels. 3 storeys; 4 window range, the left one blank. Above, 4 smaller windows, with a blank to the left and 2 sashes to the right. between them, a 20th century casement. Includes: No.4 PRINCE'S STREET.	Grade II Listed Building	19th century	SK 79461 53434	665m
MM294	1232084	Holly Cottage	Former coach house, now a house. c1830. Brick, colourwashed, with stone dressings and concrete tile roof with single ridge stack. Reeded splayed lintels. L-plan. 2 storeys; 3 window range of 20th century casements, the central one larger.	Grade II Listed Building	19th century	SK 79452 53425	670m
MM295	1232088	64-70, Victoria Street	4 houses. c1800. Brick with stucco dressings and renewed pantile roofs with 2 ridge stacks. First floor band. Windows are glazing bar sashes with splayed lintels. Beaded 6-panel doors with overlights and reeded doorcases with open pediments on curved brackets. Symmetrical front. 2 storeys; 5 window range with central blank.	Grade II Listed Building	19th century	SK 79404 53435	645m
MM296	1232092	Brunswick House	House. c1790, with early 19th century alterations. Brick with stucco dressings and slate roof. Painted first floor band, coped parapet, 2 gable stacks. Windows are mainly glazing bar sashes with multi keystoned lintels. 2 storeys; 3 window range with central margin light French window flanked by single sashes.	Grade II Listed Building	18th century	SK 79376 53420	650m
MM297	1232099	1-21, Wilson Street	Terrace of houses, now cafe and flats. 1766. Built for Dr Bernard Wilson, vicar of Newark. Restored and converted c1980. Brick with gabled and hipped pantile roofs with 9 ridge stacks. Plinth, first and second floor bands, modillion eaves. Higher end pavilions and single bay centre project. Windows are mainly glazing bar sashes with flat arches, those to second floor being smaller. Cellars have segment headed lights, some of them blocked.	Grade II Listed Building	18th century	SK 79916 54030	310m
MM298	1232102	Melton Wingate Opticians	Former end pavilion to terrace, now house, and late 19th century addition, now an opticians. 1766 and c1880. Built for Dr. Bernard Wilson, vicar of Newark. Brick with hipped pantile roof with single ridge stack. Plinth, first and second floor bands, modillion eaves. Windows have brick flat arches. 3 storeys; 4 x 3 windows. Four 12 pane sashes and above, four 6 pane sashes.	Grade II Listed Building	18th century	SK 79911 53969	355m
MM299	1277247	Numbers 23 and 25 and attached railing	Pair of houses and attached railing. c1840. Brick with stone dressings and slate roof. Rendered plinth, first and second floor sill bands, dentillated eaves, 2 gable and single side wall stacks. Splayed lintels with keystones. 3 full-height elliptical arched recesses with brick pilasters. 3 storeys; 3 window range of glazing bar sashes, and above, 3 smaller sashes, the central ones being dummies.	Grade II Listed Building	19th century	SK 79533 53476	660m
MM300	1277270	1a, town Wharf	House. c1800, with mid 19th century and 20th century alterations. Brick with concrete tile roof and single ridge stack. Brick sills, rebated eaves, gutter on brackets. 2 storeys; 3 window range, with central blank flanked by single 2-light casements, all segment headed.	Grade II Listed Building	19th century	SK 79798 54161	135m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM301	1277334	29 and 31, Stodman Street	2 houses, now 2 shops. Late 18th century, altered mid and late 19th century and late 20th century. Colourwashed brick with steep pitched hipped pantile roof. Dentillated eaves to right side and rear, 2 ridge stacks. 3 storeys; 6 window range, with 2 plain sashes to left and 4 glazing bar sashes to right.	Grade II Listed Building	18th century	SK 79783 53857	375m
MM302	1277417	4, Queen's Head Court	House, now office. Mid 16th century, restored 1960. Close studded timber framing with renewed rendered nogging and brick underbuild, and steep pitched plain tile roof with sprocketed eaves. 2 storeys, 4 bays. Jettied front has 4 2-light leaded casements.	Grade II Listed Building	16th century	SK 79834 53950	325m
MM303	1277425	Northgate Brewery office Range and Brewhouse	Brewery offices and brewhouse, now disused. Office range dated 1890, brewhouse 1871 and 1882. 1882 and 1890 ranges by William Bliss Sanders for Richard Warwick, brewer, of Warwicks & Richardsons Ltd. Office range, brick with terracotta and stone dressings and hipped plain tile roof with 2 side wall stacks, one of them panelled, and 2 party wall stacks, all coped. Early 18th century Domestic Revival style. 2 storeys.	Grade II Listed Building	19th century	SK 80146 54538	195m
MM304	1277437	23 and 25, Pelham Street	Pair of houses. c1800 with late 20th century alterations. Brick with stone dressings and pantile roof. Cogged eaves, 2 gable stacks. 2 storeys; 3 window range with segmental heads. Central glazing bar sash flanked by single larger sashes, that to right a 20th century replica.	Grade II Listed Building	19th century	SK 79568 53594	580m
MM305	1277463	27, 29, 31, Northgate	3 houses, now 3 shops, 2 of them disused. Mid 18th century, raised early 19th century, with mid and late 19th century alterations. Brick with pantile roof. Plinth, first and second floor bands, half-round brick dentillated eaves, coped gables, single ridge and 2 gable stacks, the left one external. 3 storeys; 3 window range.	Grade II Listed Building	18th century	SK 79930 54285	200m
MM306	1278103	85, Millgate	House, shop and adjoining former stable, now offices and stores. c.1800. Brick with stucco dressings and gabled and hipped concrete tile roofs. Cogged eaves, 2 gable and single side wall stacks. 2 storeys.	Grade II Listed Building	19th century	SK 79285 53544	500m
MM307	1278125	35 and 37, Millgate	Former houses and shop, now flats. c1840. Brick with stone dressings and pantile roof. Plinth, wooden eaves and gutter, single gable stack, rebuilt late 20th century. 2 storeys; 3 window range of glazing bar sashes with rendered rubbed brick heads.	Grade II Listed Building	19th century	SK 79471 53740	405m
MM308	1278126	55, Millgate	Formerly known as: Sharp's Yard. House and attached former cottages, now house and shop. Mid 17th century, late 18th century and mid 19th century, with late 20th century alterations. Main block timber framed with brick underbuild and rendered nogging, with hipped and gabled pantile roof. Late 18th century rear wing and former cottages brick with slate and pantile roofs. Single ridge and gable stacks, partial plinth to front. 2 storeys; 2 window range of plain sashes.	Grade II Listed Building	17th century	SK 79388 53653	435m
MM309	1278135	78-82, Millgate	Terrace of 3 houses. Late 18th century. Brick with stone dressings and slate roofs. Plinth with scrapers and segmental cellar lights, first floor band, dentilled eaves, 2 gable and 2 ridge stacks. 80, 3 bays, projects slightly. Windows are glazing bar sashes, some of them blank, with rubbed brick heads and multiple keystones. 3 storeys; 9 window range.	Grade II Listed Building	18th century	SK 79288 53582	465m
MM310	1278141	4 and 6, Middlegate	House, now shop. Late 18th century, altered late 19th century and mid 20th century. Brick with stone dressings and pantile roof. Coped gables, single gable stack. 3 storeys; 3 window range of single pane windows and above, 3 20th century tilting casements, all with flat arches.	Grade II Listed Building	18th century	SK 79818 54033	245m
MM311	1278142	20, Middlegate	House, now house and store. Early 19th century. Brick with stone dressings and pantile roof. Plain eaves, 2 gable stacks. Windows have flat arches. 3 storeys; 2 window range of glazing bar sashes, those to the second floor being smaller.	Grade II Listed Building	19th century	SK 79787 53978	275m
MM312	1278143	38, 40, 42, Middlegate	3 houses, now 2 shops and flats. Late 18th century, altered late 20th century. Brick with stone dressings and pantile roofs. Half-round brick dentillated eaves, single gable and single ridge stacks. Windows have flat arches. 3 storeys; 3 window range with central glazing bar sash flanked by single tripartite sashes.	Grade II Listed Building	18th century	SK 79739 53932	290m
MM313	1278144	7 and 9, Millgate	2 houses and former cafe, now a house. Early and mid 19th century, with late 20th century alterations and right gable. Brick with pantile roofs. 20th century rendered plinth, rebated eaves, central ridge stack. 2 storeys; 3 window range, with an off-centre glazing bar sash flanked to left by a blank and to right by a plain sash.	Grade II Listed Building	19th century	SK 79526 53802	375m
MM314	1278151	25, Millgate	Shop and former store, now a shop. Late 18th century and mid 19th century. Brick with hipped slate and gabled pantile roofs. Single coped gable. Single and 2 storeys. One bay wide by 3 bays deep.	Grade II Listed Building	18th century	SK 79491 53759	405m
MM315	1278155	30 and 32, Millgate	2 houses now a house. Late 18th century, restored late 20th century, with late 20th century rear addition. Brick with hipped pantile roof. 20th century rendered plinth, first and second floor bands, dentilled eaves, single side wall and single rear wall stacks. Windows are glazing bar Yorkshire sashes, those to ground and first floors with segmental heads. 3 storeys; 4 window range, the second from left being blank.	Grade II Listed Building	18th century	SK 79451 53748	385m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM316	1278217	Pair of K6 Kiosks 1 metre north-west of 12 and 13	Pair of K6 telephone kiosks. c1930. Designed by Sir Giles Gilbert Scott. Made by various contractors. Cast iron. Square plan. Saucer domed roof and margin light glazing to sides and door.	Grade II Listed Building	20th century	SK 79861 53910	370m
MM317	1278296	Queen's Head Public House	House, now Public house. Early 16th century, restored 1960. Mid 20th century rear addition. Close studded timber framing with arch braces and rendered nogging, with brick underbuild and plain tile roof with sprocketed eaves. Jettied upper floors with curved brackets. 3 storeys, 3 bays. 20th century windows with leaded glazing. Central canted 5-light oriel window flanked by single 3-light casements.	Grade II Listed Building	16th century	SK 79838 53936	340m
MM318	1278298	12, 12a, 13, Market Place	2 houses, now office. Early 18th century, with early 19th century and mid 20th century alterations. Rendered and painted, roof not visible. First floor panel, eaves band, panelled parapet. 3 storeys; 3 window range of 12 pane sashes. Ground floor arcade of 4 Tuscan columns.	Grade II Listed Building	18th century	SK 79864 53911	375m
MM319	1279074	Beaumond Cross House	House. Late 18th century, with late 19th century additions and 20th century alterations. Brick with pyramidal pantile roof and gabled slate roof. First and second floor bands, dentilled eaves, coped gable on rear wing, central ridge stack.	Grade II Listed Building	18th century	SK 79879 53575	670m
MM320	1279092	Cheltermill House	House, now offices. Late 18th century with mid 19th century rear wing. Brick with stone dressings and slate roof. Plinth, first and second floor bands, cogged eaves, 2 gable stacks, the right one external. 3 storeys; 4 window range of glazing bar sashes, those to the top floor being smaller, all with segmental heads.	Grade II Listed Building	18th century	SK 79658 53794	385m
MM321	1279101	Newark Antiques Centre	Former Congregational church, now antiques centre. 1822, with early 20th century addition, converted late 20th century. By W Wallen. Brick with stone and painted brick dressings and slate roof. Classical Revival style. Windows are wooden cross casements. 2 storeys. 3x5 bays. Pilastered front has first floor band and pediment containing a blank circle. 3 tall round headed windows.	Grade II Listed Building	19th century	SK 79677 53822	365m
MM322	1279109	12 and 14, London Road	2 houses, now accountants' offices. Late 18th century with mid 19th century additions, converted to offices late 20th century. Brick with stone dressings and slate roofs. 12, to right, has first and second floor bands, rebated eaves and 2 gable stacks. Windows are glazing bar sashes, those to the second and third floors with segmental heads.	Grade II Listed Building	18th century	SK 79875 53587	655m
MM323	1279122	12, Lombard Street	Former public house, now offices. Late 18th century, ground floor rebuilt late 20th century. Brick with pantile roof. Plinth, first floor band, rebated eaves, renewed coped gables, 2 gable stacks. 3 storeys; 3 window range of glazing bar sashes, the central one smaller, all with segmental heads.	Grade II Listed Building	18th century	SK 79794 53740	485m
MM324	1279184	48 and 48a, Kirkgate	2 houses, now 2 shops. Early 18th century, altered mid and late 19th century and 20th century. Rendered first floor with gabled and hipped pantile roof. Interior may contain timber framing. Single coped gable, 2 gable stacks. 2 storeys; 4x2 windows.	Grade II Listed Building	18th century	SK 79884 53957	345m
MM325	1279320	16, 18, 20, King Street	3 houses. Dated 1833. Brick with stone dressings and pantile roofs. 20 colourwashed. 16 and 18 have rendered ground floors. Splayed lintels. Single gable and single ridge stacks.	Grade II Listed Building	19th century	SK 79304 53439	605m
MM326	1279324	37 and 39, King Street	Pair of houses. c1820. Brick with stone and stucco dressings and pantile roof with 2 gable stacks. Splayed lintels. 2 storeys; 3 window range of glazing bar sashes. Below, central elliptical arched carriage opening with close boarded doors, and above it, a plate inscribed "Eyres Yard". On either side, a door, that to left with overlight, and each with a pointed headed scraper.	Grade II Listed Building	19th century	SK 79344 53429	630m
MM327	1279369	Former Methodist Chapel (H and S Group Services Limited)	Former Methodist Chapel, now warehouse. 1787, with early 19th century and late 20th century additions and alterations. Brick with rubble plinth to west and hipped pantile roof and single side wall stack. Cogged eaves. 2 storeys; 4 x 7 windows. South front has first floor band and windows with flat arches.	Grade II Listed Building	18th century	SK 80083 53736	640m
MM328	1279442	Orchard House	House, formerly the Master's house of a bleachworks and linen manufactory. Dated 1806, with mid 20th century rear addition. Built for George and Mary Scales. Brick with stone dressings and slate roof. Plinth, first floor band, moulded eaves, low parapet, coped gables, 2 gable stacks. Windows have segmental rubbed brick heads.	Grade II Listed Building	19th century	SK 79094 53277	570m
MM329	1287193	55, Castlegate	House, now antiques centre. Late 18th century with late 19th century alterations. Brick with stone dressings and slate roof. Incomplete first floor band, moulded eaves cornice, 2 gable stacks. 3 storeys; 3 window range of glazing bar sashes and above, 3 similar sashes with central blank. All these windows have multi keystone lintels.	Grade II Listed Building	18th century	SK 79615 53879	295m
MM330	1287196	Former Slaughterhouse and Cattle Stall 5 metres north-west of 68a	Former slaughterhouse and cattle stall. c1780, altered mid 19th century. Brick with rendered south gable and pantile roofs, the main building with a louvred clerestorey. Rebated eaves. Single storey. Central round headed close boarded door with plain jambs and to its right a window with plank shutters.	Grade II Listed Building	18th century	SK 79528 53848	330m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM331	1287281	Ossington Chambers	4 houses, now offices. c1870. Brick with stone dressings and steep pitched slate roofs. Early 17th century style. Chamfered plinth, shouldered coped gables, one with finial, parapet on left side. 8 corniced side wall stacks. 2 storeys plus attics; 9 window range of stone mullioned windows.	Grade II Listed Building	19th century	SK 79770 54116	150m
MM332	1287580	Trent Bridge	Road bridge. 1775, by Stephen Wright. Widened at deck level and footways and railings added, 1848. Brick with ashlar facing and cast iron railings and lamps. String courses. 7 graduated semicircular arches with multiple keystones, the central ones corniced. Pilasters between the arches. Cast iron railings with central pedestal bearing Town Arms and topped with a lamp.	Grade II Listed Building	18th century	SK 79636 54138	60m
MM333	1287583	Newark Odinist Temple (Formerly Bede House Chapel)	Former Bede House chapel, now office. c1556, restored 19th century and c1980. Lias limestone rubble and ashlar, with ashlar dressings and graduated stone slate roof topped with a tent-roofed wooden bell turret. Plinth, coped gables. Single storey, single cell.	Grade II Listed Building	16th century	SK8008753832	575m
MM334	1287676	Tadorna	House and adjoining former stable. c1800, with late 19th century and 20th century alterations. Stucco and brick, with stone dressings and hipped slate roofs with single ridge, gable and side wall stacks. Plinth and deep eaves. House, to right, 2 storeys; 5 window range, has 12 pane sashes with shutters.	Grade II Listed Building	19th century	SK 80334 53830	765m
MM335	1287817	33, Barnby Gate	Former coach house, now shop. Mid 18th century, with late 19th century and late 20th century alterations. Converted c1970. Painted brick with hipped concrete tile roof and single large ridge stack. Dentillated eaves. Single storey plus attics. 2 bays.	Grade II Listed Building	18th century	SK 80109 53798	615m
MM336	1287857	1-9, Barnby Gate	5 houses, now 4 shops. Late 18th century, with early, mid and late 20th century alterations. Brick with gabled and hipped concrete tile roof. First floor band, half-round brick dentillated eaves, coped gables, 4 ridge and single gable stacks. 3 storeys; 9 window range with slightly projecting centre.	Grade II Listed Building	18th century	SK 79996 53854	495m
MM337	1287869	11, 11a and 11b, Barnby Gate	House, now 2 shops and flat. Early 18th century, with mid and late 20th century alterations. Brick, the front rendered and colourwashed, with pantile roof. Double rebated eaves. 2 storeys; 2 window range of 20th century casements.	Grade II Listed Building	18th century	SK 80017 53846	515m
MM338	1287889	29 and 31, Bladerton Gate	GV II Two houses, now shop. Mid 18th century, restored late 20th century. Brick with pantile roof and single ridge stack. Two storeys; three window range of segment headed imitation sashes.	Grade II Listed Building	18th century	SK 80036 53756	600m
MM339	1287891	47 and 49, Balderton Gate	2 houses, now offices. Late 17th century and early 18th century, with mid 19th century and mid and late 20th century alterations. Brick with rendered gable and pantile roof. Interior may contain timber framing. Single ridge and single external gable stacks. 2 storeys; 2 window range with a segment headed Yorkshire sash to left and a 20th century 2-light casement to right.	Grade II Listed Building	17th century	SK 80061 53707	650m
MM341	1287922	8 and 10, Balderton Gate	2 houses, now 2 shops. Late 18th century, with late 19th century alterations. Brick with pantile roof. Rebated and dentillated eaves, single coped gable, single gable and single ridge stacks. 3 storeys; 5 window range of segment headed glazing bar sashes, 2 of them blank. Above, similar fenestration with smaller sashes.	Grade II Listed Building	18th century	SK 79986 53796	535m
MM342	1288004	Former offices at south end of Northgate Railway Station	Former offices. Mid 19th century. Built for the Great Northern Railway Company. Timber frame with matchboard cladding and slate roof with single brick ridge stack. Single storey; 4 bays. Shaped posts to each bay. platform side has two 12 pane sashes flanked to left by a pair of half-glazed doors and to right by a single half-glazed door. All doors have overlights. Rear has four 12 pane sashes	Grade II Listed Building	19th century	SK 80517 54428	355m
MM343	1288018	Jalland's Row	7 cottages. c1800, restored 1982. Brick with pantile roof, 4 ridge and single gable stacks. Dentillated eaves. 2 storeys; 9 window range of 2-light Yorkshire sashes. Blind backs. Doors are close boarded. Ground floor has 5 doors and 13 windows, comprising Yorkshire sashes and 3-light glazing bar casements, irregularly arranged. All have segmental heads. This building is an example of a type of urban housing similar to the courts of Nottingham.	Grade II Listed Building	19th century	SK 80061 54023	430m
MM344	1288058	43, Appleton Gate	House, now house and shop. Late 18th century, with late 19th century and late 20th century alterations. Brick, the ground floor partly painted, with rendered and painted right gable and pantile roof with single gable and single ridge stacks. Incomplete first floor band, dentillated eaves, coped gables. 3 storeys; 3 window range of segment headed 12 pane sashes, the right one blank.	Grade II Listed Building	18th century	SK 80083 54021	450m
MM345	1288265	6, Appleton Gate	Former public house, now shop. c1800, with late 20th century alterations. Brick, rendered, with pantile roof. Rusticated quoins, half-round dentillated eaves, single gable and single ridge stacks. 3 storeys; 2 window range of steel cross casements.	Grade II Listed Building	19th century	SK 80004 53864	495m
MM346	1288267	9 and 9a, Appleton Gate	House, now 2 shops. Early 18th century, with early and late 20th century alterations. Brick with hipped concrete tile roof and 1 ridge stack. 2 storeys plus attics; 3 window range of plain sashes, the central one blank.	Grade II Listed Building	18th century	SK 79993 53883	470m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM347	1288291	2 and 4, Appleton Gate	2 houses, now shop. Late 18th century with late 19th century and late 20th century alterations. Brick with pantile roof. First and second floor bands, half-round dentillated eaves, single coped gable, single gable stack. 3 storeys; 2 window range, with a segment headed tripartite sash flanked to left by a smaller blank.	Grade II Listed Building	18th century	SK 79999 53859	495m
MM348	1288308	Cask Store at Castle Brewery	Cask store, now disused. c1885. Round cast iron posts carrying trussed steel hipped roof with timber and zinc cladding. Single storey. 4x4 bays. On the roof, a hipped clerestorey. Included for group value.	Grade II Listed Building	19th century	SK 79806 53595	620m
MM349	1297628	9 and 11, Northgate	2 houses. Mid 18th century, with late 20th century alterations. Brick with steep pitched pantile roofs. Dentillated eaves, coped gables, single ridge stack. Windows are glazing bar Yorkshire sashes. 3 storeys; 2 window range. L-plan.	Grade II Listed Building	18th century	SK 79873 54226	170m
MM350	1297629	18, Northgate	House, now vacant and boarded up. Early 19th century. Brick with slate roof. Single rear wall stack. Openings have segmental heads. 2 storeys; 4 window range with 3 blanks. Off-centre 4-panel door with overlight, flanked to left by a single window and to right by one larger and one smaller windows.	Grade II Listed Building	19th century	SK 79869 54188	185m
MM351	1297630	33, Northgate	Former stable and house, now barber's shop. Late 18th century, altered late 19th century and late 20th century. Brick, partly colourwashed, with hipped pantile roof. Single rear wall stack. 2 storeys; single glazing bar sash.	Grade II Listed Building	18th century	SK 79936 54297	205m
MM352	1297631	35 and 35a, Pelham Street	House, now flats. Early 19th century with late 20th century alterations. Brick with stone dressings and pantile roof with catslide at rear. Cogged eaves, 2 gable stacks. 3 storeys; 3 window range. Central blank flanked to left by a 20th century casement and to right by a glazing bar sash, all with segmental heads.	Grade II Listed Building	19th century	SK 79524 53613	540m
MM353	1297632	33 and 35, Portland Street	Pair of houses. c1785. Brick with pantile roof. Dentillated eaves, 2 gable stacks. Openings all have segmental heads. 3 storeys; 3 window range, with a dummy glazing bar sash flanked to left by a similar sash and to right by a 20th century imitation sash.	Grade II Listed Building	18th century	SK 79689 53580	605m
MM354	1297634	22 and 23, Market Place	Shop. Dated 1935 on plinth. Designed by Burtons the Tailors house architects. Brick, with stone dressings and marble plinth, roof not visible. Single side wall stack. Modified Classical Revival style. Fascia cornice, stepped coped parapet. 3 storeys; 3 window range. Formerly known as: Nos.22 & 23 Burtons MARKET PLACE.	Grade II Listed Building	19th century	SK 79930 53896	420m
MM355	1297636	31 and 32, Market Place	2 houses, now shop. Early 18th century and mid 18th century, with late 20th century alterations. 31, to left, brick with stone dressings, roof not visible, has 2 side wall stacks. Lintel bands to the upper floors, chamfered quoins to right, panelled coped parapet. 3 storeys; 4 window range of 12 pane sashes, 2 of them blank on the second floor, all with keystone lintels. Late 20th century shopfront with recessed central door, with entry door and overlight to left.	Grade II Listed Building	18th century	SK 79920 53850	455m
MM356	1297638	Bull Ring or Bear Baiting Post	Bull Ring or Bear Bating Post. Early 19th century. Square wooden post, approx. 5ft tall, with lead cap. Attached to it, a leather and iron collar on a chain. Staples for 2 other chains.	Grade II Listed Building	19th century	SK 79865 53905	380m
MM357	1297639	3, Middlegate	House, now offices. c1780, with addition to right c1800. Brick with stone dressings and rendered right gable, with hipped and gabled concrete tile and pantile roofs. Plinth, ground floor sill band, first floor band, modillion eaves and pediment. Main block has projecting pedimented centre, 3 windows. 3 storeys; 5 window range of plain sashes and above, 5 20th century tilting casements.	Grade II Listed Building	18th century	SK 79831 54010	270m
MM358	1297640	18, Middlegate	House, now store. Early 18th century, altered mid 19th century. Painted brick with steep pitched pantile roof. First floor band, plain eaves, single gable stack. 2 storeys, single bay. Off-centre close boarded hatch.	Grade II Listed Building	18th century	SK 79784 53990	265m
MM359	1297641	36, Middlegate	House, now shop and flat. Early 19th century, altered c1988. Brick with stone dressings and pantile roof. Half-round brick dentillated eaves, 2 gable stacks. Windows have flat arches. 3 storeys; 2 window range of plain sashes.	Grade II Listed Building	19th century	SK 79747 53936	290m
MM360	1297642	50, Millgate	House. Late 18th century, altered 19th century, restored and altered late 20th century. Brick with steep pitched pantile roof. Plinth, first and second floor bands, panelled attic storey, rebated eaves, coped gables, central ridge stack. L-plan. 2 storeys plus attics; 5 window range of glazing bar sashes with elliptical heads, 3 of them blank.	Grade II Listed Building	18th century	SK 79394 53692	405m
MM361	1297643	56 and 58, Millgate	2 cottages. Mid 18th century, restored late 20th century. Brick with pantile roof. 20th century rendered plinth, cogged eaves, central ridge stack. Windows are glazing bar Yorkshire sashes. All openings have segmental heads. 2 storeys; 2 window range.	Grade II Listed Building	18th century	SK 79364 53659	420m
MM362	1297653	41 and 42, Stodman Street	2 houses, now 2 shops. Late 18th century, with mid and late 19th century and late 20th century alterations. Brick with pantile roof. Cogged eaves, central ridge stack. 2 storeys plus attics; 2 window range, with a canted wooden bay window to left and a glazing bar sash with flat arch to right.	Grade II Listed Building	18th century	SK 79697 53882	315m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM363	1297654	49 and 50, Stodman Street	2 houses, now 2 shops. Late 18th century, with late 19th century and late 20th century alterations. Painted brick with pantile roof. Dentillated eaves, wooden gutter on brackets, remains of coped gables, 2 gable stacks. 3 storeys; 5 window range with, to left, a blank flanked by single plain sashes, and to right, 2 glazing bar sashes.	Grade II Listed Building	18th century	SK 79658 53897	285m
MM364	1297655	The Wharf Cafe	Former warehouse, now disused cafe. Early 18th century, with 20th century alterations. Brick, now rendered, with 20th century gabled and hipped concrete tile roof. 2 storeys; 5 window range, including single bay additions at either end.	Grade II Listed Building	18th century	SK 79744 54186	80m
MM365	1297656	5 and 7, Victoria Street	Pair of houses, now a shop and a house. c1840. Brick with stone dressings and slate and concrete tile roofs. Plinth, first and second floor bands, pedimented gables, single ridge and single gable stacks. Windows have segmental heads with keystoned lintels. 3 storeys; 5 window range with 4 plain sashes, 20th century and 19th century, and to right a dummy glazing bar sash.	Grade II Listed Building	19th century	SK 79616 53531	645m
MM366	1297657	The Hollies	House. c1830. Brick with stone dressings and hipped slate roof with 2 ridge and single gable stacks. First floor band, deep eaves, splayed lintels. L-plan. 2 storeys plus basement; 3 window range of glazing bar sashes.	Grade II Listed Building	19th century	SK 79448 53417	675m
MM367	1297658	Hesketh House	House. c1840. Brick with stucco dressings and hipped slate roof. Chamfered quoins, first floor band, modillioned eaves, 2 side wall and single rear wall stacks. Projecting single bay centre. Windows are glazing bar sashes with flat lintels on brackets. 2 storeys; 3 window range.	Grade II Listed Building	19th century	SK 79342 53409	645m
MM368	1297659	Song School	Song School. 1866. Brick with stone dressings and slate roof with single gable and 3 side wall stacks, one of them external, all with multiple round shafts. Tudor Revival style. Plinth, quoins, first floor band, shouldered coped gables, those to the front with finials. Windows are stone cross mullioned casements. 2 storeys. 2 staggered parallel ranges.	Grade II Listed Building	19th century	SK 79929 53984	355m
MM369	1297664	103 and 105, Millgate (see details for further address information)	3 houses. Early 19th century, restored late 20th century. Brick with hipped and gabled pantile roofs. Openings have segmental heads. Windows are mainly imitation glazing bar sashes. 2 storeys; 3x3 bays. Millgate front has 2 windows and to left a smaller window above the entry. Includes: No.1 KING STREET.	Grade II Listed Building	19th century	SK 79255 53498	535m
MM370	1297665	Former Stable Range 5 metres south-west of 109	Former stable range, now a clothing store and boiler house. c1800, with mid 20th century alterations. Brick with stone dressings and pantile roof. First floor band to front, coped gables, single side wall and single roof stacks. Single and 2 storeys; 3 window range. L-plan.	Grade II Listed Building	19th century	SK 79221 53450	575m
MM371	1297666	115-119, Millgate	Terrace of 3 houses. Early 19th century. Brick, the right gable rendered with stone dressings and 20th century pantile roof. Plinth, first floor band, dentilled eaves, 2 gable, single ridge and single side wall stacks. 3-bay projecting centre. Windows are glazing bar sashes with multi keystoned lintels. 3 storeys; 5 window range. Above, 5 smaller windows.	Grade II Listed Building	19th century	SK 79217 53435	585m
MM372	1297667	Weston Mill Pottery	Former maltings, later an egg packers' warehouse, now a pottery. c1880, with mid and late 20th century alterations. Brick with hipped concrete tile roof. 5 storeys; 3 x 6 windows. Regular fenestration with segment headed openings. Also known as: Egg packers' Warehouse MILLGATE.	Grade II Listed Building	19th century	SK 79463 53811	345m
MM373	1297688	3a, 3b, 4, Guildhall Street	2 houses, now flats and house. Late 18th century, with mid 19th century and late 20th century alterations. Brick with pantile roof and single ridge and gable stacks. Dentillated eaves, segment headed openings. 2 storeys; 3 window range of 2-light Yorkshire sashes.	Grade II Listed Building	18th century	SK 80123 53752	655m
MM374	1297689	9 and 11, King Street	Pair of houses. Mid 19th century. Brick with stone dressings and pantile roof. Chamfered dentilled eaves, 2 gable and single party wall stacks. Chamfered stone lintels. 2 storeys; 2 window range of margin light sashes.	Grade II Listed Building	19th century	SK 79290 53475	565m
MM375	1297690	21, 23, 25, 27, King Street	4 houses. c1825. Brick with rendered left gable, with slate roofs, 3 ridge and single gable stacks. Cogged eaves, splayed lintels. Windows are mainly glazing bar sashes. 2 storeys; 4 window range with a 20th century casement to left and 3 sashes to right.	Grade II Listed Building	19th century	SK 79321 53448	600m
MM376	1297691	9 and 11, Kirkgate	2 houses, now dental surgery. Late 18th century, altered late 19th century, converted late 20th century. Brick with pantile roof. First floor band, dentillated eaves, coped gable, single gable and single ridge stacks. 2 storeys plus attics; 2 window range of tripartite glazing bar sashes with segmental heads.	Grade II Listed Building	18th century	SK 79811 54090	195m
MM377	1297712	Old King's Arms Public House	House and public house, now shop and public house. Mid 18th century and early 18th century, altered mid 19th century and late 20th century. Brick with stone and stucco dressings and pantile roofs. Cogged eaves, single coped gable, 2 gable and single ridge stacks. Shop, to left, 2 storeys, has a 3 window range of 20th century casements with rubbed brick heads.	Grade II Listed Building	18th century	SK 79828 54069	225m
MM378	1297713	21, Kirkgate	House, now shop. c1880, altered 1989. Brick with stone dressings, roof not visible. Quoins, moulded eaves cornice and plain parapet. 2 storeys; 2 window range of plain sashes with segmental heads and keystones.	Grade II Listed Building	19th century	SK 79841 54055	240m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM379	1297714	7-12, St Leonards Court	Six cottages. Early 19th century, restored 1991. Brick, colourwashed, with pantile roof. First floor band, cogged eaves, three ridge stacks. two storeys plus attics; twelve window range. First floor has symmetrical fenestration with six boarded-up windows and six blanks.	Grade II Listed Building	19th century	SK 79882 54029	290m
MM380	1297715	10, Lombard Street	House, now offices. Late 18th century, partly refenestrated late 19th century. Brick with stone dressings and steep pitched slate roof. First and second floor bands, moulded brick eaves, coped gables, 2 gable stacks. Windows have segmental heads. L-plan. 3 storeys; 5 window range of glazing bar sashes.	Grade II Listed Building	18th century	SK 79822 53736	500m
MM381	1297716	Potterdyke House	2 houses, now offices. Mid 17th century, refronted early 18th century, with early 19th century additions and 19th century and 20th century alterations. Brick with stucco front and hipped slate roofs with 3 side wall stacks. Plinth, first and second floor bands, parapet. Windows are mainly 12 pane sashes. The symmetrical front, 2 storeys plus attics, has a central block with 5 sashes and above, five 6 pane sashes.	Grade II Listed Building	17th century	SK 79683 53746	440m
MM382	1297717	Robin Hood Hotel Systems 80 Double Glazing	3 houses and public house, now an hotel and shop. Early 18th century, late 18th century, early and mid 19th century, with late 19th century and early 20th century additions and alterations. Colourwashed brick and render, with slate and concrete tile roofs. Early 18th century central block has steep pitched slate roof with single ridge stack.	Grade II Listed Building	18th century	SK 79803 53696	525m
MM383	1297718	15-21, London Road	2 pairs of houses. Late 18th century, restored late 20th century. Brick with hipped and gabled pantile roof. Rebated eaves, single coped gable, single gable, ridge and side wall stacks. Windows are glazing bar sashes. Ground floor openings have segmental heads. 2 storeys; 8 window range. each pair has 2 blanks flanked by single windows.	Grade II Listed Building	18th century	SK 79874 53636	615m
MM384	1297722	16, Market Place	House, now office. Early 19th century, with late 19th century and early 20th century alterations. Painted stucco, roof not visible. Single coped side wall stack. Plinth, first floor band, cornice and parapet. 3 storeys; 2 window range of 12 pane sashes, those to first floor with cornices. Classical wooden shopfront with reeded pilasters and segmental pediment on brackets.	Grade II Listed Building	19th century	SK 79894 53925	380m
MM385	1297723	6, Chain Lane	House, now shop. Mid 18th century, with late 19th century and 20th century alterations. Brick, colourwashed, with steep pitched pantile roof with a gable stack. Moulded wooden eaves, single renewed coped gable. 2 storeys; single 20th century 6 pane window. Late 19th century wooden shopfront with corniced fascia.	Grade II Listed Building	18th century	SK 79814 53925	335m
MM386	1297724	Agricultural Travel Bureau	House, now shop and offices. Late 18th century. Brick, the front colourwashed, with pantile roof and 2 gable stacks. Rebated brick eaves, segment headed windows. 3 storeys; three 12 pane sashes and above, 3 smaller 6 pane sashes, the left one replaced by a 20th century louvre window.	Grade II Listed Building	18th century	SK 79832 53916	355m
MM387	1297725	The Firs	House. c1800, with mid and late 20th century alterations. Painted brick with stone dressings and hipped concrete tile roof, with 2 side wall stacks. 2 storeys; 3 window range of 12 pane sashes. Central stone doorcase with flat hood on scroll brackets, half-glazed door and overlight.	Grade II Listed Building	19th century	SK 78374 52845	120m
MM388	1297726	Causeway Arches 1490 metres north-west of Level Crossing (part in Newark Civil Parish)	Causeway arches. 1770. South-west side rebuilt during road widening in 1922. Designed by John Smeaton. Brick with stone dressings. 13 arches with intermediate pilasters. Above each arch, a stone spout. Coped parapet wall with ramped curved ends with round piers. Part of a causeway carrying the Great North Road across the flood plain of the Trent.	Grade II Listed Building	18th century	SK7899955563	650m
MM389	1297727	Causeway Culvert 420 metres north-west of Level Crossing	Causeway culvert. 1770. South-west side rebuilt during road widening in 1922. Designed by John Smeaton. Brick with stone coping. Single segmental arch with semicircular retaining parapet wall. Part of a causeway carrying the Great North Road across the flood plain of the Trent.	Grade II Listed Building	18th century	SK7938154664	Within the Scheme
MM390	1297790	7-11, Albert Street	3 houses. Early 19th century. Brick with stone dressings and pantile roofs, with single gable and 2 ridge stacks. Segment headed ground floor windows, dentillated eaves. 2 storeys; range of 4 : 3 windows. Windows are 12 pane sashes	Grade II Listed Building	19th century	SK 79769 53576	625m
MM391	1297791	Office Range at Castle Brewery	Office range at former brewery, incorporating remains of early 19th century workhouse in rear wing. Dated 1882 over main entrance. Late 19th century and mid 20th century alterations. By William Bradford for the brewers Caparn & Hankey. Coursed and squared lias limestone and brick with granite, ashlar and terracotta dressings. Steep pitched slate roof with steeply gabled end turrets with iron crests, and 2 coped ridge stacks. French Renaissance Revival style. Chamfered plinth and string course, latticed first floor band, modillion cornice with panelled frieze and strapwork balustrade. 2 storeys plus attics; 7 window range. Projecting central bay with frieze inscribed "Castle Brewery" and pediment with low-relief depiction of Newark Castle.	Grade II Listed Building	19th century	SK 79803 53624	595m
MM392	1297792	8, Appleton Gate	House, now shop. c1775, with late 20th century alterations. Brick with stone dressings and steep pitched plain tile roof. Second floor band, cogged and dentillated eaves, coped gables, 3 gable stacks. 3 storeys; 5 window range of segment headed glazing bar sashes, the central one blank.	Grade II Listed Building	18th century	SK 80014 53868	495m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM393	1297808	21, 23, 23a, Castlegate	Pair of houses, now shop, restaurant, car showroom, restaurant and flat. Mid 18th century with late 19th century and late 20th century alterations. Brick with stone dressings and slate roof. First floor sill band, coved eaves, single coped gable, 2 gable, single rear wall and single side wall stacks. Also known as: Nos.2A & 4 BOAR LANE	Grade II Listed Building	18th century	SK 79723 54001	225m
MM394	1297809	33, Castlegate	House, now shop. c1800, refenestrated mid 19th century, with mid 20th century alterations. Brick with slate roof. Half-round brick dentillated eaves, single coped gable, single gable stack. 3 storeys; 3 window range with central plain sash flanked by single tripartite plain sashes.	Grade II Listed Building	19th century	SK 79685 53953	245m
MM395	1297810	40-44, Castlegate	3 houses. Late 16th century and early 17th century, 44 refenestrated mid 19th century. Timber framed with brick underbuild and left gable, rendered first floor, steep pitched pantile roofs. Continuous jettied first floor, coped gable to 44, 2 gable and single ridge stacks. 2 storeys and 2 storeys plus garrets; single and 2 window ranges.	Grade II Listed Building	16th century	SK 79574 53878	295m
MM396	1297811	66, 68, 68a, Castlegate	2 houses, now house, shop and flat. Late 18th century, with mid and late 19th century and 20th century alterations. Brick with painted ground floor and pantile roof. Dentillated eaves, renewed gutter on brackets, single coped gable, 2 gable and 2 ridge stacks. 2 storeys plus attics; 6 window range with segmental heads.	Grade II Listed Building	18th century	SK 79537 53845	330m
MM397	1297812	Old Lock House and attached Railings	Former Lock Keeper's cottage. 1773. Altered and extended after the flood of 1875. Colourwashed brick with stone dressings and gabled and hipped pantile roofs with 3 brick gable stacks. Plinth, dentillated eaves. Windows are boarded up. 2 storeys; 3 window range, the central window smaller.	Grade II Listed Building	18th century	SK 79526 53887	290m
MM398	1297813	12, Appleton Gate	House, now offices and photographer's studio. c1770, refenestrated mid 19th century, restored c1995. Brick with stone dressings and pantile roof. Left gable brick and random rubble, partly rendered. Plinth, first and second floor and eaves bands, plain coped parapet and gables. 2 gable and 2 ridge stacks. Windows are segment headed, restored, 12-pane glazing bar sashes. 3 storeys, 7 window range. L-plan.	Grade II Listed Building	18th century	SK 80028 53898	485m
MM399	1297814	23-27, Appleton Gate	3 houses, now 2 shops and offices. Late 18th century and early 19th century, with late 19th century and late 20th century alterations. Brick with hipped and gabled pantile roofs. Rounded corner, first floor band, rebated eaves, coped gables, 2 gable and single ridge stacks. 3 storeys; 4 window range with a segment headed glazing bar sash to left.	Grade II Listed Building	18th century	SK 80051 53962	460m
MM400	1297815	33, Appleton Gate	House, now office. Early 19th century. Brick with stone dressings and slate roof with 2 gable stacks. Plinth, first floor band, rebated eaves, coped gables with brick kneelers. 3 storeys; 3 window range of 12 pane sashes with panelled splayed lintels.	Grade II Listed Building	19th century	SK 80061 53983	455m
MM401	1297816	6, Balderton Gate	House, now shop. Late 18th century, with late 19th century and late 20th century alterations. Brick with pantile roof. Rebated eaves, single ridge stack. 3 storeys; 5 window range of segment headed glazing bar sashes, 2 of them blank, and the second from left reglazed.	Grade II Listed Building	18th century	SK 79982 53803	530m
MM402	1297817	33, Balderton Gate	House. Mid 18th century, with early 19th century and late 20th century alterations. Brick, with rendered right gable and steep pitched pantile roof. First floor band, single coped gable, single gable stack. 2 storeys plus attics; 2 window range with glazing bar sash to left and blank to right.	Grade II Listed Building	18th century	SK 80040 53749	605m
MM404	1297819	Newark Royalist Hotel	Hotel. Late 18th century with mid 19th century alterations. Brick, the ground floor rendered and colourwashed, with pantile and stone slate roofs. Plinth, ground floor lintel band to left, full-width ground floor cornice, boxed wooden eaves, 2 gable and 2 ridge stacks. Windows have rubbed brick heads. L-plan. 3 storeys; 6 window range of plain sashes.	Grade II Listed Building	18th century	SK 80026 53840	525m
MM405	1297820	42 and 44, Barnby Gate	Formerly known as: No.1 GUILDHALL STREET. 3 houses, now house and shop. Dated 1824, with late 19th century and 20th century alterations. Brick, partly colourwashed, with pantile roof. Dentilled eaves, 2 gable stacks. 3 storeys; 4 window range with 2 small glazing bar casements flanked by single larger Yorkshire sashes.	Grade II Listed Building	19th century	SK 80130 53767	650m
MM407	1297822	Former tollhouse at south-east end of Trent Bridge and adjoining Railing	Former Tollhouse, now Womens' Institute County House, and adjoining railing. c1800, with mid 19th century additions. Brick with stone dressings and 20th century pantile and slate roofs, with 3 gable stacks, 2 of them external. Brick plinth, coped gables, those to the rear range crowstepped. Double range plan.	Grade II Listed Building	19th century	SK 79661 54099	105m
MM408	1297844	4-10, Bridge Street	4 houses, now shops. Late 18th century, with mid 19th century and late 20th century alterations. Yellow brick with stone dressings and slate roof with 2 gable and single ridge stacks. Incomplete first floor band, moulded cornice, coped parapet. Unaltered windows have flat arches, some of them painted. 3 storeys plus attics	Grade II Listed Building	18th century	SK 79949 53841	480m
MM409	1297845	33 and 35, Carter Gate	2 houses, now 2 shops. Early 18th century with late 20th century alterations. Rendered front, pantile roof. Coped gables. 2 storeys; 3 window range of 20th century 3-light casements.	Grade II Listed Building	18th century	SK 79889 53705	560m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
MM410	1297846	3 and 5, Castlegate	2 houses and adjoining warehouse, now shop and stores. Late 18th century, early and mid 19th century, with late 19th century and 20th century alterations. Brick, partly colourwashed, with hipped and gabled pantile and slate roofs with catslide at rear. 3, to left, has double rebated eaves, single coped gable and single ridge and single gable stacks. 3 storeys; 4 window range of plain sashes with rubbed brick heads.	Grade II Listed Building	18th century	SK 79786 54082	185m
MM411	1297847	13 and 15, Castlegate	2 houses, now house and shop. Late 18th century, with early 19th century single window addition and late 19th century and 20th century alterations. Brick with stone dressings and slate roof. Plinth, sill band, first floor band, modillion eaves, single gable and single ridge stacks. 3 storeys; 6 window range. 5 glazing bar sashes with rubbed brick heads and to right, a segment headed window set lower.	Grade II Listed Building	18th century	SK 79756 54034	215m
MM412	1302194	6, Main Street	House. Mid 18th century. Brick with gabled and catslide steep pitched pantile roofs. First floor and eaves band, plain eaves, brick coped gables with kneelers. 2 gable and single ridge stacks. 2 storeys plus garrets, 4 bays. Main south front has to left a 19th century single storey single bay lean-to addition, brick with pantile roof.	Grade II Listed Building	18th century	SK 77381 55739	460m
MM413	1302255	Lord Nelson Public House	Public House. 17th century, early and late c18. Rendered and whitewashed brick under a steeply pitched pantile roof, with a single brick stack to the rear. 2 storeys Central 20th century doorway flanked by single glazing bar sashes with 2 similar sashes above.	Grade II Listed Building	17th century	SK 81424 56636	345m
MM414	1302281	Winthorpe House	Small country house. Late 18th century with 19th century and 20th century additions. East front. Red brick, ashlar dressings, hipped slate roof with 4 stacks and a wooden modillion cornice. 2 storeys, 3 bays with basement under northern bay. Set on a plinth. The central, slightly protruding bowed out bay has 5 steps with iron, railings leading to a slightly recessed central doorway with arched glazing bar sash above.	Grade II Listed Building	18th century	SK 81483 56670	290m
MM415	1302377	The Dairy Farmhouse	Farmhouse. Late CI7, restored 19th century. Coursed rubble with red brick dressings and quoins. Pantile roof with plain tile lower courses, brick coped gables, kneelers and tumbling. 2 brick gable stacks and single brick ridge stack. 1st floor dentilled brick band. 2 storeys with garret, 4 bays. Off-centre north doorway with plain surround.	Grade II Listed Building	17th century	SK 82123 58016	655m
MM416	1302384	16, Main Street	House. Early 19th century. Red brick. Pantile roof. 2 red brick gable stacks. Dogtooth eaves. 2 storeys plus garret, 3 bays, with a first floor band. Central doorway with panelled and part glazed door and overlight.	Grade II Listed Building	19th century	SK 77067 51776	580m
MM418	1366047	Newark Working Men's Club	Formerly known as: Hatton House School BEACON HILL ROAD. House, now working mens' club. Mid 19th century, with mid and late 20th century alterations. Stucco with hipped slate roof and 4 coped external gable stacks, each pair with a shaped gable between them. Chamfered quoins, dentillated eaves. 2 storeys plus garrets; 3 window range.	Grade II Listed Building	19th century	SK 80462 53902	815m
MM419	1369951	Grange Cottage	Cottage. Late 18th century. Red brick with a hipped pantile roof and 2 brick stacks to the rear. 2 storeys, 3 bays. Central doorway with panelled door, 3 pane rectangular overlight and plain surround. Flanked by single glazing bar sashes under segmental arches, with 2 similar sashes above. To the south is a later brick extension with doorway and metal casement window.	Grade II Listed Building	18th century	SK 81324 56595	375m
MM420	1369952	Gate Piers to Church of All Saints	Gate piers. 1886-8 by S. G. Parry. Red brick and ashlar. The entrance to the church yard north has brick and ashlar gate piers with timber gates and iron fitments.	Grade II Listed Building	19th century	SK 81187 56394	140m
MM421	1369953	Village Cross	Village cross. 14th century. Stone and brick. Stone socket and single piece of shaft, set on a brick plinth.	Grade II Listed Building	14th century	SK 81398 56760	385m
MM422	1369954	Lych Gate at Church of St Michael	Lych gate. 19th century. Timber with hipped plain tile roof. Square plan. 4 strutted posts with chamfered rail and herringbone board infill. Arched braces to moulded tie beams. Roof has centre post and arch braces.	Grade II Listed Building	19th century	SK 76789 54337	430m
MM423	1369983	Railing and Gate at No 6	Boundary railing and gate. Late 19th century. Cast and wrought iron. By Wm Hayward & Sons Ltd. of Wolverhampton. 2 pairs of octagonal cast iron piers with moulded caps. Hairpin wrought iron railing and single and double matching gates. Approx. 75 M long.	Grade II Listed Building	19th century	SK 77380 55721	440m
MM424	1369984	Lodge and Gateway at Kelham Hall	Lodge house and gateway. c.1858. Probably by George Gilbert Scott for John Manners-Sutton. Gothic Revival style. Brick with gabled and hipped slate roofs. Blue brick and ashlar dressings, diaper work and bands. Chamfered plinth and eaves, moulded coped gables. Paired round ridge stacks. Single storey plus attics, 2 bays. L-plan. Windows are mostly mullioned with leaded casements.	Grade II Listed Building	19th century	SK 77387 55692	415m
MM425	1370003	Viaduct 650 Metres South of Muskham Bridge	Viaduct. 1770 designed by Smeaton, widened 1992. Red brick. 13 round arches with buttresses between, plus brick parapets topped by ashlar coping, will scrolled and ramped ends with round brick piers. Part of Smeaton's Causeway built as improvements to the Great North Road by John. Sweaton.	Grade II Listed Building	18th century	SK 78997 55567	655m

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
			Part of this viaduct also lies within the Parish of Newark.				
MM427	1001318	Newark Castle Gardens	Newark Castle Gardens were created in the 1880s as a Jubilee Memorial, following an appeal to the public to contribute towards the conversion of the Old Cattle Market site into public pleasure grounds. Viscountess Ossington offered £1200 on condition that the site was used by the public for free in perpetuity. The Castle and Crown property were acquired in 1889, and the gardens were opened on Queen Victoria's 70th birthday in May of that year. The gardens occupy a rectangular site of approximately 1ha, bordered by Beast Market Hill to the north, Castle Gate to the east, the River Trent to the west, and a retaining wall to the south. The grounds are divided from the public roads by railings and trees.	Grade II Registered Park and Garden	19th century	SK 79664 54038	95m
MM428	5812	Averham	The Averham Conservation Area is located in the village of Averham in Nottinghamshire, England. The conservation area covers an area of approximately 21 hectares and was designated in 1981 to protect the village's historic and architectural character. The village has a long history, dating back to at least the Domesday Book of 1086, and contains several important listed buildings and structures, including the Grade I listed Church of St Michael and All Angels, Averham Hall, Averham Mill, and Averham Lodge. The conservation area encompasses a variety of building styles, ranging from timber-framed medieval buildings to Georgian and Victorian architecture. The village's layout is also of interest, with a network of narrow lanes and footpaths leading to the church and other historic buildings. In addition to protecting the village's historic and architectural heritage, the conservation area also aims to enhance the local environment and promote sustainable development. This includes encouraging appropriate design and building materials for new development, as well as promoting public access to the village's historic buildings and landscape.	Conservation Area	Multiperiod	SK 76517 54407	30m
MM429	5852	Farndon	Farndon Conservation Area is located in the town of Newark-on-Trent in the Newark & Sherwood district of Nottinghamshire, England. The conservation area covers an area of approximately 11 hectares and encompasses the historic core of the village of Farndon, which is situated on the banks of the River Trent. The area was designated as a conservation area in 1980. The village of Farndon has a long history, with evidence of human habitation dating back to prehistoric times. The village grew in importance during the Roman period, as it was located on the major road network that linked the Roman forts at Lincoln and Doncaster. In the medieval period, Farndon was an important market town, with a thriving wool trade. The buildings within the Farndon Conservation Area reflect the village's long history and include a mix of architectural styles and building materials. The most notable buildings within the conservation area are the Grade I listed St. Peter's Church, which dates back to the 13th century, and the Grade II listed Farndon Hall, which is a 17th century manor house. The conservation area is characterised by its narrow streets, stone walls, and historic buildings, which contribute to the area's unique character and sense of place. The village is also surrounded by green fields and the River Trent, which add to the area's scenic beauty.	Conservation Area	Multiperiod	SK 76713 51742	385m
MM430	5897	Kelham	Kelham Conservation Area is located in Newark & Sherwood, Nottinghamshire, England. It is situated approximately 2 miles north-west of Newark town centre and covers an area of approximately 13.4 hectares. The conservation area encompasses a number of historic buildings, including St. Wilfrid's Church, Kelham Hall, Kelham Bridge, and various 18th and 19th century buildings located along the main street. The area also contains a number of listed buildings, such as The Grange, Kelham Lodge, and a number of former farmhouses. The village of Kelham is thought to have originated in the Saxon period and was mentioned in the Domesday Book of 1086. The current village layout was established in the 18th and 19th centuries, with a number of buildings dating from this period still surviving today. The conservation area is characterized by its historic buildings, mature trees, and open spaces, and is valued for its picturesque and tranquil character. It is also notable for its association with the Church of England, as St. Wilfrid's Church was once a significant centre of learning and religious scholarship.	Conservation Area	Multiperiod	SK 77250 55528	Within the Scheme
MM431	5670	Newark	The Newark Conservation Area in Newark & Sherwood is a designated area of historical and architectural significance. It covers the historic core of the town and includes a range of buildings and structures from different periods, reflecting the town's long and varied history. The area encompasses the town's market square, which is one of the largest in the country and has been a focal point for the town's commercial and social life for over 800 years. The square is surrounded by a number of notable buildings, including the Grade I listed Newark Castle and the Grade II* listed Town Hall. Other notable buildings in the conservation area include the Grade I listed St. Mary Magdalene Church, which dates	Conservation Area	Multiperiod	SK 79755 53824	Within the Scheme

MM No.	NHLE No.	Name	Description	Asset Type	Period	NGR	Distance from Scheme
			back to the 12th century and is one of the largest parish churches in the country. There are also a number of fine Georgian and Victorian buildings in the area, as well as a range of smaller medieval and Tudor structures. The conservation area also includes several important open spaces, such as the Castle Gardens and the nearby Newark Cemetery, which contains a number of listed monuments and memorials.				
MM432	5916	Winthorpe	Winthorpe Conservation Area is located in the village of Winthorpe in the Newark & Sherwood district of Nottinghamshire, England. The conservation area was designated in 1975 and covers an area of approximately 7 hectares. The village of Winthorpe has a long history dating back to the Domesday Book in 1086, and the conservation area includes many historic buildings and structures. The village has a mix of architectural styles, including timber-framed buildings, 18th-century brick cottages, and Victorian terraces. One of the key features of the conservation area is Winthorpe Hall, a Grade II* listed building that dates back to the 17th century. The hall was built for Sir Hardolph Wasteneys, a local landowner, and features a mix of Jacobean and Georgian architectural styles. The hall is surrounded by formal gardens and a moat. The conservation area also includes the village green, St. Mary's Church, and several other listed buildings such as the Old School House and the village pump.	Conservation Area	Multiperiod	SK 81241 56669	Within the Scheme

Appendix Table 0-2:: Non-designated heritage assets recorded within 500m of the Scheme (illustrated in Appendix B, Drawing B.3, Sheets 1 to 21)

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM501	MNT27050	Prehistoric Ditches and Pits, Northgate, Newark	Ditches and pits containing Mesolithic - Iron Age material found during a watching brief on land at the former Warwicks and Richardsons Brewery, Northgate, Newark.	Prehistoric	SK 80028 54549	150m
MM502	MNT27240	Mesolithic - Late Neolithic Site at Farndon	Identification of a Mesolithic - Late Neolithic site is based on the recovery of the 18 worked flint artifacts recovered during the 2005 excavations in this area.	Prehistoric	SK 80028 54549	Within the Scheme
MM503	MNT14729	Palaeolithic Site at Farndon	Possible late Upper Palaeolithic open air site, on a tongue of river gravel at the confluence of the Rivers Trent and Devon. Defined by quantity of flint tools and knapping debris	Prehistoric	SK 78000 52300	50m
MM504	MNT14756	Possible Long Barrow at Winthorpe Road, Newark	Possible Neolithic mortuary enclosure with early medieval burial (L11873)	Prehistoric	SK 80635 55954	Within the Scheme
MM505	MNT26080	Neolithic / Early Bronze Age Settlement at Langford	Possible structures and artefacts, including saddle quern fragments, worked flint and burn bone, dating to the Neolithic and early Bronze Age.	Prehistoric	SK 82700 57300	Within the Scheme
MM506	MNT14324	Iron Age or Romano-British Settlement at Farndon	Iron Age and Roman enclosure complex, identified through aerial photography. Geophsyical survey and excavation has revealed a minimum of three phases of activity.	Prehistoric	SK 77826 52692	Within the Scheme
MM507	MNT12085	Roman Agger, Fosse Way, Langford	Excavated remains of the Roman road, known as Fosse Way, which ran from Exeter to Lincoln.	Roman	SK 82700 57300	Within the Scheme
MM509	MNT3595	Cropmark at Langford	Large rectangular enclosure, identified through aerial photography.	Roman	SK 83200 57500	215m
MM510	MNT9767	Roman Finds & Ditches at Excavation Area 3, Newark Castle	Roman roadside settlement site, identified during excavations within the grounds of Newark Castle. A large quantity of artefacts was recovered, however later activity had destroyed any structural evidence.	Roman	SK 79650 54050	145m
MM511	MNT25848	Roman Cremation Cemetery at Newark	Roman cremation cemetery, discovered in the 1930s. Located alongside Northgate, which once formed part of the Fosse Way Roman Road.	Roman	SK 80130 54600	135m
MM512	MNT26020	Ro Settlement, Northgate, Newark	Roman roadside settlement, largely known from various excavations conducted in the area around Northgate in Newark (formerly the Fosse Way Roman Road).	Roman	SK 80200 54700	75m
MM513	MNT15873	Pottery Kiln at Farrar's Works, Newark	Roman pottery kiln, discovered during building works in the 19th century.	Roman	SK 80180 54840	60m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM514	MNT17089	Roman Settlement at Averham	Cropmark complex, thought to be Roman in date, identified through aerial photography	Roman	SK 76600 55300	170m
MM515	MNT17090	Settlement at Kelham	Cropmark complex, thought to be Roman in date, identified through aerial photography	Roman	SK 76800 55700	275m
MM516	MNT27096	Roman Inhumation Cemetery, Northgate, Newark	Four burials, thought to belong to an inhumation cemetery, were excavated in 2011. This cemetery is possibly associated with the Roman roadside settlement along Northgate.	Roman	SK 80078 54500	200m
MM517	MNT12088	Ditches at Fosse Way, Langford	An excavation revealed a series of post-Roman ditches cutting into deposits overlying the Fosse Way Roman Road.	Roman	SK 82700 57300	Within the Scheme
MM518	MNT25712	Saxon Cemetery at Newark Castle	Early medieval cemetery at Newark Castle, known to have contained at least 100 individuals. Radiocarbon dating, dates the cemetery from the mid-10th to mid-11th centuries AD.	Early Medieval	SK 79650 54050	145m
MM519	MNT25713	Early Medieval Building at Newark Castle	A possible church or manorial building associated with the early medieval cemetery (M18045) at Newark Castle.	Early Medieval	SK 79640 54000	185m
MM520	MNT25839	Early Medieval Cemetery at Crococalana	Possible location of early medieval cemetery at Brough (Crococalana), identified from the recovery of a number of brooches.	Early Medieval	SK 83000 58000	425m
MM521	MNT26013	High Status E Med Inhumation, Winthorpe Road, Newark	Two early medieval inhumations, buried within a possible Neolithic long barrow (M3612). The burials were accompanied by a rich array of grave goods, including silver, ivory, iron and amber objects.	Early Medieval	SK 80640 55960	50m
MM523	MNT26945	Saxo-Norman Kiln at Co-Op, Kirkgate, Newark	Pottery kiln, dating to the 10th century AD.	Early Medieval	SK 79872 54076	250m
MM524	MNT27051	Early Medieval Ditch, Northgate, Newark	An early medieval ditch was revealed during excavations at Northgate, Newark in 2011	Early Medieval	SK 79999 54532	170m
MM525	MNT27612	Saxon Settlement at Kelham	Early medieval settlement, recorded within the grounds of Kelham Hall.	Early Medieval	SK 77268 55519	175m
MM526	MNT11580	Medieval Features at Site of St Leonard's Church, Northgate, Newark	Gulleys and pits, dating to the medieval period	Early Medieval	SK 80090 54380	315m
MM527	MNT15827	Medieval Town Defences of Newark	The medieval town wall of Newark dates to the early 14th century and was built on the site of an early medieval enclosure ditch, which surrounded the burgh of Newark. The defences are only known from documentary evidence and various excavations.	Early Medieval	SK 79800 53900	350m
MM529	MNT10107	Earthworks at Langford	Extensive complex of irregular earthworks, including hollows, banks and ridge and furrow.	Medieval	SK 82008 57923	515m
MM530	MNT12228	Medieval Pottery and Undated Ditch at Kelham	Medieval activity, defined by pits, ditches and quarry pits.	Medieval	SK 77340 55700	415m
MM532	MNT5634	Medieval Pit at The Duke of Cumberland Public House, Newark	Medieval pit	Medieval	SK 79790 53940	310m
MM534	MNT25766	St Catherine's Chapel at Newark	Possible medieval chapel, built over the site of a holy well (M3500).	Medieval	SK 78960 53010	485m
MM535	MNT25954	Medieval Building on Castlegate, Newark	Excavated remains of a medieval building, which once fronted onto Castlegate, Newark. The limestone block foundations likely supported a timber-framed building.	Medieval	SK 79550 53870	305m
MM536	MNT25959	Medieval Building or Buildings at St. Leonard's Court, Newark	Excavated remains of medieval buildings at St. Leonard's Court.	Medieval	SK 79880 54020	295m
MM539	MNT14628	Watermills at Averham	A series of watermills are documented along the River Trent in the 16th century, which belonged to the Sutton family.	Medieval	SK 77200 54700	440m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM540	MNT14671	St Catherine's Holy Well at Newark	The site of a holy well famous for healing leprosy. St. Catherine's Chapel (M18104) was built over the site.	Medieval	SK 78960 53010	485m
MM541	MNT14752	Settlement at Winthorpe	A series of undated enclosures, identified through aerial photography.	Undated	SK 80850 56400	Within the Scheme
MM543	MNT14851	South Gate, Newark	Site of the South Gate entrance through the medieval town wall of Newark (M5677).	Medieval	SK 79550 53840	335m
MM546	MNT17160	Medieval Building & Malt Kiln at Slaughterhouse Lane, Newark	Excavated remains of a medieval malt kiln and posible associated building on Slaughterhouse Lane.	Medieval	SK 79850 54080	230m
MM549	MNT27056	Late Medieval Well, Northgate, Newark	Excavated remains of a stone-lined well, dated to the late medieval period.	Medieval	SK 80104 54484	225m
MM550	MNT10794	Medieval Features at 98 Lincoln Road, Newark	Excavated remains of a medieval ditch, dated to the 15th-16th century.	Medieval	SK 80950 55120	440m
MM553	MNT11530	Metalled Surfaces in Test Pit 4 at The Old Cattle Market, Newark	Excavated remains of late medieval road surfaces	Medieval	SK 79560 54170	20m
MM554	MNT11652	Late Med - P Med Rubbish Dumping, Cow Lane Wharf, Newark	Excavated remains of late medieval/early post-medieval reclamation deposits along the river frontage.	Medieval	SK 79850 54350	110m
MM556	MNT25944	Medieval Lime Kiln at Middle Gate, Newark	Excavated remains of a medieval/post-medieval lime kiln	Medieval	SK 79830 53990	290m
MM557	MNT25956	Medieval Town Drain or Ditch at Castlegate, Newark	Excavated remains of a large town drain, which was originally connected to the River Trent.	Medieval	SK 79540 53880	295m
MM558	MNT26021	Medieval Settlement of Osmundthorpe, Northgate, Newark	The medieval settlement of Osmundthorpe was located around Northgate and outside the town walls of Newark. A large part of it is thought to have been burnt down during the Civil War.	Medieval	SK 80200 54700	75m
MM559	MNT14369	Medieval Road at Newark	The earthwork remains of the old Newark-Muskham Bridge road.	Medieval	SK 79120 55433	Within the Scheme
MM560	MNT14405	Medieval Town Gate at North Bar, Newark	The site of the North Bar gate through the medieval town walls at Newark. The gate was demolished in 1762	Medieval	SK 79800 54120	165m
MM562	MNT14786	St Leonard's Hospital and Cemetery at Newark	Site of medieval hospital and associated inhumation cemetery. The original hospital was founded in 1130, although the site moved to Northgate in 1640.	Medieval	SK 80380 54800	40m
MM563	MNT25958	Medieval Burgage Plots at Stodman Mews, Newark	Excavated remains of medieval burgage plots, which were originally part of Castlegate and Lombard Street.	Medieval	SK 79700 53850	345m
MM565	MNT14669	Devon Bridge / Markham Bridge	Longstanding crossing point across the River Devon. The remains of timbers within the river close to the modern bridge, may be medieval in date.	Medieval	SK 78910 53220	385m
MM566	MNT14676	Parnham's Mill at Newark	Ruined remains of a 19th century corn mill.	Medieval	SK 79297 53747	295m
MM568	MNT11420	Metalled Surfaces at Castlegate, Newark	Excavated remains of a possible post-medieval road surface	Post Medieval	SK 79710 54010	210m
MM569	MNT11422	Post Medieval Metalled Surface, Beastmarket Hill, Newark	Excavated remains of a possible post-medieval road surface	Post Medieval	SK 79680 54100	120m
MM570	MNT11743	Post Medieval Ditches and Grave Robbing, Winthorpe Road, Newark	Excavated remains of ditches, dating to the post-medieval period. One ditch appears to have been cut to rob the contents of the early medieval grave (L11873).	Post Medieval	SK 80650 55960	60m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM571	MNT12137	?Post Medieval Lime Kiln, Trenches 24, 25 and 36 at Northgate, Newark	Excavated remains of a post-medieval lime kiln.	Post Medieval	SK 80210 54580	140m
MM574	MNT9829	Weir at Averham	Remains of a probable weir of unknown date.	Post Medieval	SK 77440 55080	155m
MM575	MNT21897	1 Gainsborough Road	Winthorpe Conservation Area. Red brick house with stone banding and white fascia boarding.	Post Medieval	SK 81151 56337	70m
MM576	MNT21932	Fleet Cottage and Apple Tree Cottage	Winthorpe Conservation Area. Red brick cottages with tiled roofs.	Post Medieval	SK 81375 56760	400m
MM577	MNT21933	The Cottage	Winthorpe Conservation Area	Post Medieval	SK 81488 56714	280m
MM578	MNT22364	Grove Cottage	Winthorpe Conservation Area. Brick house rendered white.	Post Medieval	SK 77219 55695	395m
MM579	MNT22740	Jascal	Averham Conservation Area. Red brick building.	Post Medieval	SK 76321 54553	120m
MM580	MNT22741	Manor Farmhouse and attached Outbuildings	Averham Conservation Area. Red brick L shaped building with pantile roof.	Post Medieval	SK 76392 54524	155m
MM581	MNT22774	The Old Forge	Averham Conservation Area. Single storey brick built structure with a chimney.	Post Medieval	SK 76366 54528	140m
MM582	MNT22775	Manor Cottage	Averham Conservation Area. Building rendered white.	Post Medieval	SK 76412 54509	160m
MM583	MNT22776	Manor Farm Cottage	Averham Conservation Area. Red brick house with tile roof.	Post Medieval	SK 76260 54575	105m
MM584	MNT22777	The Cottage and attached Outbuildings	Outside Aversham Conservation Area. Building rendered white with pantile roof.	Post Medieval	SK 76340 54404	275m
MM585	MNT22820	Summerdell	Aversham Conservation Area. Gable roof with fishscale tiles between two flat tiles.	Post Medieval	SK 76480 54474	210m
MM586	MNT22821	First House East of Summerdell	Aversham Conservation Area. Red brick building.	Post Medieval	SK 76495 54462	220m
MM587	MNT22822	Beech Cottage	Possibly demolished	Post Medieval	SK 76658 54409	320m
MM588	MNT23594	Row of three Cottages First West of Averill House	Averham Conservation Area. Red brick building with pantile roof.	Post Medieval	SK 76413 54540	130m
MM589	MNT24665	The Old Post Office	Kelham Conservation Area. Red brick building with wall.	Post Medieval	SK 77230 55755	440m
MM591	MNT24855	The Grove House	Winthorpe Conservation Area. Building rendered white with stone sills, pantile roof and stone capped wall.	Post Medieval	SK 81373 56717	395m
MM592	MNT24859	Rose Cottage	Averham Conservation Area. Red brick building.	Post Medieval	SK 76351 54539	135m
MM593	MNT24862	Trentside Farmhouse	Kelham Conservation Area. Red brick building with diamond tile design on roof.	Post Medieval	SK 77510 55840	580m
MM594	MNT25337	County Junior School, Lovers Lane.	A well designed board school of 1889 by Hine & Son. Hine's last major assignment was the Board School in Lover's Lane, Newark (1889)	Post Medieval	SK 80252 54432	250m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM595	MNT25754	Quibell Bros Glue Factory, Newark	Site of late 19th century chemical manure works. The complex mostly consists of modern buildings, although there appears to be a small group of original buildings to the west of the railway line.	Post Medieval	SK 80240 55340	50m
MM596	MNT25755	Malthouse at Newark	Site of 19th century malthouse.	Post Medieval	SK 80240 55340	395m
MM597	MNT25758	H Baird & Sons Ltd, Cliff Nook Maltings	Site of 19th century malthouse, including water tower and kilns.	Post Medieval	SK 80440 54340	390m
MM600	MNT25846	Strawberry Hall at Newark	Site of post-medieval house.	Post Medieval	SK 80530 54840	195m
MM601	MNT25953	Post Medieval Metal Working Pit, Castlegate, Newark	Site of large pit, originally used for metalworking, sealed by mid-17th century pottery.	Post Medieval	SK 79550 53870	305m
MM602	MNT25983	Well at Newark	Site of brick built well, possibly 19th century in date.	Post Medieval	SK 80670 56050	Within the Scheme
MM603	MNT25993	Church of St Leonard, Northgate, Newark	Site of late 19th century church. The Church of St Leonard was constructed in 1873 and demolished during the late 20th century.	Post Medieval	SK 80095 54395	310m
MM606	MNT26166	Lingspot Farm Barn	Red brick barn part of a farmstead.	Post Medieval	SK 83038 56519	400m
MM607	MNT26270	Averill House	Averham Conservation Area. Pebbledash exterior to the house.	Post Medieval	SK 76461 54545	130m
MM608	MNT26278	Corner Farm	Kelham Conservation Area. Some mock panelling. Attractive gables and porch cut out detail.	Post Medieval	SK 77282 55778	475m
MM609	MNT26279	Ivy Cottage, Kelham	Kelham Conservation Area. Two dwellings. Roofs have a row of fishscale tiles between two flat tiles - possibly clay. Exposed brick except for painted pebbledash on dormers and first storey.	Post Medieval	SK 77354 55749	460m
MM610	MNT26280	Wheelright Shop, Kelham	Kelham Conservation Area. Handmade pantiles and glass pantiles.	Post Medieval	SK 77533 55750	500m
MM611	MNT26347	Averham Bakehouse	Averham Conservation Area. Exposed brick communal bakehouse for the villlage of Averham. Pantile pitched roof. Segmental archway above the door.	Post Medieval	SK 76324 54567	110m
MM612	MNT26348	19th Century House. Corner of The Close and Staythorpe Road	Averham Conservation Area. Two storey brick 19th century house. Burnt header decrotive lines within the brick work. Slate roof, alternating pale stripes with dark stripes. Pitched gable end and hipped sections withn the roof construction.	Post Medieval	SK 76392 54567	95m
MM613	MNT26349	Pinfold Cotttage	Averham Conservation Area. Two storey rendered houses with pantile roof. Central chimney.	Post Medieval	SK 76195 54642	55m
MM614	MNT26363	Mill Close and Wynways	Semi-detached house, dating to the 19th century.	Post Medieval	SK 81653 57013	245m
MM615	MNT26364	4 and 5, The Drive	Winthorpe Conservation Area. Undated brick built building.	Post Medieval	SK 81361 56774	410m
MM616	MNT26366	Village Hall	Winthorpe Conservation Area. Village Hall. Single storey Pitched roof. Plain roof tiles. Casement windows. Enclosed porch.	Post Medieval	SK 81310 56623	380m
MM617	MNT26367	The Laurels and Roslyn	Two semi-detached villas, dating to the 19th century.	Post Medieval	SK 81358 56680	400m
MM618	MNT26368	Dolls Cottage	Winthorpe Conservation Area. Two storey brick house with a pantile roof. Three bays, with central doorway.	Post Medieval	SK 81371 56697	395m
MM619	MNT26372	The Lord Nelson	Public house, formerly two 19th century residential properties. Averham Conservation Area.	Post Medieval	SK 76327 54569	105m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM620	MNT26374	Dougallen and Hillside	Semi-detached house, dating to the 19th century. Winthorpe Conservation Area.	Post Medieval	SK 81342 56627	380m
MM621	MNT26375	43 Gainsborough Road	Whitewashed single storey brick cottage. Winthorpe Conservation Area.	Post Medieval	SK 81488 56767	285m
MM622	MNT26459	The Robin Hood Theatre	Theatre, built in 1913 at the request of Reverend Cyril Walker within the grounds of the rectory,	Post Medieval	SK 76720 54397	340m
MM623	MNT26465	The Cottage and attatched Outbuildings	Building rendered white. Alterations since student survey in 1968. Outside of Averham Conservation Area.	Post Medieval	SK 76340 54407	260m
MM624	MNT14372	Second Line of Circumvallation at Newark	The fortified villages, with their connecting lanes and roads, blocked most of the approaches to Newark, but were themselves too far out and on too wide a circumference to blockade the town effectively. The besiegers accordingly constructed forts and two lines of circumvallation nearer to the town to meet sorties and to prevent communication between Newarkers and the open country.	Post Medieval	SK 79722 52823	Within the Scheme
MM625	MNT14374	Edinburgh	Edinburgh" earthwork, the HQ of the Scots army. Clampe's plan shows it as a large entrenched camp of bastion trace, approx 400ft square, with redans at the centre of the NE and SW sides and SW of centre on the other 2. The site is on flat land, formerly pasture but now ploughed. Only a fragment of the S bastion remains, NE of the Kelham Road (SK 78325500).	Post Medieval	SK 78357 55309	475m
MM627	MNT14460	Well at Kelham	Undated well at Kelham. Appears on 1:2500 OS map of 1919.	Post Medieval	SK 76660 55840	450m
MM628	MNT14461	Well at Kelham	Undated well at Kelham. Appears on 1:2500 OS map of 1919.	Post Medieval	SK 76540 55740	430m
MM629	MNT14465	Well Near Kelham Bridge, Kelham	Undated well near Kelham Bridge. Appears on 1:2500 OS map of 1919.	Post Medieval	SK 77710 55580	390m
MM631	MNT14627	Well at Averham	Undated well at Averham. Appears on 1:2500 OS map of 1919.	Post Medieval	SK 76030 54970	235m
MM632	MNT14632	Well at Averham	Undated well at Averham. Appears on 1:2500 OS map of 1919.	Post Medieval	SK 76400 54450	230m
MM633	MNT14633	Well at Averham	Undated well at Averham. Appears on 1:2500 OS map of 1919.	Post Medieval	SK 76530 54790	Within the Scheme
MM634	MNT14657	Well at Cottage Lane	Undated well at Cottage Lane. Appears on 1:2500 OS map of 1919.	Post Medieval	SK 77260 53020	370m
MM635	MNT14661	Well at Newark	Undated well at Newark. Appears on 1:2500 OS map of 1920.	Post Medieval	SK 78680 54090	Within the Scheme
MM637	MNT14702	Handley; Handley & Sketchley at Newark	Two warehouse buildings could possibly be a maltings (to W) and a brewery (to E), later used as warehouses. Earliest map appearances are 1762 and 1790. They do not appear to have been built on. No description in NIAR archive. Built over, by 2004.	Post Medieval	SK 79770 54210	85m
MM638	MNT14753	Colonel Gray's Sconce at Newark	Civil War fort, originally Colonel Greye's Sconce, on Trent Bank opposite Crankley Point. One bastion and ditch investigated prior to destruction. Ditch 5.5ft deep with rough fire step and post holes on inner edge 9in diametre, 2ft apart. Posts later removed and inner part of bank thrown into ditch. This feature no longer exists, the S part of the earthwork being covered by a large tank attached to the adjoining sewage works.	Post Medieval	SK 80250 56050	140m
MM639	MNT14772	King's Sconce, Newark	Site of King's Sconce, an outwork of the Civil War defences at Newark. The site was destroyed during the late 19th century.	Post Medieval	SK 80180 54820	65m
MM640	MNT14807	Civil War Defences at Winthorpe	Site of Civil War defences at Winthorpe.	Post Medieval	SK 81200 56800	430m
MM641	MNT14889	Bottom Lock & Nether Lock at Newark	Bottom Lock was built in 1772 but is recorded as demolished. Nether Lock was built in 1926 and was built to bypass a weir in the main river channel to the south.	Post Medieval	SK 80040 55440	75m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM642	MNT14895	Well at Newark	Site of undated well, although marked on early 20th century mapping	Post Medieval	SK 80370 55420	Within the Scheme
MM643	MNT15805	C17 Bridge at Kelham	Site of 17th century bridge, linking Newark and Kelham.	Post Medieval	SK 77600 55350	140m
MM644	MNT15814	Civil War Redoubt at Newark	Site of Royalist redoubt, which formed part of Newark's Civil War defences.	Post Medieval	SK 79270 54250	50m
MM645	MNT15815	Civil War Gun Battery at Newark	Site of Scots gun battery, which formed part of an attack on Newark during the Civil War.	Post Medieval	SK 78900 53900	90m
MM646	MNT15816	Civil War Dam at Newark	Site of dam, constructed by the Royalists who were defending Newark during a siege in the Civil War.	Post Medieval	SK 79900 54460	110m
MM647	MNT15817	Civil War Dam at Newark	Site of dam, constructed by the Royalists who were defending Newark during a siege in the Civil War.	Post Medieval	SK 79620 54100	85m
MM648	MNT15818	Civil War Dam at Newark	Site of dam, constructed to cut off the water supply to the mills in Newark during the Civil War.	Post Medieval	SK 77500 53470	Within the Scheme
MM649	MNT15819	Civil War Redoubt at Newark	Site of Parliamentarian redoubt, built during the Civil War to defend the nearby dam (M5668)	Post Medieval	SK 77635 52875	15m
MM653	MNT15823	Civil War Camp at Newark	Site of camp entrenchment and headquarters for General Poyntz during the siege of Newark in the Civil War.	Post Medieval	SK 78700 52300	520m
MM655	MNT15867	Moll's Hornwork at Winthorpe	Site of Civil War earthwork.	Post Medieval	SK 81250 55750	Within the Scheme
MM657	MNT17086	Settlement at Averham	Undated enclosure complex which has been identified through aerial photography. The site has been interpreted as a possible settlement.	Undated	SK 75900 55200	460m
MM658	MNT17087	Settlement at Averham	Undated enclosure complex which has been identified through aerial photography. The site has been interpreted as a possible settlement.	Undated	SK 76200 55400	460m
MM659	MNT17088	Farmstead at Averham	Undated enclosure complex which has been identified through aerial photography. The site has been interpreted as a possible farmstead.	Undated	SK 76250 55200	250m
MM660	MNT17103	First Line of Circumvallation at Newark	First of two lines of siegeworks laid down during the Civil War.	Post Medieval	SK 80417 53275	Within the Scheme
MM661	MNT17107	Civil War Redoubt at Newark	Parliamentarian redoubt, built on the second line of circumvallation to the west of the River Devon.	Post Medieval	SK 78200 52600	Within the Scheme
MM662	MNT17110	Supposed Site of Redoubt at Newark	Supposed site of redoubt, built as part of the siegeworks laid down during the Civil War. However, no trace was found during excavations in 1988.	Post Medieval	SK 80670 56050	Within the Scheme
MM663	MNT17111	Redoubt at Newark	Supposed site of redoubt, built as part of the siegeworks laid down during the Civil War.	Post Medieval	SK 81500 55200	420m
MM665	MNT17161	Post-Medieval Lime Kiln at Slaughterhouse Lane, Newark	Site of post-medieval lime kilns on Slaughterhouse Lane.	Post Medieval	SK 79850 54080	230m
MM666	MNT26921	Windrome Cottage	17th century cottage, originally stone built with timber frame. The cottage has been heavily altered and rebuilt in brick, rendered and painted white.	Post Medieval	SK 82933 56475	345m
MM667	MNT26950	Wall and Demolition Material at 4-6 Middlegate, Newark	Site of medieval stone building or property boundary wall on Middlegate.	Post Medieval	SK 79788 54041	225m
MM668	MNT27085	Brick Lined Well, Northgate, Newark	Excavated remains of a post-medieval brick-lined well.	Post Medieval	SK 80078 54456	245m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM669	MNT27086	Well at Northgate, Newark	Excavated remains of a post-medieval brick-lined well.	Post Medieval	SK 80049 54462	235m
MM670	MNT27087	Railway Track, Northgate, Newark	Excavated remains of a 19th century railway track, which formed a spur line to Wellington Foundry.	Post Medieval	SK 79989 54493	185m
MM671	MNT27174	Enclosures and Linear Features, Crees Lane, Farndon	Enclosures, linear features and ridge and furrow, identified through geophysical survey.	Post Medieval	SK 77911 52645	25m
MM672	MNT27591	Clapper Gate	Undated clapper gate associated with the River Trent.	Post Medieval	SK 77647 53342	Within the Scheme
MM674	MNT27732	Clapper Gate 5	Undated clapper gate associated with the River Trent.	Post Medieval	SK 77796 52769	Within the Scheme
MM675	MNT27735	Clapper Gate 6	Undated clapper gate associated with the River Trent.	Post Medieval	SK 77961 52790	Within the Scheme
MM676	MNT27736	Clapper Gate 7	Undated clapper gate associated with the River Trent.	Post Medieval	SK 79152 53617	395m
MM677	MNT27737	Clapper Gate 8	Undated clapper gate associated with the River Trent.	Post Medieval	SK 79921 54502	120m
MM678	MNT27738	Clapper Gate 9	Undated clapper gate associated with the River Trent.	Post Medieval	SK 80066 54772	Within the Scheme
MM679	MNT27739	Clapper Gate 10	Undated clapper gate associated with the River Trent.	Post Medieval	SK 80121 55114	Within the Scheme
MM682	MNT11591	Post Medieval or Modern Ditch at The Cattle Market, Newark	Excavated remains of a post-medieval ditch, which may be related to the Civil War defences (M8494).	Post Medieval	SK 79460 54160	115m
MM683	MNT3215	Earthworks at The Red House, Kelham	Late 19th/early 20th century landscaping earthworks associated with Kelham House.	Post Medieval	SK 76940 55460	60m
MM684	MNT3444	Weir at Averham	Post-medieval weir, located on Pingley Dyke.	Post Medieval	SK 76250 54230	455m
MM685	MNT3540	Sluice at Newark	Post-medieval sluice, located on the River Devon.	Post Medieval	SK 78780 52670	440m
MM686	MNT3785	Sluice at Winthorpe	Post-medieval sluice, located on the Fleet.	Post Medieval	SK 81440 56540	255m
MM687	MNT3786	Sluice at Winthorpe	Post-medieval sluice, located on the River Trent.	Post Medieval	SK 80090 55290	Within the Scheme
MM688	MNT3787	Weir at Newark	Post-medieval weir, located on the River Trent.	Post Medieval	SK 80080 55330	5m
MM690	MNT25341	Methodist Chapel, 65 Mill Gate	Methodist Chapel, constructed in 1776 but was only used for a short time as a preaching house. The building has since been converted for other uses.	Post Medieval	SK 79351 53613	450m
MM691	MNT25491	Kelham Hall, First Building	Site of original house at Kelham Hall, which was first built in the 17th century.	Post Medieval	SK 77430 55540	275m
MM694	MNT25955	Post Medieval Cottage at Castlegate, Newark	Excavated remains of an 18th century cottage, built upon the foundations of an earlier, medieval building (M18299)	Post Medieval	SK 79550 53870	305m
MM695	MNT25960	Post Medieval Building at St. Leonard's Court, Newark	Excavated remains of a 17th century house.	Post Medieval	SK 79880 54020	295m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM696	MNT25961	C18 Terraced Houses, Wilson Street, Newark	Excavated remains of 18th century brick-built terraced houses. The houses were constructed in 1766.	Post Medieval	SK 79930 54020	330m
MM697	MNT26495	Newark Castle Signal Box	Site of a railway signal box, built in 1912. The building was surveyed prior to removal in 2014.	Post Medieval	SK 79556 54263	50m
MM698	MNT14345	Lock Entry Cottage	18th century lock-keeper's cottage, built to oversee control of the Top Lock on the River Trent.	Post Medieval	SK 79510 53870	310m
MM699	MNT14349	Farndon Maltings; Marfleet and Richardson's; Thomp	Site of 19th century maltings, which were demolished during the 1970s.	Post Medieval	SK 78200 52800	10m
MM700	MNT14353	Former Warehouse at Navigation Yard, Newark	Former warehouse and office complex, constructed in the 19th century.	Post Medieval	SK 79453 53787	360m
MM701	MNT14355	Mill Bridge	River bridge	Post Medieval	SK 79330 53710	360m
MM702	MNT14358	Malthouse, Cow Lane, Newark	Site of 18th century malthouse, now demolished and built over.	Post Medieval	SK 79900 54390	145m
MM703	MNT14359	Ellis and Everard Builders Suppliers, North Gate/Cow Lane	Site of late 19th century malthouse, now demolished and built over.	Post Medieval	SK 79960 54350	215m
MM704	MNT14360	John Lee, Queen's Road	Site of late 19th century malthouse, now demolished and built over.	Post Medieval	SK 79990 54230	280m
MM705	MNT14361	Malthouse, 74 Farndon Road	19th century malthouse	Post Medieval	SK 78600 52970	195m
MM706	MNT14362	Malthouse, James Clark and Son	19th century malthouse	Post Medieval	SK 79420 53680	425m
MM708	MNT14364	Malthouse, Trent Brewery	19th century malthouse, originally part of Trent Brewery.	Post Medieval	SK 79300 53610	445m
MM709	MNT14410	Station Masters House at Appleton Gate, Newark	Station Masters House, built in 1881 for the Great Northern Railway.	Post Medieval	SK 80420 54430	300m
MM710	MNT14413	Jl Maltby Ltd at Newark	Late 19th century, purpose built shop and showroom, with attached workshop or store.	Post Medieval	SK 79780 54120	155m
MM711	MNT14422	Workshop at 32a-32d Castle Gate, Newark	19th century workshops.	Post Medieval	SK 79570 53920	255m
MM712	MNT14425	Warehouse at 49 Carter Gate, Newark	19th century warehouse	Post Medieval	SK 79650 53880	300m
MM713	MNT14426	Cuckstool Wharf at Newark	18th century wharf, along the River Trent.	Post Medieval	SK 79600 53990	185m
MM714	MNT14433	Malthouse Workers Houses at Farndon Road, Newark	Block of 19th century workers' housing, built for the workers at a nearby Malthouse.	Post Medieval	SK 78310 52690	10m
MM715	MNT14436	Trent Works; Windsor & Stephenson at Newark	19th century complex of workshops and offices	Post Medieval	SK 79590 54200	Within the Scheme
MM716	MNT14437	Abattoir at Newark	19th century abattoir complex.	Post Medieval	SK 79490 54270	60m
MM718	MNT14445	Malthouse to the rear of 14-16 Kirk Gate, Newark	Upstanding remains of a late 18th century malthouse	Post Medieval	SK 79800 54050	220m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM719	MNT14446	Terraced Houses at Newark	Block of 19th century workers' housing, built for the workers at a nearby Malthouse.	Post Medieval	SK 78280 52750	35m
MM723	MNT14452	Workshop at Newark	Late 19th century metalworking shop	Post Medieval	SK 79550 53790	385m
MM724	MNT14453	Railway Turntable at JW & H Branstons, Newark	Remains of a late 19th century railway turntable.	Post Medieval	SK 80370 54810	30m
MM725	MNT14457	Workshop to the rear of 30 Millgate, Newark	19th century warehouse and office complex	Post Medieval	SK 79428 53770	355m
MM726	MNT14462	Glasshouse, The Red House, Kelham	Early 20th century glasshouses	Post Medieval	SK 76970 55510	120m
MM727	MNT14464	Glasshouse & Conservatories at Kelham Hall	Early 20th century glasshouses	Post Medieval	SK 77400 55530	260m
MM728	MNT14467	Maltings at 61 Millgate, Newark	Site of late 19th century malthouse	Post Medieval	SK 79380 53630	455m
MM729	MNT14468	Ruined Sawmill at Newark	Remains of late 18th century sawmill, powered by the River Trent.	Post Medieval	SK 79194 53664	345m
MM730	MNT14469	J Horace Mills at Newark	Early 19th century mill complex	Post Medieval	SK 78320 52900	45m
MM731	MNT14471	Workshop at Newark	Former 19th century industrial workshop.	Post Medieval	SK 79890 54260	175m
MM732	MNT14472	Maltings Complex at 16,16a Northgate	19th century maltings complex.	Post Medieval	SK 79880 54180	195m
MM733	MNT14477	Wellington Foundry at Newark	Boundary wall, which was originally part of the 19th century Wellington Foundry.	Post Medieval	SK 80040 54520	180m
MM734	MNT14478	Almshouses at 79-89 Northgate, Newark	19th century Almshouses, which originally belonged to the Warwick and Richardsons Brewery.	Post Medieval	SK 80120 54500	215m
MM736	MNT14488	Flour Mill at Newark	Early 19th century flour mill complex, including mill owner's residence and office block.	Post Medieval	SK 78990 53940	55m
MM737	MNT14489	Farrar Boilerworks Ltd at Newark	Late 19th/early 20th century boiler works complex. Demolished and replaced by C21st housing development.	Post Medieval	SK 80170 54860	50m
MM738	MNT14490	Town Wharf at Newark	Late 18th century wharf on the River Trent.	Post Medieval	SK 79700 54180	60m
MM739	MNT14495	Vincent H Dodson Ltd, Town Wharf, Newark	19th century industrial complex, including a warehouse and boiler house.	Post Medieval	SK 79770 54170	110m
MM740	MNT14496	Malt Kiln Terrace at Newark	Site of late 19th century terrace. Malt Kiln Terrace was built in 1879 and demolished c.1980.	Post Medieval	SK 80300 54830	5m
MM741	MNT14500	Castle Wharf at Newark	19th century wharf on the River Trent.	Post Medieval	SK 79630 54100	90m
MM742	MNT14501	River Wharf at Newark	Late 18th century wharf on the River Trent.	Post Medieval	SK 79430 53780	350m
MM743	MNT14503	Huddlestone's Wharf Newark	Late 18th century wharf on the River Trent.	Post Medieval	SK 79400 53750	355m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM744	MNT14504	Disused Wharf at Newark	19th century wharf on the River Trent.	Post Medieval	SK 79830 54400	80m
MM745	MNT14505	Wharf at Cow Lane, Newark	Late 18th century wharf on the River Trent.	Post Medieval	SK 79920 54450	130m
MM746	MNT14506	Wharf at Newark	Former wharf, built in the 19th century to serve the Northgate Brewery.	Post Medieval	SK 80040 54660	40m
MM747	MNT14507	Railway Bridge at Newark	Former railway bridge, built in 1866.	Post Medieval	SK 80070 54780	Within the Scheme
MM748	MNT14508	Railway Bridge at Newark	Remains of railway bridge, built in 1866. The only remains are an abutment; the bridge itself which originally crossed the River Trent, has been demolished.	Post Medieval	SK 80100 54780	Within the Scheme
MM749	MNT14509	Railway Bridge at Newark	Former railway bridge, built in 1866.	Post Medieval	SK 80190 55340	Within the Scheme
MM750	MNT14510	Railway Viaduct at Newark	Railway Viaduct over the River Trent, built in 1892.	Post Medieval	SK 80060 55310	25m
MM751	MNT14512	Railway Bridge at Newark	Late 19th century railway bridge.	Post Medieval	SK 80020 55820	255m
MM752	MNT14513	Workshop to the rear of 17 Northgate, Newark	Late 18th century workshop building	Post Medieval	SK 79889 54275	170m
MM754	MNT14520	Newark Dyke Bridge	Late 19th century, single steel span bridge crossing the Newark Dyke.	Post Medieval	SK 80050 55750	195m
MM755	MNT14523	Smithy at Newark	Former smithy, built in the 19th century.	Post Medieval	SK 80010 54250	290m
MM756	MNT14524	Maltings at Newark	18th century maltings, now in use as offices.	Post Medieval	SK 80030 54250	310m
MM757	MNT14525	Depot at Newark	Early 20th century transport depot	Post Medieval	SK 80180 54420	295m
MM758	MNT14527	Storehouse at Newark	19th century storage building and courtyard complex	Post Medieval	SK 80310 54480	220m
MM760	MNT14537	Workshop to the rear of 34 Millgate, Newark	19th century workshops.	Post Medieval	SK 79412 53761	355m
MM761	MNT14538	Maltings on Slaughterhouse Lane, Newark	Site of late 19th century maltings, now built over	Post Medieval	SK 79850 54120	205m
MM762	MNT14540	Wheelwrights Workshop to rear of 30/32 Millgate, Newark	19th century wheelwrights' workshop complex	Post Medieval	SK 79440 55756	375m
MM764	MNT14630	Chapel at Averham	Chapel	Post Medieval	SK 76400 54540	140m
MM765	MNT14631	Saw Pit at Averham	Site of late 19th century saw pit	Post Medieval	SK 76340 54460	220m
MM766	MNT14634	Glasshouse at Averham	Site of early 20th century glasshouses	Post Medieval	SK 76470 54510	175m
MM767	MNT14635	Glasshouses at Averham	Site of early 20th century glasshouses, which once stood within the grounds of the Rectory.	Post Medieval	SK 76760 54410	355m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM768	MNT14644	Broadhurst; Gilstrap, Earp & Co Malthouse at Newark	Late 18th century malthouses. Demolished and replaced by C21st retail buildings.	Post Medieval	SK 79980 54450	185m
MM771	MNT14667	Boathouse by Devon Bridge, Newark	Site of early 20th century boat house.	Post Medieval	SK 78880 53220	355m
MM773	MNT14677	Dry Docks at Newark	Site of early 20th century dry docks.	Post Medieval	SK 79420 53840	295m
MM774	MNT14678	Top Lock at Newark	Late 18th century river lock, on the River Trent.	Post Medieval	SK 79500 53880	305m
MM775	MNT14679	Tannery at Newark	Site of early 20th century tannery.	Post Medieval	SK 79330 53660	410m
MM776	MNT14680	White House, Glasshouse at Newark	Site of early 20th century glasshouse	Post Medieval	SK 79240 53570	460m
MM777	MNT14682	Timber Yard at Newark	Site of early 20th century timber yard	Post Medieval	SK 79410 54320	20m
MM778	MNT14683	Midland Works; G Stephenson & Sons Ltd at Newark	Late 19th century iron foundry complex	Post Medieval	SK 79500 54240	80m
MM779	MNT14684	Trent Works at Newark	Site of late 19th century iron foundry complex. Now demolished.	Post Medieval	SK 79680 54250	Within the Scheme
MM780	MNT14685	Newark Cattle Market	Site of post-medieval cattle market complex.	Post Medieval	SK 79540 54180	30m
MM786	MNT14696	Malthouse at Newark	Upstanding remains of a late 18th century malthouse. All that remains is part of a wall.	Post Medieval	SK 79510 53850	330m
MM787	MNT14699	Malthouse at 48 Middle Gate, Newark	Early 19th century malthouse, later used as a cinema.	Post Medieval	SK 79730 53920	295m
MM789	MNT14703	Malthouse at Newark	Site of early 19th century malthouses, now built over.	Post Medieval	SK 79870 54120	220m
MM793	MNT14728	Glasshouses and Windpump at Farndon	Early 20th century windpump and glasshouses.	Post Medieval	SK 77950 52450	50m
MM794	MNT14758	Malthouse at Newark	Site of 19th century malthouses, now built over.	Post Medieval	SK 80420 54330	390m
MM795	MNT14773	Malthouse on George Street, Newark	19th century malthouses.	Post Medieval	SK 80316 54384	285m
MM796	MNT14774	Peach Maltings; R Bishop & Sons, Newark	Site of 19th century malthouses, now built over.	Post Medieval	SK 80179 54749	85m
MM797	MNT14776	Associated British Maltsters; JW & H Branstons, Newark	19th century malthouses, now built over	Post Medieval	SK 80350 54810	15m
MM798	MNT14777	JW and H Branston, Newark	19th century malthouses, now built over	Post Medieval	SK 80200 55050	45m
MM799	MNT14779	Probable Warehouse at The rear of 96 Appleton Gate, Newark	Site of 19th century warehouse, now used as a car park.	Post Medieval	SK 80440 54400	335m
MM800	MNT14791	Warwicks and Richardsons Brewery at	Site of large brewery complex, now largely demolished except for office range and brewhouse complex (Grade II listed 1277425).	Post Medieval	SK 80150 54540	195m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
		Newark				
MM801	MNT14847	Smithy at Winthorpe	Site of blacksmith's workshop, post-medieval in date.	Post Medieval	SK 81380 56740	400m
MM802	MNT14848	Summerhouse at Winthorpe Hall	Site of summer house, which was once located within the grounds of Winthorpe Hall	Post Medieval	SK 81200 56670	340m
MM803	MNT14849	Glasshouse at Winthorpe	Site of glasshouse within the grounds of Winthorpe Hall, post-medieval in date.	Post Medieval	SK 81340 56690	430m
MM804	MNT14867	Sheepwash at Winthorpe	Post-medieval sheepwash	Post Medieval	SK 81410 56550	285m
MM805	MNT14868	Glasshouse at Winthorpe	Site of glasshouse, within the grounds of the Grange (now demolished and built over).	Post Medieval	SK 81290 56520	300m
MM806	MNT14869	The Grange at Winthorpe	Site of large residence and associated grounds, including glasshouse M3807. The house has since been demolished and built over.	Post Medieval	SK 81360 56420	215m
MM807	MNT14870	Bleaching House at Winthorpe	Site of post-medieval bleaching house.	Post Medieval	SK 81590 56030	Within the Scheme
MM808	MNT14873	Glasshouse at Winthorpe	Site of post-medieval glasshouses.	Post Medieval	SK 81180 56300	80m
MM809	MNT14879	Glasshouses at Winthorpe House	Site of post-medieval glasshouses.	Post Medieval	SK 81580 56620	200m
MM810	MNT14882	Windmill at Winthorpe	Site of 19th century windmill.	Post Medieval	SK 81930 56860	115m
MM811	MNT14884	Outbuildings at Langford Hall	Site of post-medieval glasshouses and summer house at Langford Hall.	Post Medieval	SK 82340 57450	50m
MM812	MNT14885	Two Mile House at Langford	Site of post-medieval house.	Post Medieval	SK 82360 56870	Within the Scheme
MM813	MNT14888	Former Chemical Works at Newark	Former chemical manure works, dating to the 19th century. Only a small portion is still standing.	Post Medieval	SK 80180 55320	5m
MM814	MNT14890	Newark Crossing	19th century level crossing built in 1852. An associated signal box has since been demolished.	Post Medieval	SK 80150 55490	Within the Scheme
MM815	MNT14898	The Hollies at Winthorpe Road, Newark	Former detached house and associated grounds. Large parts have since been demolished and the grounds have been redeveloped for residential purposes.	Post Medieval	SK 80910 55700	105m
MM816	MNT14995	Osmondthorpe Works; Mumby & Son Ltd at Newark	Site of early 20th century clothing works.	Post Medieval	SK 80260 54290	405m
MM817	MNT14996	Malthouse at Newark	Site of late 19th century malthouse, now demolished and built over.	Post Medieval	SK 80030 54250	310m
MM818	MNT15895	House at 17-21 Millgate, Newark	Site of mid-17th century house, now demolished and built over.	Post Medieval	SK 79500 53780	395m
MM819	MNT16869	Windmill at Newark	Site of late 18th/early 19th century windmill, now built over.	Post Medieval	SK 78190 52850	25m
MM820	MNT16895	Windmill, Trent Side, Newark	Site of late 18th/early 19th century windmill, now built over.	Post Medieval	SK 80170 54900	50m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM821	MNT16896	Windmill, Lincoln Road, Newark	Site of late 18th/early 19th century windmill, now built over.	Post Medieval	SK 80470 54970	100m
MM822	MNT16897	Windmill, Newark	Site of late 18th/early 19th century windmill, now built over.	Post Medieval	SK 79050 53890	110m
MM823	MNT16898	Windmill, Farndon Field, Newark	Site of late 18th/early 19th century windmill, now built over.	Post Medieval	SK 78510 53050	95m
MM824	MNT16899	Windmill, Farndon Field, Newark	Site of late 18th/early 19th century windmill, now built over.	Post Medieval	SK 78450 53010	45m
MM825	MNT17109	Windmill Site at Newark	Site of late 18th/early 19th century windmill, now built over.	Post Medieval	SK 78310 52920	20m
MM826	MNT26593	Mill at Town Lock, Newark	Upstanding remains of mid-19th century saw mill at Town Lock. The only extant remains recorded is that of a brick arch, relating to a tail leat.	Post Medieval	SK 79470 53890	295m
MM827	MNT26654	Grounds at Averham Parsonage	Post-medieval designed landscape, associated with the Parsonage at Averham.	Post Medieval	SK 76752 54373	330m
MM828	MNT26671	Park at Kelham Hall	Post-medieval designed landscape, designed by Nesfield for the Sutton family at Kelham Hall.	Post Medieval	SK 77230 55229	Within the Scheme
MM829	MNT26674	Grounds at Langford Hall	Post-medieval designed landscape, associated with Langford Hall.	Post Medieval	SK 82358 57465	Within the Scheme
MM830	MNT26695	Park at Winthorpe Hall	Post-medieval designed landscape, associated with Winthorpe Hall.	Post Medieval	SK 80959 56721	Within the Scheme
MM832	MNT27208	41, 43, 45, 47 and 49 King Street	19th century brick built terrace.	Post Medieval	SK 79357 53418	635m
MM833	MNT27209	12 To 52 (even) Victoria Street	19th century brick built terrace.	Post Medieval	SK 79454 53460	630m
MM834	MNT27588	The Fox Inn	Early 18th century public house, built in the traditional local brick and pantile architecture.	Post Medieval	SK 77424 55715	430m
MM836	MNT10412	Pillbox at Kelham Hall	An FW3/22 pillbox, constructed during World War II. The structure was largely washed away during flooding but still visible when the river is low.	Modern	SK 77400 55300	35m
MM838	MNT25338	Southfield House	Sheltered housing, built in 1969-70 and designed by Gordon Benoy and Partners for Newark Housing Association.	Modern	SK 79226 53387	605m
MM839	MNT25759	Footbridge at Town Lock, Newark	Concrete and iron footbridge, constructed in 1950 over by-pass channel downstream of Town Lock.	Modern	SK 79510 53957	225m
MM840	MNT14454	Webb Woollies Ltd at Newark	Early 20th century factory block.	Modern	SK 79420 54280	40m
MM841	MNT14466	Town Lock at Millgate, Newark	Mid-20th century canal lock, which was built to replace a previous one.	Modern	SK 79484 53882	305m
MM842	MNT14470	Kelham Home Grown Sugar	Sugar beet factory complex, built c.1920	Modern	SK 79340 55240	290m
MM843	MNT14484	Abattoir at Newark	Early 20th century abattoir	Modern	SK 79320 54120	30m
MM844	MNT14511	Wharf at Newark	Early 20th century wharf, built to serve the nearby sugar beet factory.	Modern	SK 80000 55500	135m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM845	MNT14514	Former Telephone Exchange on Water Lane, Newark	Former telephone exchange, built in 1938.	Modern	SK 79889 54298	160m
MM846	MNT14539	Town Lock House at Newark	Lock keeper's cottage, built c.1970.	Modern	SK 79490 53920	270m
MM847	MNT14775	Baird's Malthouse; J Hole & Co, Newark	Site of 1904 malthouse, now built over.	Modern	SK 80230 54780	70m
MM848	MNT27025	Raf Winthorpe	RAF base, which opened in September 1940 as a satellite for RAF Swinderby.	Modern	SK 82539 56160	Within the Scheme
MM849	MNT10301	Pit Alignment at Newark	Undated pit alignment, identified as a cropmark	Undated	SK 81120 55890	Within the Scheme
MM850	MNT10302	Ditch at Newark	Undated ditch, identified as a cropmark	Undated	SK 81150 55770	Within the Scheme
MM851	MNT10670	Linear Features at Lincoln Road, Newark	Undated field boundaries, identified through geophysical survey	Undated	SK 81060 55750	20m
MM852	MNT10675	Linear Features at Lincoln Road, Newark	Excavated remains of medieval ridge and furrow and linear features	Undated	SK 81044 55835	Within the Scheme
MM854	MNT11599	Ditches at Lincoln Road, Newark	Excavated remains of undated ditches	Undated	SK 81150 55730	25m
MM855	MNT11922	Ditches, Averham Relief Road, Averham	Excavated remains of a possible Iron Age field system	Undated	SK 76070 54670	110m
MM856	MNT12120	Limestone Deposit at North Gate, Newark	Excavated remains of an undated spread of limestone fragments	Undated	SK 80050 54430	260m
MM857	MNT12141	Geophysical Anomalies In Area A, St Catherine's Cottage, Newark	Undated pits and linear features, identified through geophysical survey	Undated	SK 78950 53000	480m
MM858	MNT12158	Earthworks at Newark Kiln Marina, Newark	Excavated remains of undated boundary ditches and terraced ground	Undated	SK 79900 54600	75m
MM859	MNT2937	Enclosures at Kelham	Undated enclosure complex, identified through aerial photography.	Undated	SK 76900 55300	Within the Scheme
MM861	MNT2985	Cropmark Complex at Averham	Undated enclosure complex and droveway, identified through aerial photography.	Undated	SK 76700 54600	160m
MM864	MNT2999	Linear Features & Circle at Farndon	Undated linear and circular features, identified through aerial photography.	Undated	SK 77900 52200	60m
MM865	MNT3002	Linear Features at Farndon	Undated field system, identified through aerial photigraphy	Undated	SK 77750 51700	Within the Scheme
MM866	MNT3005	Enclosures & Linear Features at Averham	Undated enclosure complex, identified through aerial photography.	Undated	SK 78060 54423	340m
MM868	MNT3129	Linear Features at Averham	Undated linear features, identified through aerial photography.	Undated	SK 75900 54800	280m
MM869	MNT3132	Linear Features & Enclosure at Averham	Undated linear features and enclosure, identified through aerial photography.	Undated	SK 76300 54950	10m
MM870	MNT3219	Oval Depression at Kelham	Undated circular feature.	Undated	SK 77680 55540	340m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM872	MNT3453	Spring at Newark	Undated spring, marked on early 20th century mapping.	Undated	SK 78110 53640	Within the Scheme
MM873	MNT3542	Bank at Newark	Undated flood bank, marked on early 20th century mapping.	Undated	SK 78520 52210	385m
MM874	MNT3543	Bank at Newark	Undated flood bank, marked on early 20th century mapping.	Undated	SK 78660 52450	395m
MM875	MNT3574	Cropmark Complex at Winthorpe	Undated enclosure complex, identified through aerial photography.	Undated	SK 80850 56400	Within the Scheme
MM876	MNT3575	Cropmark Complex at Newark	Undated enclosure complex, identified through aerial photography.	Undated	SK 80600 56150	Within the Scheme
MM877	MNT3588	Circular Enclosure at Langford	Undated enclosure complex and ring ditch, identified through aerial photography.	Undated	SK 82100 57200	55m
MM878	MNT3622	Enclosure at Langford	Undated enclosure complex, identified through aerial photography.	Undated	SK 81900 57500	365m
MM879	MNT3623	Cropmarks at Newark	Undated enclosure and trackway complex, identified through aerial photography.	Undated	SK 80700 54600	400m
MM880	MNT3663	Piles at Newark	Undated timber piles observed within the River Trent. These may be the remains of an undated bridge.	Undated	SK 80330 56360	215m
MM881	MNT3729	Ditch at Langford	Undated ditch, identified on early 20th century mapping.	Undated	SK 82410 57690	290m
MM882	MNT3730	Ditch at Langford	Undated ditch, identified on early 20th century mapping.	Undated	SK 82590 57570	245m
MM883	MNT3735	Bank at Winthorpe	Undated earthwork, identified on early 20th century mapping.	Undated	SK 80570 56700	160m
MM884	MNT3736	Earthwork at Winthorpe	Undated earthwork, identified on early 20th century mapping.	Undated	SK 80670 56650	45m
MM885	MNT3800	Earthwork and Pond at Winthorpe	Undated pond, identified on early 20th century mapping.	Undated	SK 81540 55840	25m
MM886	MNT3801	Drainage Ditch at Winthorpe	Undated drainage ditch, identified on early 20th century mapping	Undated	SK 81800 55820	105m
MM888	MNT5742	Possible Ring Ditch at Langford	Possible ring ditch.	Undated	SK 82040 57190	105m
MM890	MNT7767	Earthwork at Kelham	Undated earthwork, which has been interpreted as an unfinished Civil War defence or a convergence of two trackways.	Undated	SK 77720 55560	380m
MM892	MNT8318	Enclosure & Linear Feature at Farndon	Undated enclosure complex, identified through aerial photography.	Undated	SK 77830 52518	10m
MM893	MNT8319	Enclosure at Farndon	Undated enclosure complex, identified through aerial photography.	Undated	SK 77693 52792	Within the Scheme
MM896	MNT8389	Linear Feature at Newark	Undated linear feature, identified through aerial photography.	Undated	SK 80800 56200	Within the Scheme
MM898	MNT8399	Cropmark Complex at Langford	Undated enclosure complex, identified through aerial photography.	Undated	SK 82700 57800	325m

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM899	MNT8400	Cropmark Complex at Langford	Undated enclosure complex, identified through aerial photography.	Undated	SK 82300 57600	205m
MM900	MNT8401	Cropmark Complex at Langford	Undated enclosure complex, identified through aerial photography.	Undated	SK 82500 57500	165m
MM901	MNT8726	Burial From Hoval Farrar, Newark	Undated inhumation, possibly associated with a larger cemetery. Roman remains were uncovered during the construction of the former Farrar's Works in the early 20th century, including further inhumations.	Undated	SK 80200 54900	55m
MM902	MNT9604	Enclosure at Farndon	Undated enclosure complex, identified through aerial photography.	Undated	SK 77740 51910	135m
MM903	MNT9606	Enclosure & Pits at Newark	Undated enclosure and pit complex, identified through aerial photography.	Undated	SK 79300 54600	Within the Scheme
MM904	MNT9607	Field Boundaries & Enclosure at Averham	Undated enclosure and field boundaries, identified through aerial photography.	Undated	SK 78008 54952	415m
MM905	MNT9631	Enclosures at Newark	Undated enclosure complex, identified through aerial photography.	Undated	SK 78120 55040	650m
MM906	MNT9643	Enclosures at Kelham	Undated enclosure complex, identified through aerial photography.	Undated	SK 76470 55670	440m
MM908	MNT25675	Settlement at Newark	Undated settlement cropmarks, identified through aerial photography	Undated	SK 78883 55349	380m
MM909	MNT26588	Enclosure at Averham	Undated enclosure complex, identified through aerial photography.	Undated	SK 77600 54800	445m
MM910	MNT27619	Undated Pits	Excavated remains of multi-period features at Kelham Hall. The remains include activity dating from the early medieval and medieval periods.	Undated	SK 77469 55519	265m
MM911	N/A	Old Trent Dyke	A watercourse known as the Old Trent Dyke. Modern drain represents fossilised modified relic paleochannels related to the River Trent. The former course of the Old Trent Dyke appears on cartographic sources since 16th century, with historical references from the mid – 12th century. The dyke also forms a historic land boundary belonging to Southwell, Farndon, East Stoke and Newark as well as a division between the hundreds of Thurgarton, Newark and Newark Borough. The exact age and history of the dyke is unknown. Geoarchaeological works undertaken for this project by AMS and YAT have identified organic deposits in this area. A report compiled by YAT, mapping paeleochaneels of the Trent basin, also identifies a paeleochannel in this area.	Undated	NGR 478678 354207	Within the Scheme
MM912	N/A	Palaeochannel Associated With The Old Trent Dyke	EA Lidar data shows a potential paeleochannels on the southern side of the Old Trent Dyke. Geoarchaeological work undertaken for this project by AMS has identified organic deposits in this area. A report compiled by YAT, mapping paeleochannels of the Trent basin, also identifies a paeleochannel in this area.	Prehistoric	NGR 478678 354207	Within the Scheme
MM930	N/A	Possible enclosure sites and associated archaeological features	Multiple linear features identified during geophysical survey (MM1261) in Area 20, interpreted as possible settlement enclosures and associated relict field systems. Features include; a Network of overlapping and interconnected ditches, possibly indicative of ancient settlement extending over an area measuring about 140m by 65m which corresponds to cropmark monument (MM541) and the possible footprint of several circular structures averaging 5m in diametre, as well as other discrete features comprising potential ditches and pits.	Undated	SK 80631 56178	Within the Scheme
MM931	N/A	Possible enclosure site, palaeochannels and relict field system	Multiple linear features identified during geophysical survey (MM1261) in Area 21. Features include: a rectilinear network of ditches suggestive of former field system and or settlement; possible small enclosure/structure 10m in diametre and a possible paleochannel or artificial watercourse. Larger paeleochannels have been identified in this area through geophysical survey and alluvial deposits have been noted during GI works. These paeleochannels are also identified in the YAT mapping project.	Undated	SK 80631 56178	Within the Scheme
MM932	N/A	Possible archaeological feature	Possible archaeological feature identified during geophysical survey (MM1261) in Area 22. Feature comprises a possible flat-bottomed, ‘U shaped’ feature measuring approximately 50m by 5m, perhaps defined by narrow ditches. The precise nature and significance of this anomaly are uncertain.	Undated	SK 81042 56080	Within the Scheme

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
MM933	N/A	Possible enclosure site and/or relict field system	Possible archaeological features identified during geophysical survey (MM1261) in Area 24. These include: a potential network of 'ditch type' features, possibly indicative of former enclosures and/or field systems extending over an area measuring c.155m by 85m and a possible bank of relict field boundary, c.150m in length.	Undated	SK 81431 56095	Within the Scheme
MM934	N/A	Enclosure cropmarks	Identified through aerial imagery, a large cluster of linear features can be seen. Possibly forming a large enclosure.	Undated	SK 81727 56422	Within the Scheme
MM935	N/A	Possible archaeological features	Possible archaeological features identified during geophysical survey (MM1261) in Area 28. These include possible pits/spreads, some may contain burnt or fired material. Archaeological interpretation is cautious. Modern/ferrous origin also conceivable.	Undated	SK 82000 56689	Within the Scheme
MM936	N/A	Possible archaeological features	Possible archaeological features identified during geophysical survey (MM1261) in Area 29. These features included: possible pits/spreads, which may contain burnt or fired material as seen in (MM935) and a possible quarry pit (c.70m by 32m) which is not marked on historic OS mapping.	Undated	SK 82147 56746	Within the Scheme
MM937	N/A	Possible ring ditch, barrows and ditches	Possible archaeological features identified during geophysical survey (MM1261) in Area 30. These features included: a possible ring-ditch or circular structure defined by a narrow ditch or slot trench, approx. 10m in overall diametre which appears to be breached by a c.1.2m-wide entrance gap; two possible circular enclosures measuring c.20m in diametre; and a number of possible ditches and/or drains.	Undated	SK 82278 57216	Within the Scheme
MM938	N/A	Possible ditches/field boundaries	Possible archaeological features identified during geophysical survey (MM1261) in Area 32. These features included: two possible ditches and/or relict field boundaries of archaeological or modern origin.	Undated	SK 82169 56570	Within the Scheme
MM939	N/A	Brick Culvert	Brick Culvert identified during watching brief orientated E-W.	Undated	SK 77203 55258	Within the Scheme
MM940	N/A	Former Parish Boundary	Former course of Parish boundary identited during watching brief.	Undated	SK 77362 55256	Within the Scheme
MM941	N/A	Site of Manor House	Walls discovered during a watching brief related to a 16th/17th Century Manor House.	Undated	SK 77795 55174	300m
MM942	N/A	Possible ditches/field boundaries	Possible archaeological features identified during geophysical survey (MM1261) in Area 25. These include linear ditches/drains not depicted on historic mapping but may indicate former field boundaries.	Undated	SK 81537 56240	Within the Scheme
MM943	N/A	Possible ditches and pits	Possible archaeological features identified during geophysical survey (MM1261) in Area 26. These include: a group of possible associated ditches which correspond to cropmarks identifies by aerial imagery; and possible pits/spreads which may contain burnt or fired material.	Undated	SK 81744 56389	Within the Scheme
MM944	N/A	Possible ditches/field boundaries/pits	Possible archaeological features identified during geophysical survey (MM1261) in Area 27. These include: linear ditches/drains not depicted on historic mapping but may indicate former field boundaries; and possible pits/spreads which may contain burnt or fired material.	Undated	SK 81863 56553	Within the Scheme
MM945	N/A	Possible enclosure site and/or relict field system	Possible archaeological features identified during geophysical survey (MM1261) in Area 48. These include: a network of interconnected ditches indicative of ancient enclosure or field system covering an area of 70m x 45m; partial footprint of a rectilinear enclosure measuring c.40m x 26m and possible pits deposits	Undated	SK 76872 55272	Within the Scheme
MM946	N/A	Possible ditches/field boundaries/drains	Possible archaeological features identified during geophysical survey (MM1261) in Area 49. These include possible ditch/drain and relict field boundaries/	Undated	SK 76262 54821	Within the Scheme
MM947	N/A	Possible ditches	Possible archaeological features identified during geophysical survey (MM1261) in Area 51. These include possible ditch/drainage chanel or levelled bank; two narrow ditches/drains; and possible natural iron rich deposits.	Undated	SK 76704 54891	Within the Scheme
MM948	N/A	Paleochannel on route of ditch	Paleochannel identified through archaeological and geoarchaeological monitoring (MM1266) undertaken by YAT as part of the A46 Newark Bypass Scheme. Follows line of modern drainage ditch. Identified in YAT boreholes 46, 47, 54.	Undated	SK 77030 53764	Within the Scheme
MM949	N/A	Organic deposit	An organic deposit identified through geoarchaeological coring (MM1265) undertaken by AMS as part of the A46 Newark Bypass Scheme. Not associated with any currently known paleochannel. Identified in AMS borehole 27.	Undated	SK 77030 53764	Within the Scheme
MM950	N/A	Paleochannel	A paleochannel identified through archaeological and geoarchaeological monitoring (MM1266) undertaken by YAT as part of the A46 Newark Bypass Scheme. Runs alongside the route of the medieval road (MM559) directly east of the Great Northern Road. AMS geoarchaeological coring (MM1265)	Undated	SK 77030 53764	Within the Scheme

MM No.	HER No.	Name	Description	Period	NGR	Distance from Scheme
			targeted this feature with borehole 26, however no organic deposits were recorded. Likely to be related to (MM951).			
MM951	N/A	Paleochannel	Paleochannel identified through archaeological and geoarchaeological monitoring (MM1266) undertaken by YAT and geoarchaeological coring (MM1265) undertaken by AMS as part of the A46 Newark Bypass Scheme. Identified in AMS borehole 25. Likely to be related to (MM950).	Undated	SK 77030 53764	Within the Scheme
MM952	N/A	Paleochannel	Paleochannel identified through archaeological and geoarchaeological monitoring (MM1266) undertaken by YAT and geoarchaeological coring (MM1265) undertaken by AMS as part of the A46 Newark Bypass Scheme. Identified in AMS borehole 21 and YAT boreholes 28, 35.	Undated	SK 77030 53764	Within the Scheme
MM953	N/A	Paleochannel/Organic deposits	Paleochannel identified through geoarchaeological coring (MM1265) undertaken by AMS as part of the A46 Newark Bypass Scheme. AMS borehole 23 identified organic deposits in this location. The YAT archaeological and geoarchaeological monitoring (MM1266) identified a paleochannel to the north (MM952) and to the south-west outside of the Order Limits of the Scheme. it is considered that the paleochannel would continue through this location.	Undated	SK 77030 53764	Within the Scheme
MM954	N/A	Organic Deposits	An organic deposit identified through geoarchaeological coring (MM1265) undertaken by AMS as part of the A46 Newark Bypass Scheme. Deposit identified within AMS borehole 18. Deposit not associated with any currently known paleochannel.	Undated	SK 77030 53764	Within the Scheme
MM955	N/A	Paleochannel	Paleochannel identified through archaeological and geoarchaeological monitoring (MM1266) undertaken by YAT and geoarchaeological coring (MM1265) undertaken by AMS as part of the A46 Newark Bypass Scheme. Identified within AMS borehole 13.	Undated	SK 77030 53764	Within the Scheme
MM956	N/A	Paleochannel	Paleochannel identified through identified through archaeological and geoarchaeological monitoring (MM1266) undertaken by YAT and geoarchaeological coring (MM1265) undertaken by AMS as part of the A46 Newark Bypass Scheme. Likely to be a former route of the Old Trent Dyke. Related to MM958. AMS borehole 9, YAT borehole 13, 3.	Undated	SK 77030 53764	Within the Scheme
MM957	N/A	Paleochannel	Paleochannel identified through YAT mapping project and AMS geoarchaeological coring for this project. Related to MM959. YAT boreholes 51, 26, 27	Undated	SK 77030 53764	Within the Scheme
MM958	N/A	Paleochannel	Paleochannel identified through YAT mapping project and YAT and AMS geoarchaeological coring for this project. Likely to be a former route of the Old Trent Dyke. Related to MM956. Potentiall continues east then south alongside the Old Trent Dyke. AMS borehole 14.	Undated	SK 77030 53764	Within the Scheme
MM959	N/A	Paleochannel	Paleochannel identified through YAT mapping project and AMS geoarchaeological coring for this project. Related to MM957. AMS boreholes 33, 35	Undated	SK 77030 53764	Within the Scheme
MM960	N/A	Paleochannel	Paleochannel identified through YAT mapping project. AMS geoarchaeological coring for this project did not identify organic deposits in this area but did identify organic deposits in borehole 4 to the north-east. AMS boreholes 3, 4, 5.	Undated	SK 77030 53764	Within the Scheme
MM961	N/A	Paleochannel	Paleochannel identified through YAT mapping project. AMS geoarchaeological coring for this project did not identify organic deposits in this area. AMS borehole 15	Undated	SK 77030 53764	Within the Scheme
MM962	N/A	Paleochannel	Paleochannel identified through YAT mapping project. AMS geoarchaeological coring for this project did not identify organic deposits in this area. May relate to MM963. AMS borehole 1	Undated	SK 77030 53764	Within the Scheme
MM963	N/A	Organic Deposits	Organic deposits identified through AMS and YAT geoarchaeological coring either side of the A46 directly north of the River Trent's current course. May indicate presence of a paleochannel. May relate to MM962. AMS boreholes 2, 10. YAT boreholes 2	Undated	SK 77030 53764	Within the Scheme
MM964	N/A	Newark Civil War Landscape	Wider landscape and interconnectivity of the Scheduled Monuments, surrounding surviving land and any related non designated assets from the Civil War era.	Post Medieval	N/A	Partially within the Scheme

Appendix Table 0-3: Archaeological events recorded within 500m of the Scheme (illustrated in Appendix B, Drawing B.4, Sheets 1 to 16)

MM No.	HER No.	Name	Event Type
MM990	ENT100	Excavations at North Gate Allotments, Newark by Gorin	Evaluation

MM No.	HER No.	Name	Event Type
MM991	ENT101	Excavation at The Friary, Newark	Excavation
MM992	ENT102	Excavation at Franciscan Friary, Newark	Excavation
MM993	ENT1020	Watching Brief at 98 Lincoln Road, Newark	Watching Brief
MM994	ENT1024	Watching Brief, Millgate, Newark	Watching Brief
MM995	ENT103	Excavation at The Spitals, Newark	Excavation
MM996	ENT1043	Watching Brief at The Market Place, Newark	Watching Brief
MM997	ENT1045	Watching Brief at Bridge Street, Newark	Watching Brief
MM998	ENT1059	Excavation at Mount Lane, Newark by Todd	Excavation
MM999	ENT1069	Field Observation by U Spence, at Lombard Street, Newark	Non-Intrusive Survey
MM1000	ENT1079	Casual Find at Queen's Sconce, Newark	Casual Find
MM1001	ENT141	Excavation at Colonel Greye's Sconce, Newark	Excavation
MM1002	ENT1739	Casual Find from Newark	Casual Find
MM1003	ENT1740	Casual Find from Newark	Casual Find
MM1004	ENT188	Excavation of town ditch at Victoria Street, Newark	Excavation
MM1005	ENT189	Development of Victoria Street site, Newark	Watching Brief
MM1006	ENT1890	Casual Find at North Muskham	Casual Find
MM1007	ENT1894	Casual Find from Newark	Casual Find
MM1008	ENT1899	Casual Find from Newark	Casual Find
MM1009	ENT1900	Casual Find from Newark	Casual Find
MM1010	ENT193	Excavation of Redoubt 11B, Newark	Excavation
MM1011	ENT197	Research Excavations at Newark Castle 1992	Excavation
MM1012	ENT1995	Casual Find from Averham	Casual Find
MM1013	ENT1996	Casual Find at Averham	Casual Find
MM1014	ENT1999	Casual Find from Averham	Casual Find
MM1015	ENT2001	Casual Find from Newark	Casual Find
MM1016	ENT2002	Casual Find from Newark	Casual Find
MM1017	ENT2005	Casual Find from Newark	Casual Find
MM1018	ENT2006	Casual Find from Newark	Casual Find
MM1019	ENT2007	Casual Find from Kelham	Casual Find
MM1020	ENT2008	Casual Find from Kelham	Casual Find
MM1021	ENT2027	Casual Find from Averham	Casual Find
MM1022	ENT2033	Field Observation at Averham	Non-Intrusive Survey
MM1023	ENT2034	Field Observation at Averham by Newsome	Non-Intrusive Survey
MM1024	ENT2035	Casual Find from Newark	Casual Find
MM1025	ENT2036	Casual Find from Newark	Casual Find
MM1026	ENT2043	Casual Find from Newark	Casual Find
MM1027	ENT2047	Casual Find from Newark	Casual Find
MM1028	ENT2051	Casual Find from Newark	Casual Find
MM1029	ENT2052	Casual Finds from Spitals/Northgate Allotments, Newark	Casual Find
MM1030	ENT2054	Casual Find at Brewery, Newark	Excavation
MM1031	ENT2055	Casual Find at Brewery, Newark	Excavation
MM1032	ENT2061	Casual Find from Newark	Casual Find
MM1033	ENT2062	Casual Find from Newark	Casual Find

MM No.	HER No.	Name	Event Type
MM1034	ENT2070	Casual Find from Newark	Excavation
MM1035	ENT2071	Casual Find from Newark	Casual Find
MM1036	ENT2072	Casual Find from Newark	Casual Find
MM1037	ENT2074	Casual Find from Newark	Casual Find
MM1038	ENT2082	Rebuilding, Bridge Street, Newark	Excavation
MM1039	ENT2083	Casual Find at Winthorpe by B H Seaman	Casual Find
MM1040	ENT2190	Metal Detecting Find from Farndon	Non-Intrusive Survey
MM1041	ENT2531	Casual Find from Kelham	Casual Find
MM1042	ENT2532	Casual Find from Averham	Casual Find
MM1043	ENT2533	Casual Find from Newark	Casual Find
MM1044	ENT2534	Casual Find from Newark	Casual Find
MM1045	ENT2535	Unpublished Excavation at Newark	Excavation
MM1046	ENT2536	Casual Find from Newark	Casual Find
MM1047	ENT2537	Non-Archaeological Excavation, Newark	Excavation
MM1048	ENT2538	Casual Find from Newark	Casual Find
MM1049	ENT2539	Casual Find from 26 Kirkgate, Newark	Casual Find
MM1050	ENT254	Watching Brief at Church of St. Mary Magdalene, Newark	Watching Brief
MM1051	ENT2540	Casual Find from Newark	Casual Find
MM1052	ENT2541	Casual Find from Newark	Casual Find
MM1053	ENT2542	Casual Find from Newark	Casual Find
MM1054	ENT2543	Casual Find from Newark	Casual Find
MM1055	ENT255	Excavations at The Friary, Newark 2	Excavation
MM1056	ENT256	Excavations at The Cemetery of St. Leonard's Hospital, Newark	Excavation
MM1057	ENT263	Excavation at St. Leonard's Court, Newark - NSL 05	Excavation
MM1058	ENT264	Excavation at The Duke of Cumberland, Newark	Excavation
MM1059	ENT270	Excavation at 38 Lombard Street, Newark	Excavation
MM1060	ENT271	Excavation at Slaughterhouse Lane, Newark - NSL 02, 04	Excavation
MM1061	ENT272	Excavation at Slaughterhouse Lane, Newark - NSL 01	Excavation
MM1062	ENT273	Watching Brief at Slaughterhouse Lane, Newark - NSL 03	Watching Brief
MM1063	ENT274	Excavation at Bell’s Yard, Newark 1984	Excavation
MM1064	ENT277	Field Walking In Averham And Kelham Parishes	Non-Intrusive Survey
MM1065	ENT278	Field Walking In Averham Parish	Non-Intrusive Survey
MM1066	ENT279	Field Walking In Averham Parish 2	Non-Intrusive Survey
MM1067	ENT2879	Casual Find from Newark	Casual Find
MM1068	ENT2880	Casual Find from Newark	Casual Find
MM1069	ENT2881	Building Survey By Rchm, 17-21 Millgate, Newark	Building Survey
MM1070	ENT2885	Casual Find from Newark	Casual Find
MM1071	ENT2886	Casual Find from Newark	Casual Find
MM1072	ENT2887	Casual Find from Newark	Casual Find
MM1073	ENT2888	Casual Find from Newark	Casual Find
MM1074	ENT2925	Non-Archaeological Excavation at Newark	Excavation
MM1075	ENT2968	Casual Find from Newark	Casual Find
MM1076	ENT2969	Casual Find from Newark	Casual Find

MM No.	HER No.	Name	Event Type
MM1077	ENT2990	Casual Find from Langford	Casual Find
MM1078	ENT2991	Casual Find from Crankley Point	Casual Find
MM1079	ENT2992	Casual Find from South Muskham	Casual Find
MM1080	ENT2994	Casual Find from Newark	Casual Find
MM1081	ENT2996	Non-Archaeological Excavation at Farrar's Works, Newark	Excavation
MM1082	ENT2997	Casual Find from Newark	Casual Find
MM1083	ENT3001	Casual Find from Newark	Casual Find
MM1084	ENT3002	Casual Find from Newark	Casual Find
MM1085	ENT3003	Casual Find from Newark	Casual Find
MM1086	ENT3008	Casual Find from Newark	Casual Find
MM1087	ENT3047	Casual Find from Newark	Casual Find
MM1088	ENT3048	Casual Find from Newark	Casual Find
MM1089	ENT3161	Casual Find from Newark	Casual Find
MM1090	ENT3169	Non-Archaeological Excavation Near Old White Hart, Newark	Excavation
MM1091	ENT3172	Casual Find from Newark	Casual Find
MM1092	ENT3180	Metal Detector Use, Farndon	Non-Intrusive Survey
MM1093	ENT3265	Test Pitting at Crankley Point, Newark, By TPAT	Evaluation
MM1094	ENT3266	Survey at Crankley Point, Newark, By TPAT	Non-Intrusive Survey
MM1095	ENT3270	Watching Brief at Market Place and Bridge Street, Newark, By John Samuels	Watching Brief
MM1096	ENT3295	Finds During Restoration of The Governor's House, Newark, By Renofors Ltd.	Casual Find
MM1097	ENT3313	Watching Brief in The Market Place, Newark, By CLAU	Watching Brief
MM1098	ENT3325	Trial Trenching at Newark Town Wharf By TPAT	Evaluation
MM1099	ENT3326	Watching Brief at Newark Town Wharf By JSAC	Watching Brief
MM1100	ENT3329	Non-Archaeological Excavation at Old White Hart, Newark	Excavation
MM1101	ENT3331	Casual Find from Farndon	Casual Find
MM1102	ENT3368	Watching brief on repairs to E/W pathway, S of St. Mary Magdalene, Newark	Watching Brief
MM1103	ENT3369	Salvage excavation at the Church of St Mary Magdalene, Newark, by TPAT	Excavation
MM1104	ENT3448	Casual Find from Newark	Casual Find
MM1105	ENT3450	Casual Find from Newark	Excavation
MM1106	ENT3456	Watching Brief at Newark Town Wharf by CLAU	Watching Brief
MM1107	ENT3495	Site visit at Farndon by TPAT	Non-Intrusive Survey
MM1108	ENT3527	Watching brief at St. Mary Magdalene, Newark, by TPAT	Watching Brief
MM1109	ENT3529	Excavation, Areas 01 and 03, Cow Lane, Northgate, Newark, by TPAT	Evaluation
MM1110	ENT3530	Excavation, Area 02, Cow Lane, Northgate, Newark, by TPAT	Evaluation
MM1111	ENT3531	Watching brief on cable laying in Newark by TPAT	Watching Brief
MM1112	ENT3532	Watching brief at Bonkers Discount, Middle Gate, Newark	Watching Brief
MM1113	ENT3533	Watching brief at Nos 7-11 Albert Street, Newark, by TPAT	Watching Brief
MM1114	ENT3551	Fieldwalking on water main replacement between Kelham and Newark, by TPAT	Non-Intrusive Survey
MM1115	ENT3582	Excavation at 'The Gap', Castlegate, Newark, by JSAC	Excavation
MM1116	ENT3585	Watching brief at Edward Aveune, Newark by JSAC	Watching Brief
MM1117	ENT3586	Evaluation at Newark Marina, Newark, by JSAC	Excavation
MM1118	ENT3587	Field observation during work on Devon Bridge, Newark	Non-Intrusive Survey
MM1119	ENT3589	Trial trenching at Millgate House Hotel, Newark, by Dr J Samuels and LAS	Evaluation

MM No.	HER No.	Name	Event Type
MM1120	ENT3590	Excavation at Stodman Mews, Newark, by Dr John Samuels	Excavation
MM1121	ENT3592	Excavation at St. Leonard's Court, Newark	Excavation
MM1122	ENT3593	Watching brief at Northgate, Newark, by JSAC	Watching Brief
MM1123	ENT3595	Evaluation at Castle Station site, Newark, by JSAC	Excavation
MM1124	ENT3597	Watching brief at 44a - 48a Lombard Street, Newark, by JSAC	Watching Brief
MM1125	ENT3598	Excavation at the Song School, Newark, by JSAC	Excavation
MM1126	ENT3625	Excavation at 45 Balderton Gate, Newark by LAS / JSAC	Excavation
MM1127	ENT3629	Watching brief on Castlegate - lower Northgate at Newark, by TPAT	Watching Brief
MM1128	ENT3631	Watching brief at Potterdyke Car Park, Newark, by JSAC	Watching Brief
MM1129	ENT3633	Watching brief at Wharf Café, Newark, by JSAC	Watching Brief
MM1130	ENT3647	Watching brief at Northgate, Newark, by TPAT	Watching Brief
MM1131	ENT3648	Evaluation Trenches at Church Street, Newark, by JSAC	Excavation
MM1132	ENT3654	Evaluation at the Cattle Market site, Newark, by CLAU	Evaluation
MM1133	ENT3664	Watching brief at Church Street, Newark, by CLAU	Watching Brief
MM1134	ENT3665	Watching brief at Stodman Mews by JSAC	Watching Brief
MM1135	ENT3677	Excavation at Old White Hart, Newark, by John Samuels	Excavation
MM1136	ENT3678	Watching brief at site of St Leonard's Church, Newark, by TPAT	Watching Brief
MM1137	ENT3680	Excavation at Church Walk, Newark, by JSAC	Excavation
MM1138	ENT3681	Watching brief on water main replacement, Kelham to Newark, by TPAT	Watching Brief
MM1139	ENT3688	Watching brief at Lincoln Road, Newark, by JSAC	Watching Brief
MM1140	ENT3696	Watching brief on extension at Morrison's, Northgate, Newark, by TPAT	Watching Brief
MM1141	ENT3705	Evaluation at The Friary, Newark, by TPAT	Evaluation
MM1142	ENT3709	Trial trenching at Millgate, Newark, by LAS	Evaluation
MM1143	ENT3710	Watching brief at Cow Lane Wharf, Newark, by APS	Watching Brief
MM1144	ENT3728	Boreholes to S of Newark Castle by Nicholls Colton and Partners	Borehole Survey
MM1145	ENT3733	Fieldwalking at Farndon by Wessex Archæology	Non-Intrusive Survey
MM1146	ENT3734	Test pitting at Farndon Fields by Wessex Archæology	Evaluation
MM1147	ENT3756	Watching brief on road construction at Averham by ARCUS	Watching Brief
MM1148	ENT3757	Fieldwalking at Winthorpe Road, Newark by JSAC	Non-Intrusive Survey
MM1149	ENT3758	Trial trenching at Winthorpe Road, Newark by JSAC	Evaluation
MM1150	ENT3759	Fieldwalking at Winthorpe Road, Newark by JSAC	Non-Intrusive Survey
MM1151	ENT3760	Area excavation on land off Winthorpe Road, Newark, by JSAC	Excavation
MM1152	ENT3764	Topographical survey at Newark by LAS	Non-Intrusive Survey
MM1153	ENT3765	Cartographic survey at Newark by Ordnance Survey	Desk Based
MM1154	ENT3776	Trial trenching at Warwick's and Richardson's Brewery, Newark, by TPAT	Evaluation
MM1155	ENT3876	Excavation at Newark Cattle Market by JSAC	Excavation
MM1156	ENT3879	Evaluation at the Market Place, Newark, by APS	Evaluation
MM1157	ENT3883	Watching brief at the Rowing Club, Newark by JSAC	Watching Brief
MM1158	ENT3914	Watching brief at Newark Castle by JSAC	Watching Brief
MM1159	ENT3916	Trial trenching at Fosse Way, Langford by TPAU	Evaluation
MM1160	ENT3924	Trial trenching at Mount Primary School, Newark, by TSAC	Evaluation
MM1161	ENT3925	Casual find at The Mount School, Newark, by Ursilla Spence	Casual Find
MM1162	ENT3930	Watching brief at North Gate, Newark, by JSAC	Watching Brief

MM No.	HER No.	Name	Event Type
MM1163	ENT3940	Watching brief / trial trenching at Northgate retail park, Newark, by TPAU	Watching Brief
MM1164	ENT3941	Watching brief on topsoil stripping at Northgate Retail Park, Newark, by TPAU	Watching Brief
MM1165	ENT3942	Geophysical survey at St Catherine's Cottage, Newark, by Pre-Construct Geophysics	Non-Intrusive Survey
MM1166	ENT3943	Trial trenching at Robin Hood Hotel, Newark, by JSAC	Evaluation
MM1167	ENT3953	Watching brief during auguring [sic] at Newark Kiln Marina by JSAC	Watching Brief
MM1168	ENT3954	Earthwork survey at Kiln Marina site, Newark, by JSAC	Non-Intrusive Survey
MM1169	ENT3956	Trial trenching in borrow pits at Staythorpe by ARCUS	Evaluation
MM1170	ENT3959	Excavation at Mason's Field, Farndon, by FARI	Excavation
MM1171	ENT3960	Metal detecting at Mason's Field, Farndon, by B Gillard	Non-Intrusive Survey
MM1172	ENT3961	Geophysical survey at Mason's Field, Farndon, by Pre-Construct Geophysics	Non-Intrusive Survey
MM1173	ENT3962	Discovery of artefacts by an unknown party via unknown means at Farndon	Casual Find
MM1174	ENT3963	Casual finds during drainage works at Farndon	Casual Find
MM1175	ENT3969	Trial trenching at Newark by M&M	Evaluation
MM1176	ENT3974	Watching brief on groundworks for residential development, Kelham, by APS	Watching Brief
MM1177	ENT3994	Casual find at Averham moat	Casual Find
MM1178	ENT403	Metal Detecting Finds from Collingham	Non-Intrusive Survey
MM1179	ENT4030	Trial Trenching at Winthorpe Rack, Conservation Pond	Evaluation
MM1180	ENT4031	Geotechnical Test Pits: Former Mount Lane School, Mount Lane, Newark	Evaluation
MM1181	ENT4032	Watching brief at Former Mount School, Mount Lane, Newark	Watching Brief
MM1182	ENT4061	Trial trenching at Stephenson Way, Newark	Evaluation
MM1183	ENT4067	DBA of Watermill Yard, Millgate, Newark	Desk Based
MM1184	ENT4071	Watching Brief at Queen's Sconce and Devon Park, Newark by PCA	Watching Brief
MM1185	ENT4078	Site visit by M Cook to Millgate, Newark	Non-Intrusive Survey
MM1186	ENT408	EXCAVATIONS AT NEWARK FRIARY	Excavation
MM1187	ENT4094	Watching brief at Co-op Store, Kirkgate by TPAT	Watching Brief
MM1188	ENT4102	Evaluation at 4-6 Middlegate, Newark by PCA	Evaluation
MM1189	ENT4110	Walkover survey at Kiln Marina site in 1998	Non-Intrusive Survey
MM1190	ENT4111	Ground investigation (auger survey) at Kiln Marina, Newark	Borehole Survey
MM1191	ENT4113	Recording of three sections at Newark Dyke Moorings (Kiln Marina)	Excavation
MM1192	ENT412	Casual Find from Newark	Casual Find
MM1193	ENT4146	Watching Brief during groundworks on Land off Maltkiln Lane, Newark, Nottinghamshire.	Watching Brief
MM1194	ENT4171	Building Survey of Newark Castle Signal Box	Building Survey
MM1195	ENT4202	Trial trenching at Warwicks & Richardsons Brewery, Northgate, Newark by APS	Evaluation
MM1196	ENT4203	Watching brief at Warwicks & Richardsons Brewery, Northgate, Newark by APS	Watching Brief
MM1197	ENT4226	Building Survey of Robin Hood Hotel, Newark by Prospect Archaeology	Building Survey
MM1198	ENT4227	Building Recording of the exterior of the Robin Hood Hotel, Newark	Building Survey
MM1199	ENT4234	Building Survey of The Wharf Café, Town Wharf, Newark	Building Survey
MM1200	ENT427	Watching Brief at East Field, Church Lane, Averham	Excavation
MM1201	ENT4280	Former Magnus Grammar School, Appleton Gate, Newark. Archaeological Assessment.	Desk Based
MM1202	ENT4303	Crankley Point, Newark on Trent, Archaeological Enhanced Scoping Report	Desk Based
MM1203	ENT4305	Newark Sewer Flooding Archaeological Desk-based Appraisal	Desk Based
MM1204	ENT4350	An Archaeological Watching Brief - Old Dairy, Lovers Lane, Newark on Trent, Nottinghamshire	Watching Brief
MM1205	ENT4359	Land at Flash Farm, Nottinghamshire, Archaeological Geophysical Survey 2014	Non-Intrusive Survey

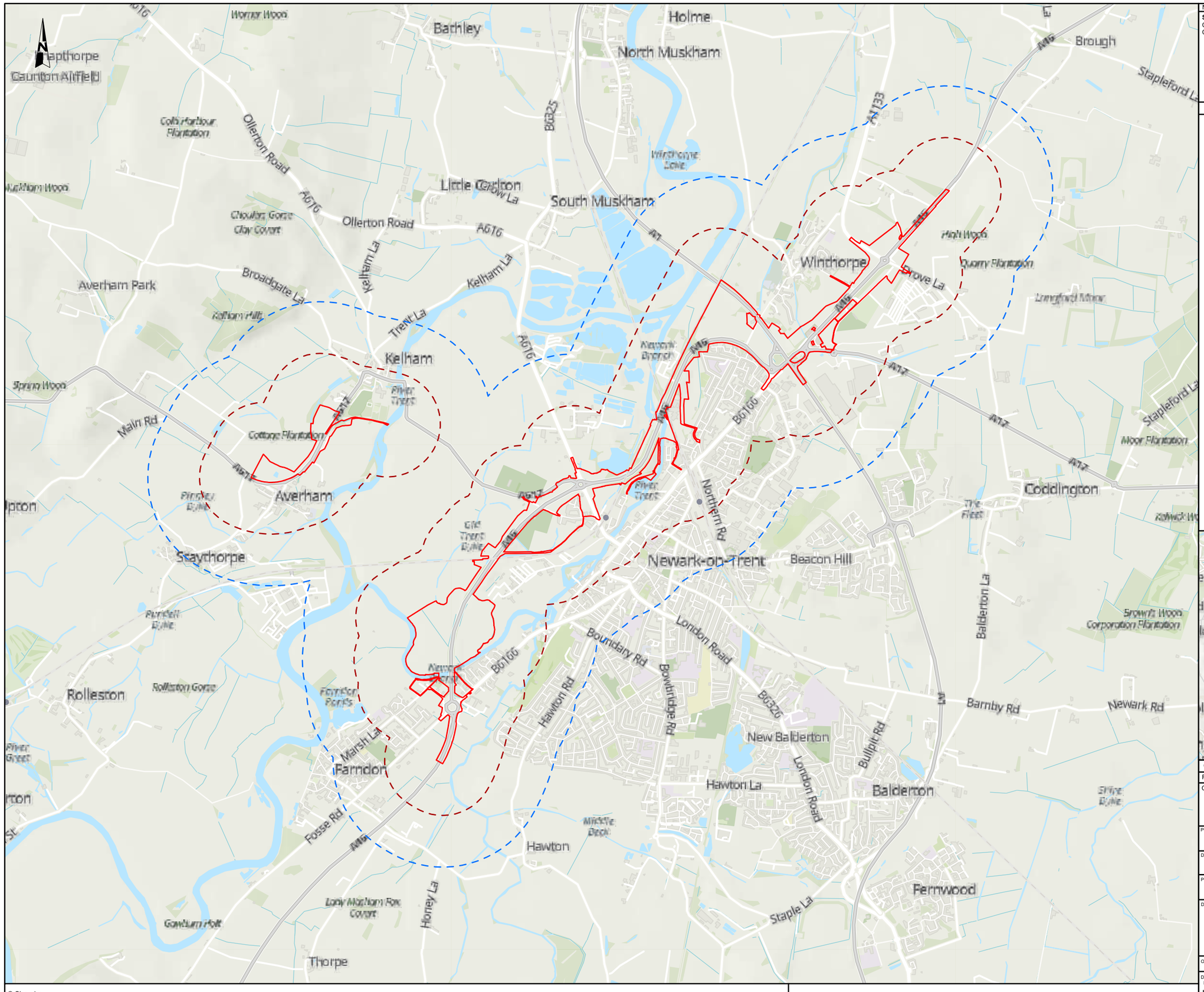
MM No.	HER No.	Name	Event Type
MM1206	ENT4391	Archaeological Building Recording of 14-22 Portland Street, Newark.	Building Survey
MM1207	ENT4392	Building Survey as part of Heritage Assessment of The White House, 84 Millgate, Newark	Building Survey
MM1208	ENT4414	Site Visit and photography of front and rear elevations of Former Newark Millgate Museum Premises	Building Survey
MM1209	ENT4420	Building/Condition Survey of the Old White Hart for MSc report by Andrew Dixon	Building Survey
MM1210	ENT4427	Watching brief at The Whitehouse, Mill Gate, Newark by APS	Watching Brief
MM1211	ENT4431	Timber Sampling of timbers from 1-3 North Gate (formerly Transport House) Newark	Building Survey
MM1212	ENT447	Casual Find from Newark	Casual Find
MM1213	ENT4476	Geophysical survey at Crees Lane, Farndon by FARI	Non-Intrusive Survey
MM1214	ENT4495	Timber sampling of one purlin at 5 Balderton Gate, Newark	Building Survey
MM1215	ENT4496	Timber sampling at 33 Balderton Gate, Newark	Building Survey
MM1216	ENT4497	Timber sampling from 22-24 Kirkgate, Newark	Building Survey
MM1217	ENT4498	Timber sampling at The Old White Hart, Newark	Building Survey
MM1218	ENT4500	Timber sampling from The Woolpack Inn, Stodman Street, Newark	Building Survey
MM1219	ENT451	Field Observation at Newark	Non-Intrusive Survey
MM1220	ENT4540	Archaeological Monitoring and Recording at the Palace Theatre, Newark	Watching Brief
MM1221	ENT4549	Trial pit, borehole, and geotechnic pit excavation at Farndon Fields, A46 Newark to Widmerpool Improvements	Borehole Survey
MM1222	ENT4582	Site Visit and photography for Statement of Significance for The Fox Inn and 4 Blacksmith Lane, Kelham	Non-Intrusive Survey
MM1223	ENT4589	Thermal Imaging at Church of St. Michael, Averham in 2018	Building Survey
MM1224	ENT4602	Geophysical survey of land around Kelham Hall	Non-Intrusive Survey
MM1225	ENT4603	Metal detecting in land around Kelham Hall	Non-Intrusive Survey
MM1226	ENT4604	Trial trenching at park at Kelham Hall	Evaluation
MM1227	ENT466	Watching Brief on Land at Lincoln Road, Newark	Watching Brief
MM1228	ENT485	Geophysical Survey at Lincoln Road Newark	Non-Intrusive Survey
MM1229	ENT535	Excavation at Newark Castle 1954	Excavation
MM1230	ENT548	Excavation at Newark Castle 1955	Excavation
MM1231	ENT549	Excavation at Newark Castle 1956	Excavation
MM1232	ENT551	Excavations at Newark Castle 1975	Excavation
MM1233	ENT552	Watching Brief at Cuckstool Wharf, Newark	Watching Brief
MM1234	ENT553	Watching Brief at the Gilstrap Library, Newark Castle	Watching Brief
MM1235	ENT616	Watching Brief at the Rear of Gilstrap Library, Newark Castle	Watching Brief
MM1236	ENT652	Research Excavations at Newark Castle 1993	Excavation
MM1237	ENT657	Trial Excavation at Newark Castle 1994	Excavation
MM1238	ENT679	Excavation at Castlegate, Newark by Todd	Excavation
MM1239	ENT847	Newark's Industrial Archaeological Resource	Non-Intrusive Survey
MM1240	ENT856	Excavation at Slaughterhouse Lane, Newark - NSL 06	Excavation
MM1241	ENT857	Watching brief at Slaughterhouse Lane, Newark - NSL 07	Watching Brief
MM1242	ENT858	Casual find at Friary, Newark	Casual Find
MM1243	ENT87	Excavation at the Market Place, Newark	Excavation
MM1244	ENT88	Excavation at Lombard Street, Newark	Excavation
MM1245	ENT89	Excavation at 121 & 123 Millgate, Newark	Excavation
MM1246	ENT90	Excavation at North Bar, Slaughterhouse Lane, Newark	Excavation
MM1247	ENT909	Fieldwalking Survey at Lincoln Road, Newark	Non-Intrusive Survey
MM1248	ENT91	Excavations at 119 & 121 Mill Gate, Newark	Excavation

MM No.	HER No.	Name	Event Type
MM1249	ENT914	Trenches at Lincoln Road, Newark	Evaluation
MM1250	ENT92	Excavations at Newark Castle Undercroft 1953	Excavation
MM1251	ENT925	Research Excavations at Newark Castle 1994	Excavation
MM1252	ENT926	Geophysical Survey at Newark Castle	Non-Intrusive Survey
MM1253	ENT928	Archaeological Investigations At Newark Castle 1998	Watching Brief
MM1254	ENT93	Excavation At Newark Castle 1972	Excavation
MM1255	ENT94	Excavation at the Old White Hart, Newark	Excavation
MM1256	ENT95	Excavation at Queen's Sconce, Newark	Excavation
MM1257	ENT96	Excavation at Saracen's Head Yard, Newark	Excavation
MM1258	ENT97	Excavation at St. Mark's Lane, Newark	Excavation
MM1259	ENT98	Excavation by White Hart Yard, Newark by Todd	Excavation
MM1260	ENT99	Excavation at Lombard Street/St Mark's Lane, Newark by Todd	Excavation
MM1261	N/A	Geophysical survey undertaken between September 2022 and March 2023 by Archaeological Management Solutions as part of the A46 Newark Bypass Scheme.	Geophysical Survey
MM1262	N/A	Metal detector survey undertaken between September 2022 and March 2023 by Archaeological Management Solutions as part of the A46 Newark Bypass Scheme.	Metal Detector Survey
MM1263	N/A	Fieldwalking survey undertaken between September 2022 and March 2023 by Archaeological Management Solutions as part of the A46 Newark Bypass Scheme.	Fieldwalking Survey
MM1264	N/A	Archaeological watching monitoring of seven Ground Investigation trial pits undertaken between 9th and 11th May 2023 by Archaeological Management Solutions as part of the A46 Newark Bypass Scheme.	Watching Brief
MM1265	N/A	Geoarchaeological Coring undertaken comprised of 38 boreholes undertaken between 4th and 22nd May 2023 by Archaeological Management Solutions as part of the A46 Newark Bypass Scheme.	Geoarchaeological Coring
MM1266	N/A	Archaeological and geoarchaeological monitoring for ground investigations undertaken by the York Archaeological Trust between March and July 2021 as part of the A46 Newark Bypass Scheme.	

Source: Nottinghamshire HER (2022) and AMS (2023).

Appendix B: Drawings

B.1 Location of the Scheme Order Limit and study areas



NOTES

Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Designated heritage assets study area
- Non-designated heritage assets study area

REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.1
Order Limits and Heritage Study Areas

ORIGINAL SIZE: A3 | SCALE: 1:35,000

DRAWING NUMBER: HE PIN HE551478 | ORIGINATOR SKAG | VOLUME EHR | LOCATION CONWI_CONW | TYPE DR | ROLE LH | NUMBER 00072

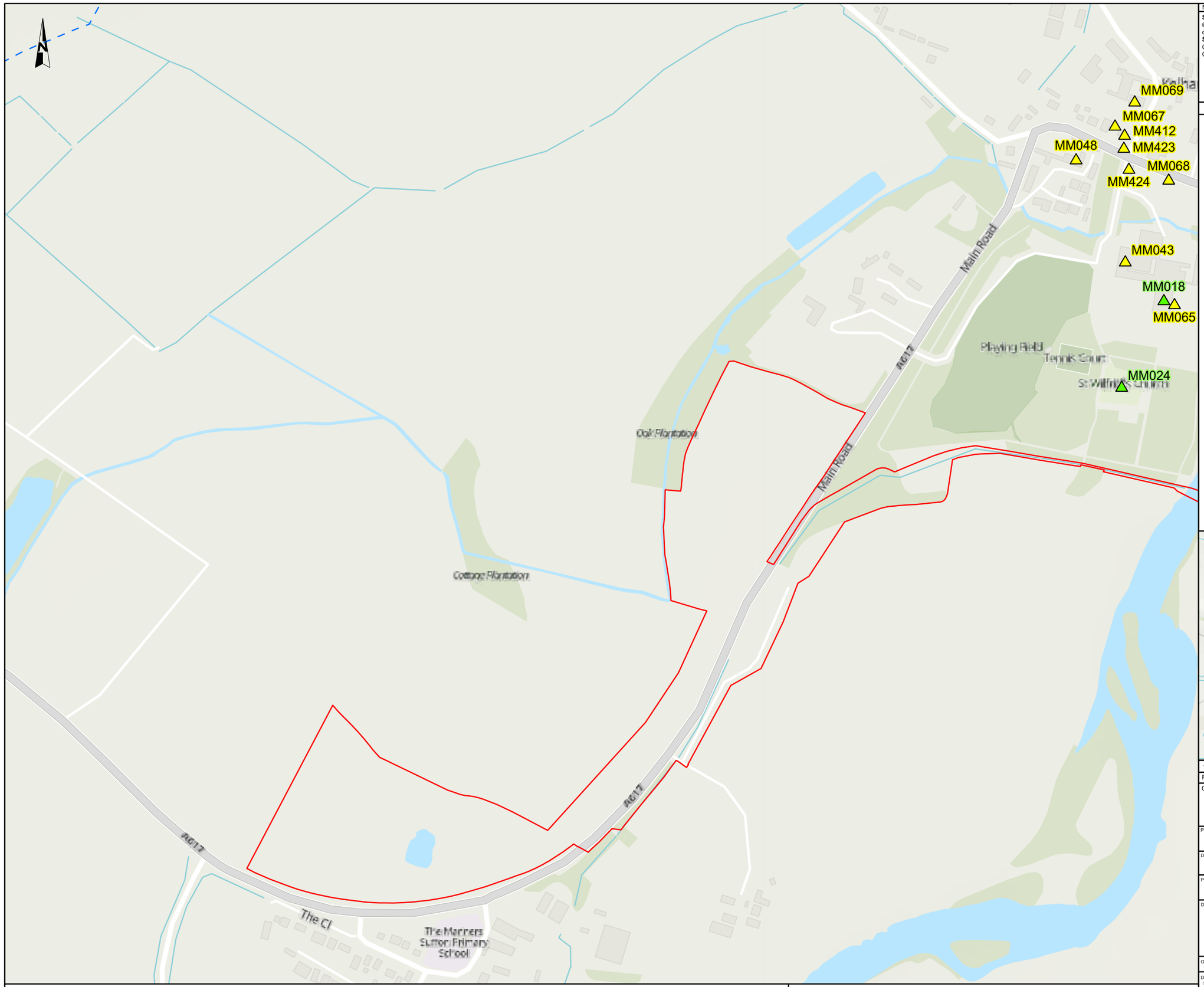
PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 1,000 2,000 Metres

B.2 Location of designated heritage assets recorded within 1km of the Scheme (Sheets 1 to 15)

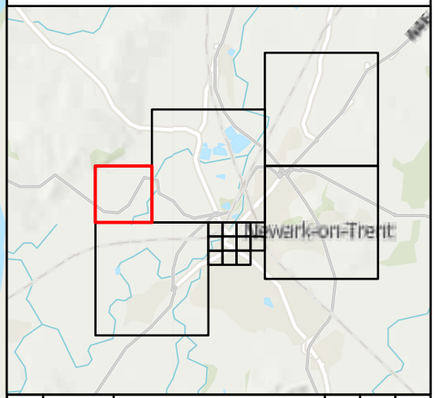


NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Designated heritage assets study area
- Grade I Listed Building
- Grade II Listed Building



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.2
Designated Heritage Assets
Sheet: 1 of 15

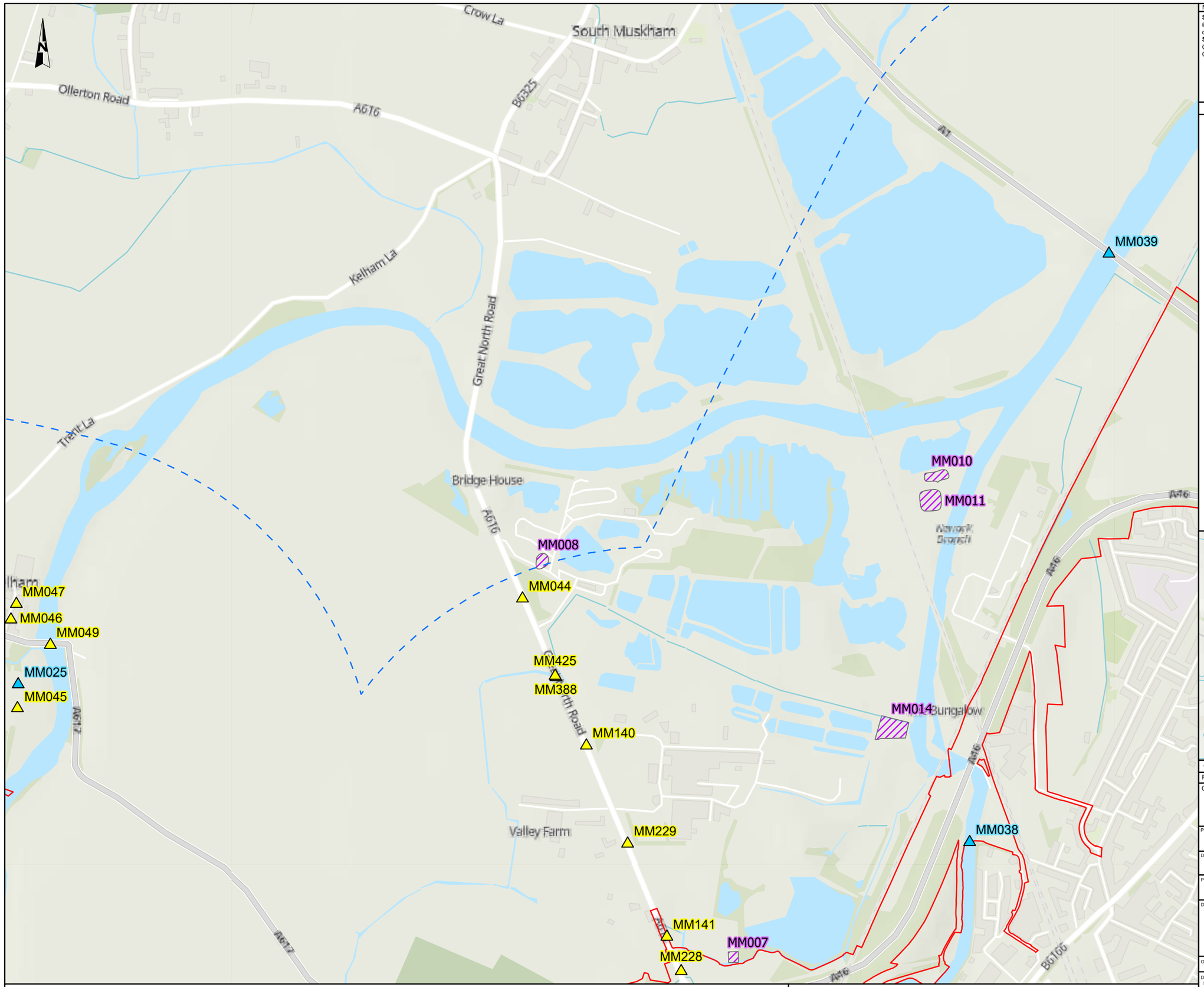
ORIGINAL SIZE: A3 | SCALE: 1:5,000

DRAWING NUMBER HE PIN	ORIGINATOR	VOLUME	PROJECT REF NO.
HE551478	SKAG	EHR	HE551478

LOCATION	TYPE	ROLE	NUMBER	REVISION
CONWI_CONW	DR	LH	00057	C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

Metres
0 40 80

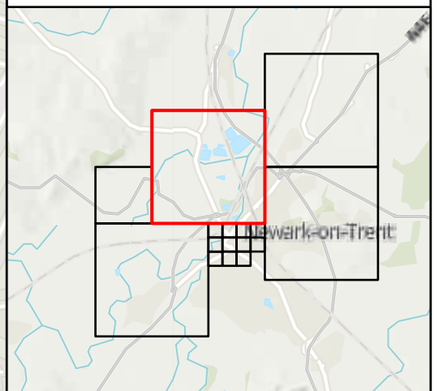


NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Designated heritage assets study area
- Grade II Listed Building
- Grade II* Listed Building
- Scheduled Monument



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.2
Designated Heritage Assets
Sheet: 2 of 15

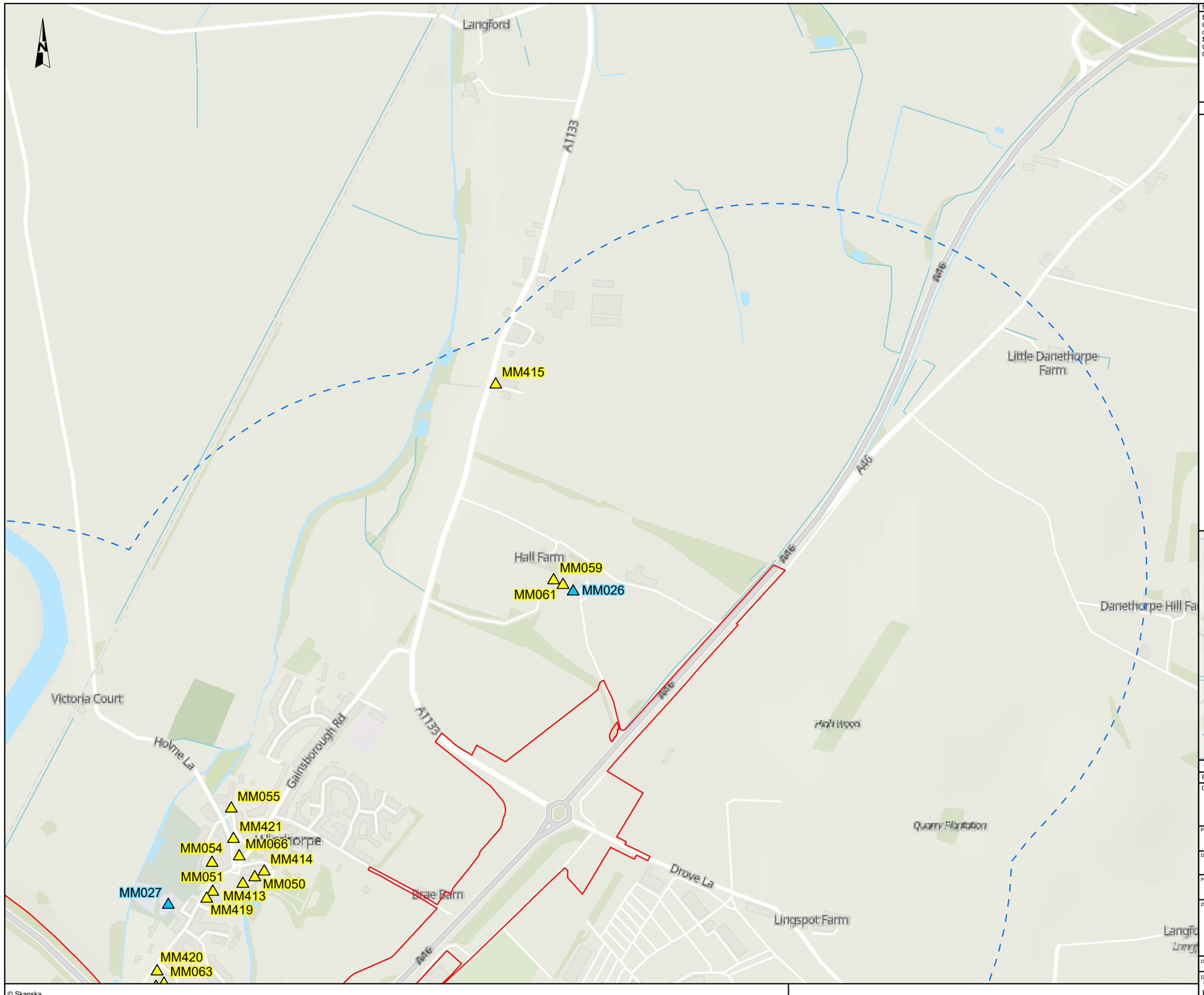
ORIGINAL SIZE: A3 | SCALE: 1:10,000

DRAWING NUMBER HE PIN	ORIGINATOR	VOLUME	PROJECT REF NO.
HE551478	SKAG	EHR	HE551478

LOCATION	TYPE	ROLE	NUMBER	REVISION
CONWI_CONW	DR	LH	00058	C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

Metres
0 40 80

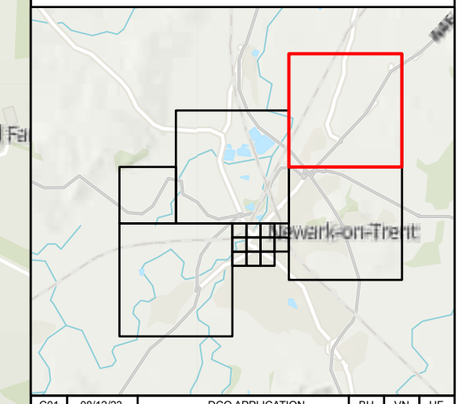


NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Designated heritage assets study area
- Grade II Listed Building
- Grade II* Listed Building



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.2 Designated Heritage Assets Sheet: 3 of 15

ORIGINAL SIZE: A3 SCALE: 1:10,000

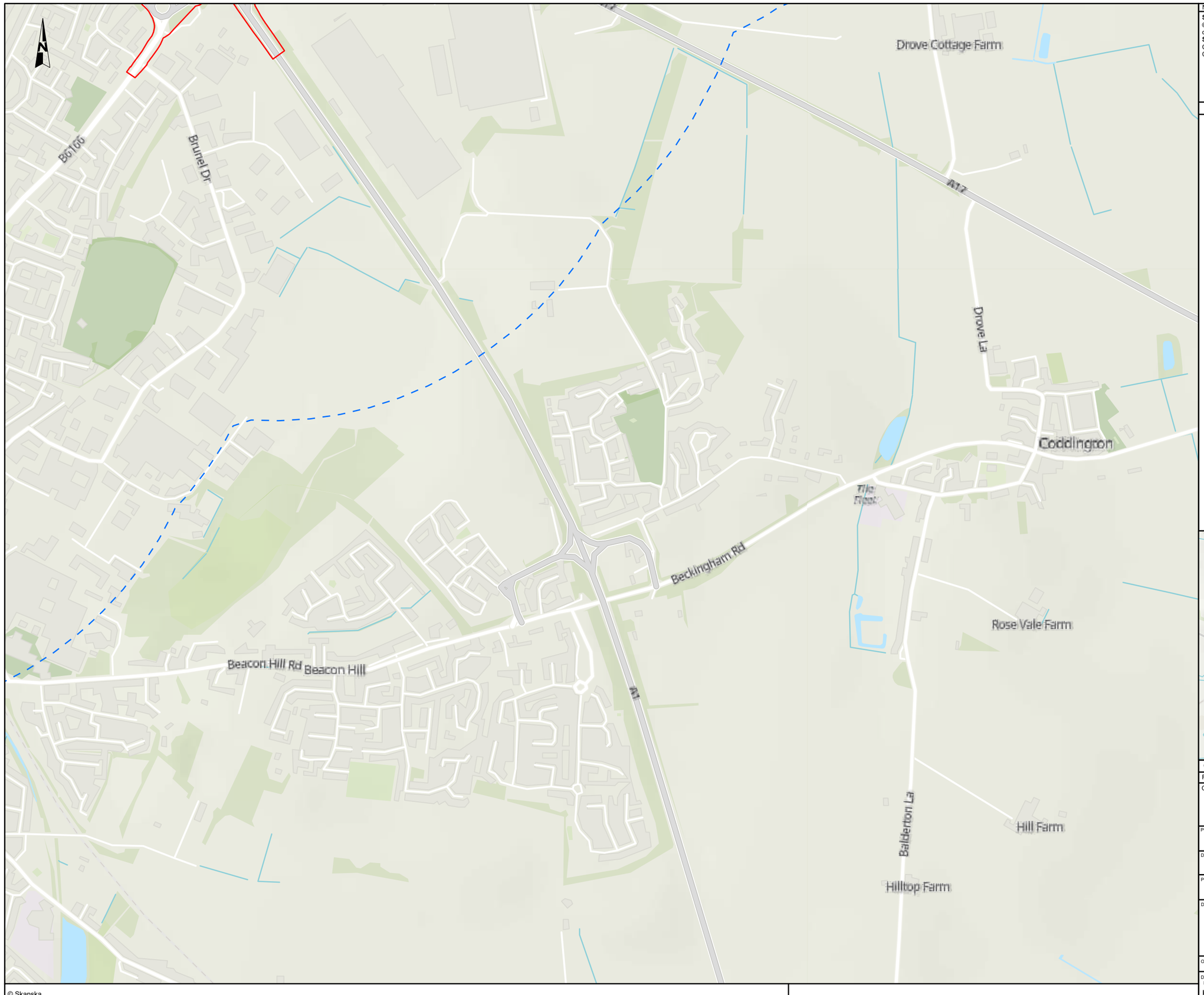
DRAWING NUMBER: HE PIN HE551478 | ORIGINATOR SKAG | VOLUME EHR | LOCATION CONWI_CONW | TYPE DR | ROLE LH | NUMBER 00059

PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

Metres
0 40 80



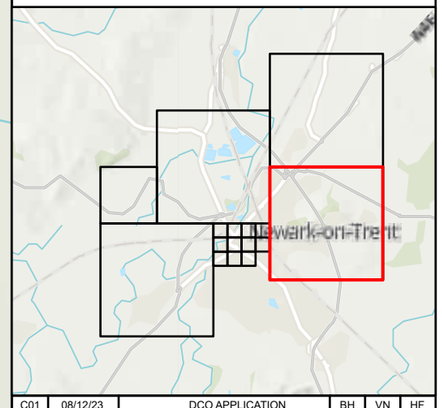
NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

Order Limits

Designated heritage assets study area



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.2
Designated Heritage Assets
Sheet: 4 of 15

ORIGINAL SIZE A3
SCALE 1:10,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00060

PROJECT REF NO.
HE551478

REVISION
C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

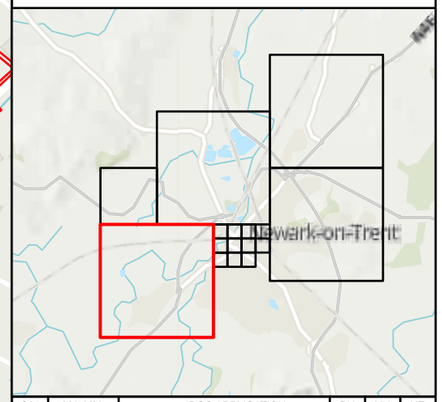
Metres
0 40 80

NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Designated heritage assets study area
- Grade II Listed Building



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.2
Designated Heritage Assets
Sheet: 5 of 15

ORIGINAL SIZE: A3
SCALE: 1:5,000

DRAWING NUMBER
HE PIN: HE551478 | ORIGINATOR: SKAG | VOLUME: EHR
LOCATION: CONWI_CONW | TYPE: DR | ROLE: LH | NUMBER: 00061

PROJECT REF NO.: HE551478
REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

Metres
0 40 80

NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Designated heritage assets study area

REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.2
Designated Heritage Assets
Sheet: 6 of 15

ORIGINAL SIZE A3
SCALE 1:1,000

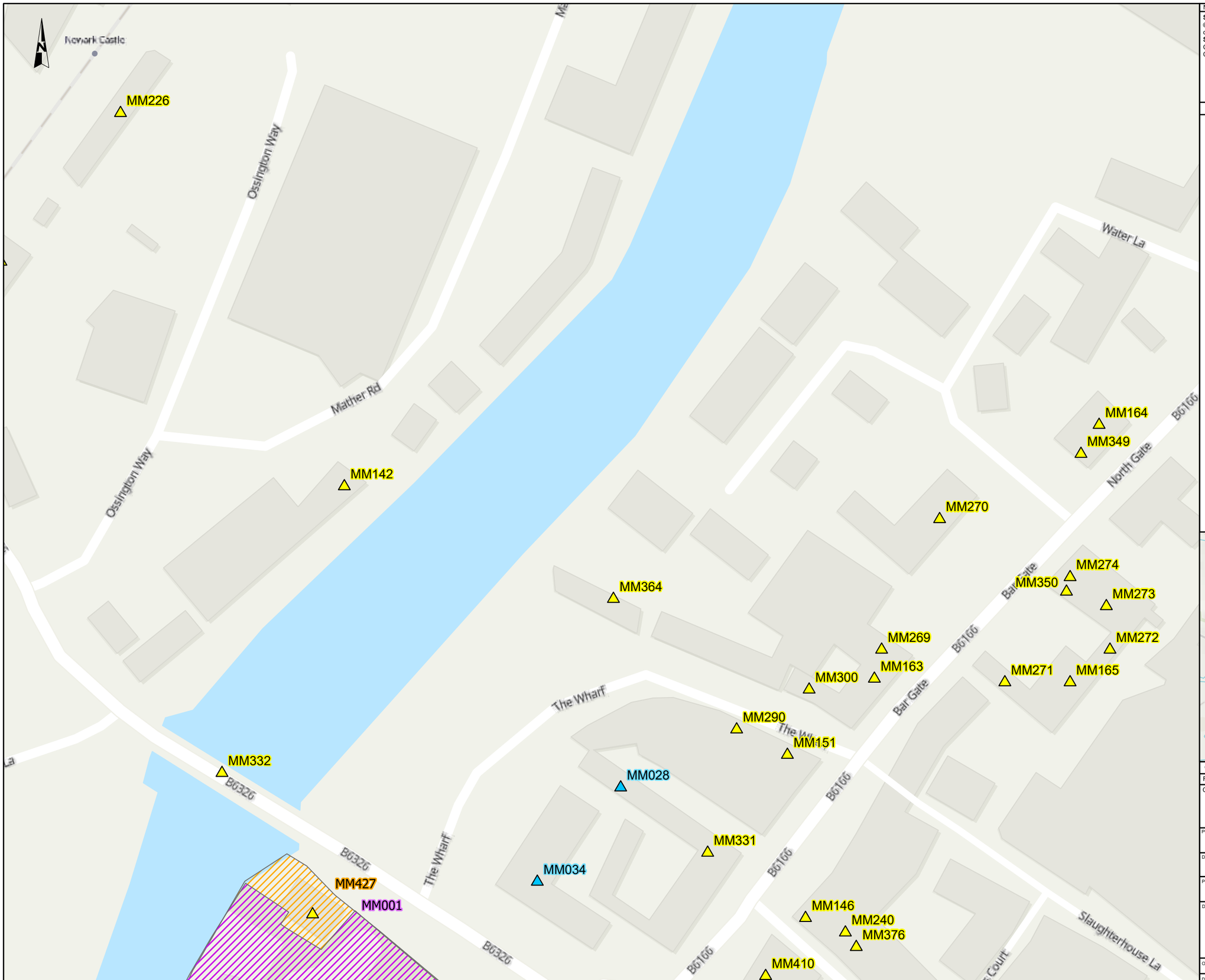
DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00062

PROJECT REF NO.
HE551478

REVISION
C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 40 80 Metres

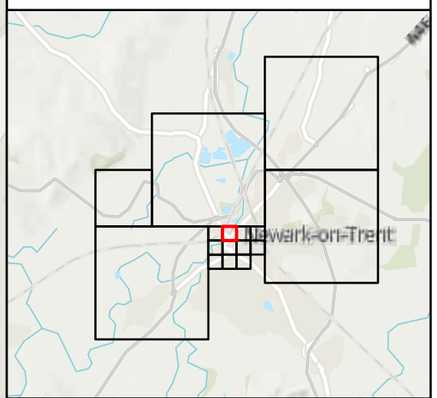


NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Designated heritage assets study area
- Grade II Listed Building
- Grade II* Listed Building
- Scheduled Monument
- Registered Park and Garden



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.2
Designated Heritage Assets
Sheet: 7 of 15

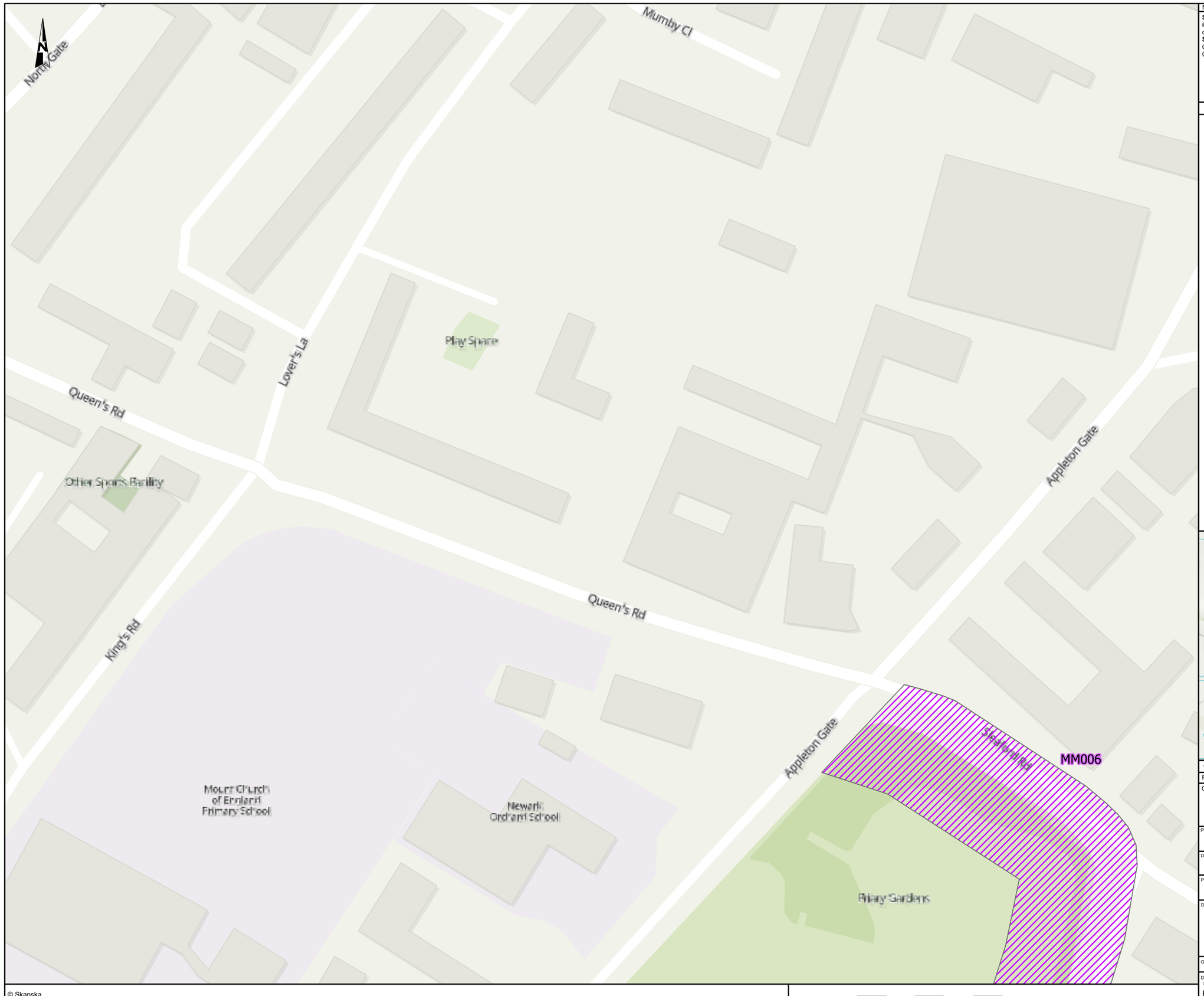
ORIGINAL SIZE A3 | SCALE 1:1,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME | LOCATION | TYPE | ROLE | NUMBER
HE551478 | SKAG | | CONWI_CONW | DR | LH | 00063

PROJECT REF NO. HE551478

REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.



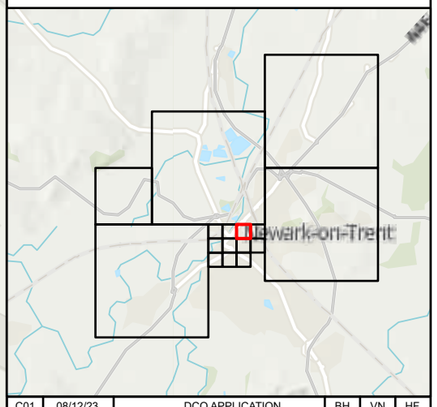
NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

Designated heritage assets study area

Scheduled Monument



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.2
Designated Heritage Assets
Sheet: 8 of 15

ORIGINAL SIZE A3 SCALE 1:1,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
CONWI_CONW DR LH 00064
LOCATION | TYPE | ROLE | NUMBER

PROJECT REF NO.
HE551478

REVISION
C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

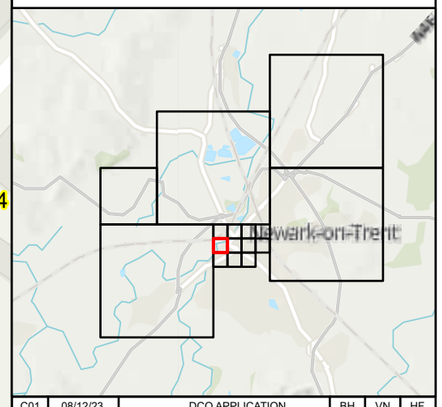
0 40 80 Metres

NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Designated heritage assets study area
- Grade II Listed Building



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.2
Designated Heritage Assets
Sheet: 9 of 15

ORIGINAL SIZE: A3 | SCALE: 1:1,000

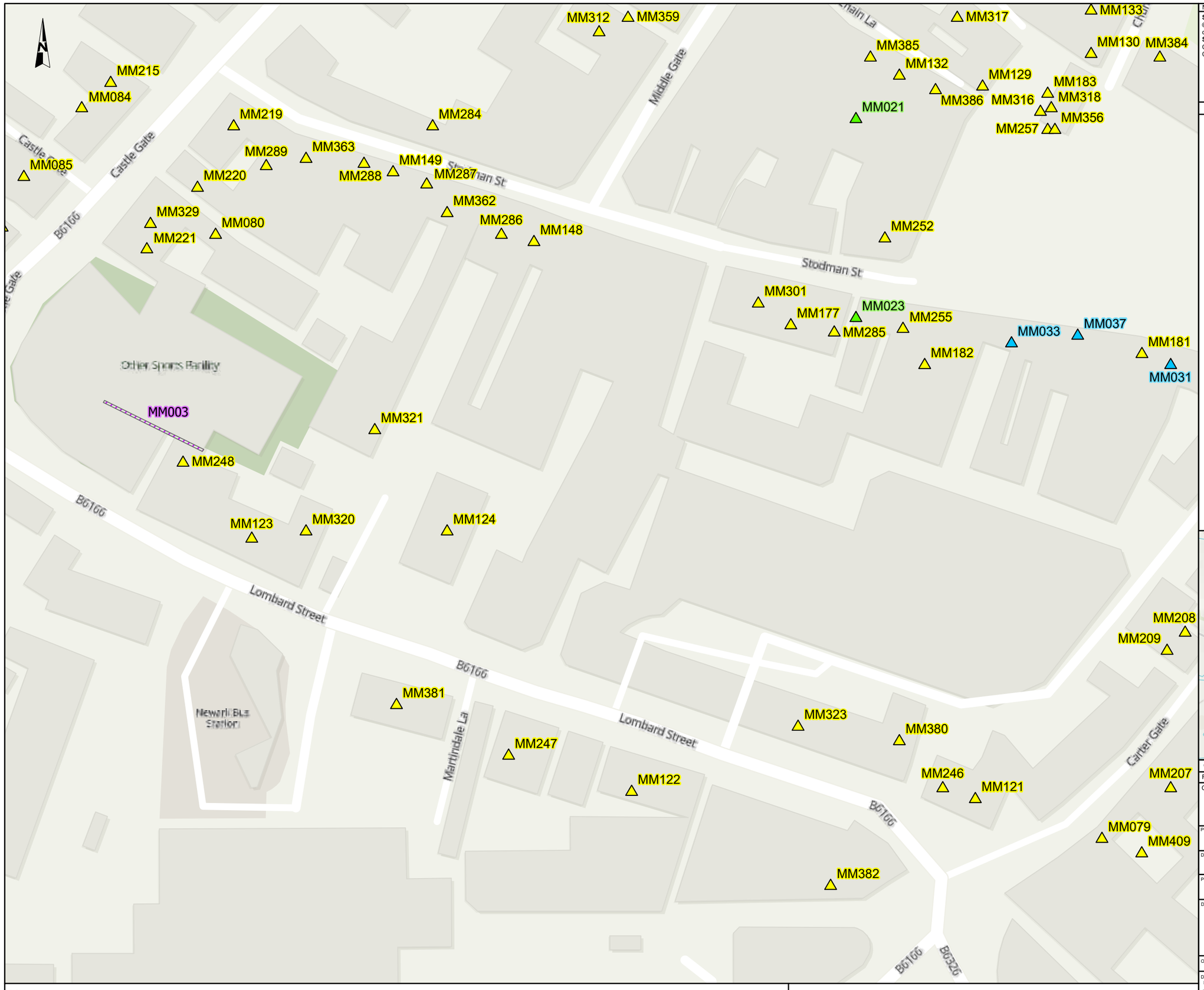
DRAWING NUMBER: HE PIN HE551478 | ORIGINATOR SKAG | VOLUME EHR | LOCATION CONWI_CONW | TYPE DR | ROLE LH | NUMBER 00065

PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 40 80 Metres



NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Designated heritage assets study area
- Grade I Listed Building
- Grade II Listed Building
- Grade II* Listed Building
- Scheduled Monument

REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.2
Designated Heritage Assets
Sheet: 10 of 15

ORIGINAL SIZE: A3 | SCALE: 1:1,000

DRAWING NUMBER: HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
CONWI_CONW DR LH 00066
LOCATION | TYPE | ROLE | NUMBER

PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

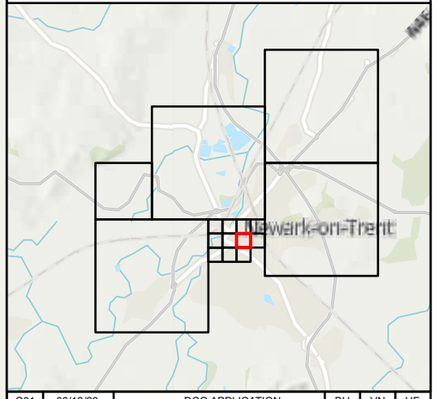
0 40 80 Metres

NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Designated heritage assets study area
- Grade II Listed Building
- Grade II* Listed Building



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.2
Designated Heritage Assets
Sheet: 11 of 15

ORIGINAL SIZE A3 | SCALE 1:1,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00067

PROJECT REF NO.
HE551478

REVISION
C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

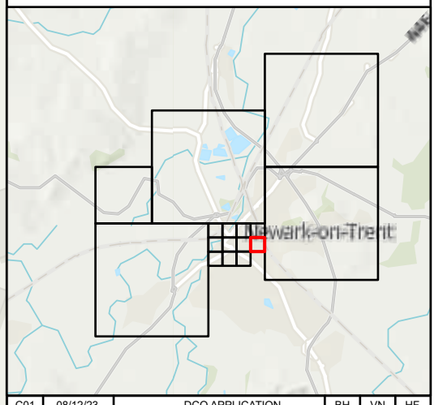
0 40 80 Metres

NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Designated heritage assets study area
- Grade II Listed Building



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.2
Designated Heritage Assets
Sheet: 12 of 15

ORIGINAL SIZE A3 | SCALE 1:1,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00068

PROJECT REF NO. HE551478

REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

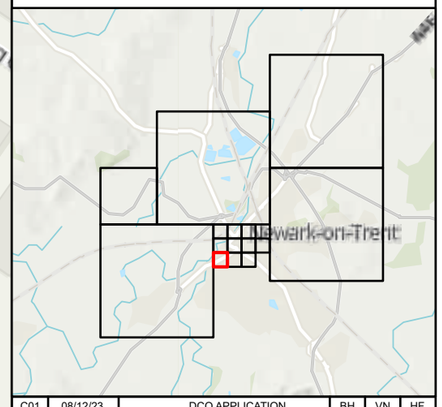
0 40 80 Metres

NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Designated heritage assets study area
- Grade II Listed Building



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.2
Designated Heritage Assets
Sheet: 13 of 15

ORIGINAL SIZE A3 | SCALE 1:1,000

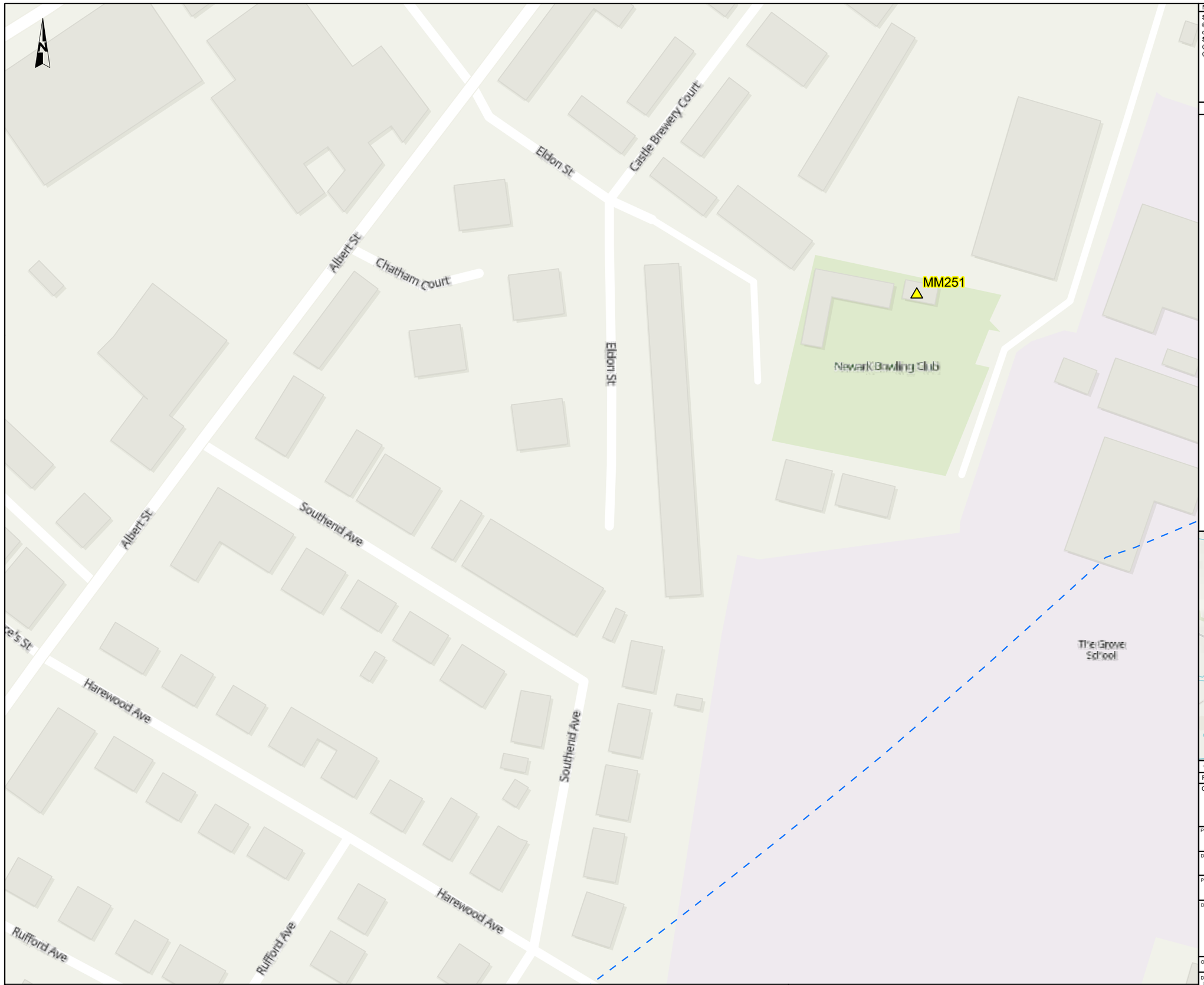
DRAWING NUMBER
HE PIN: HE551478 | ORIGINATOR: SKAG | VOLUME: EHR
LOCATION: CONWI_CONW | TYPE: DR | ROLE: LH | NUMBER: 00069

PROJECT REF NO. HE551478

REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 40 80 Metres

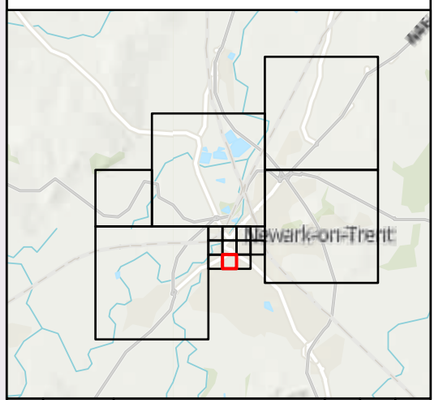


NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Designated heritage assets study area
- Grade II Listed Building



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.2
Designated Heritage Assets
Sheet: 14 of 15

ORIGINAL SIZE A3 | SCALE 1:1,000

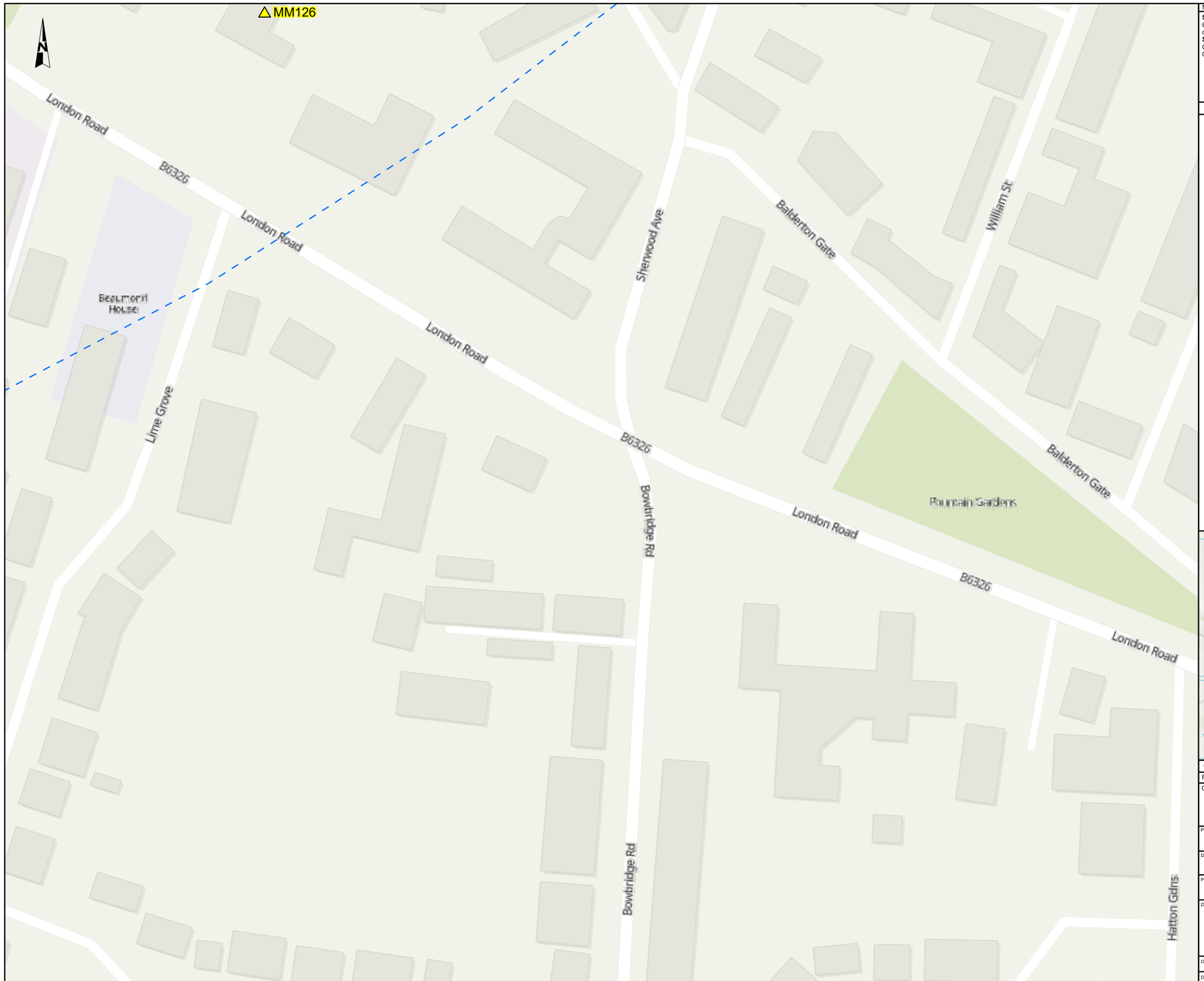
DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00070

PROJECT REF NO.
HE551478

REVISION
C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 40 80 Metres

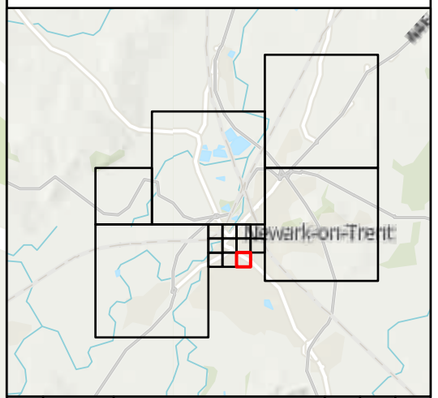


NOTES

Source
© Historic England [2023]. Contains Ordnance Survey data © Crown copyright and database right [2023]. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Designated heritage assets study area
- Grade II Listed Building



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.2
Designated Heritage Assets
Sheet: 15 of 15

ORIGINAL SIZE: A3 | SCALE: 1:1,000

DRAWING NUMBER: HE PIN HE551478 | ORIGINATOR SKAG | VOLUME EHR | LOCATION CONWI_CONW | TYPE DR | ROLE LH | NUMBER 00071

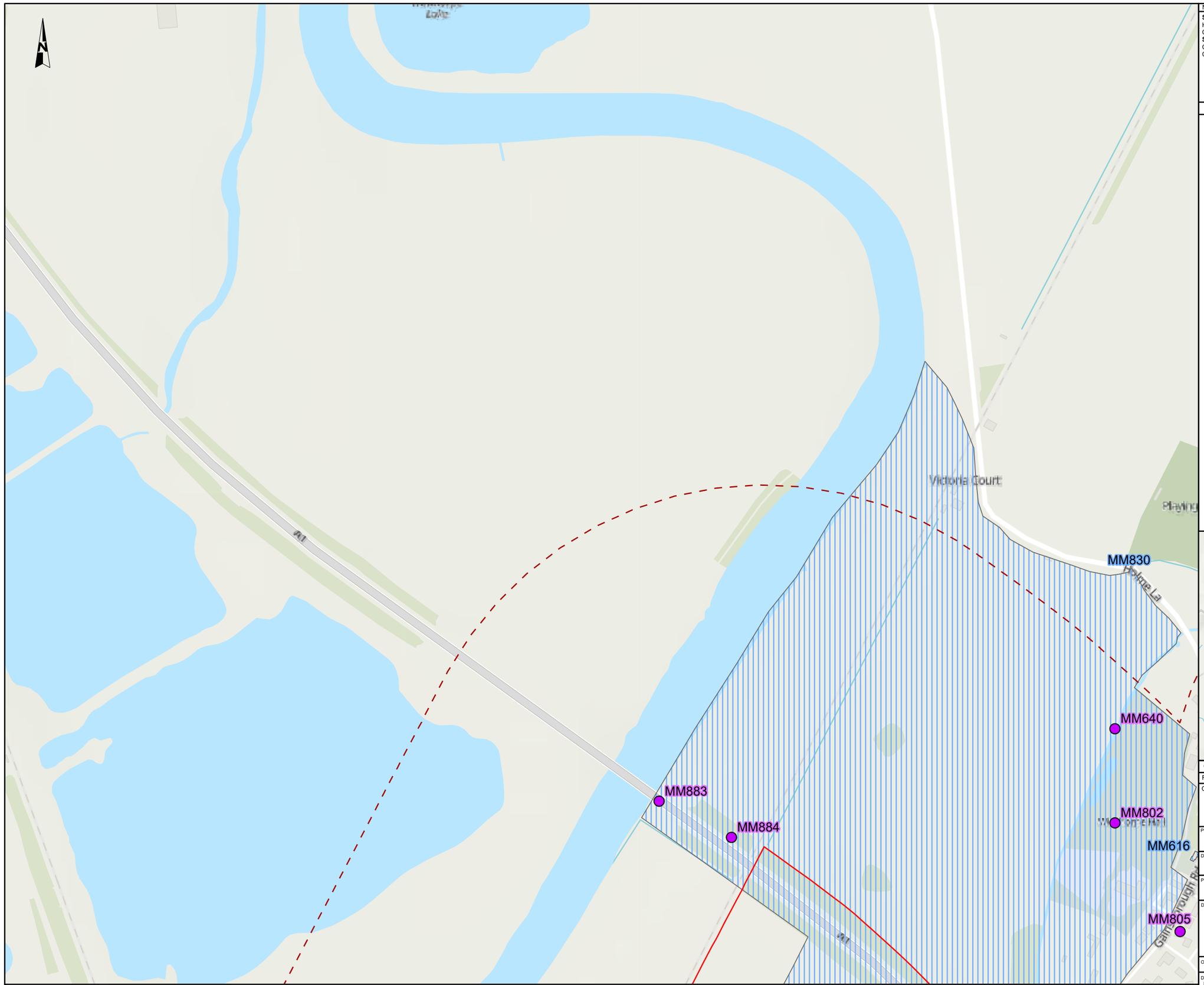
PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 40 80 Metres

B.3 Location of non-designated heritage assets recorded within the 500m of the Scheme (Sheets 1 to 21)

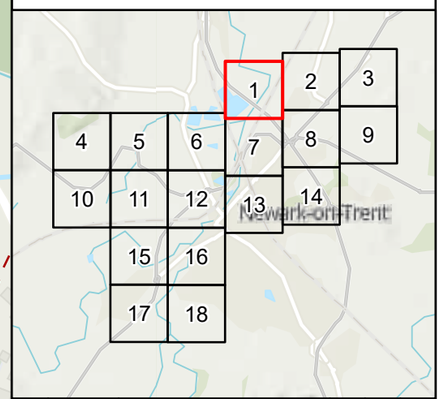


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

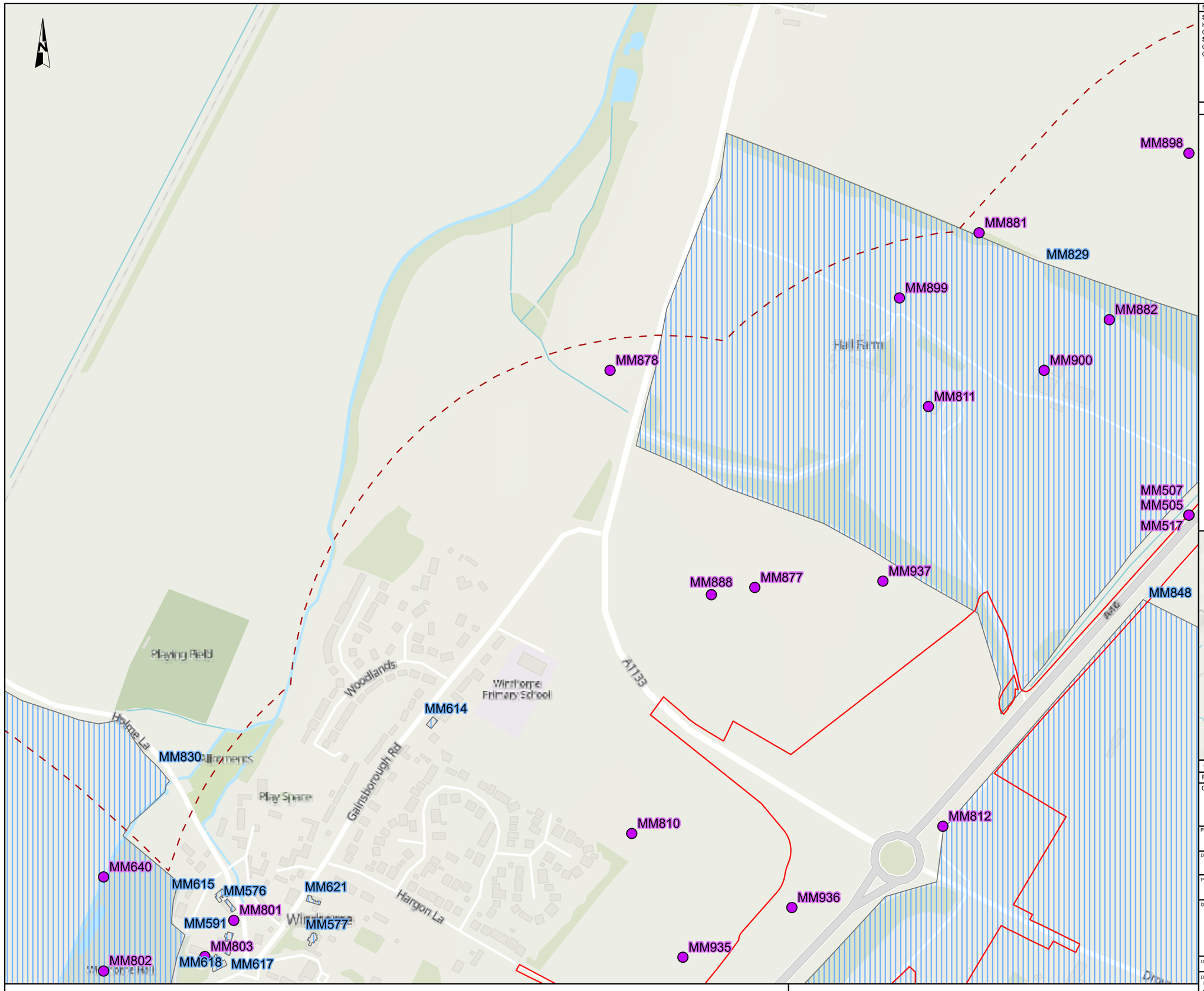
DRAWING TITLE: Appendix B.3
Non-Designated Heritage Assets
Sheet: 1 of 18

ORIGINAL SIZE: A3 | SCALE: 1:5,000

DRAWING NUMBER HE PIN	ORIGINATOR	VOLUME			PROJECT REF NO.
HE551478	SKAG	EHR			HE551478
LOCATION		TYPE	ROLE	NUMBER	REVISION
CONWI_CONW		DR	LH	00036	C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres



© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

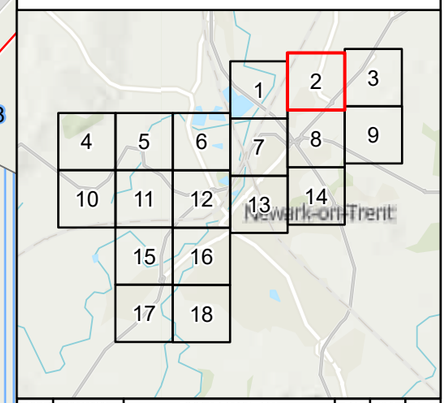
0 100 200 Metres

NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

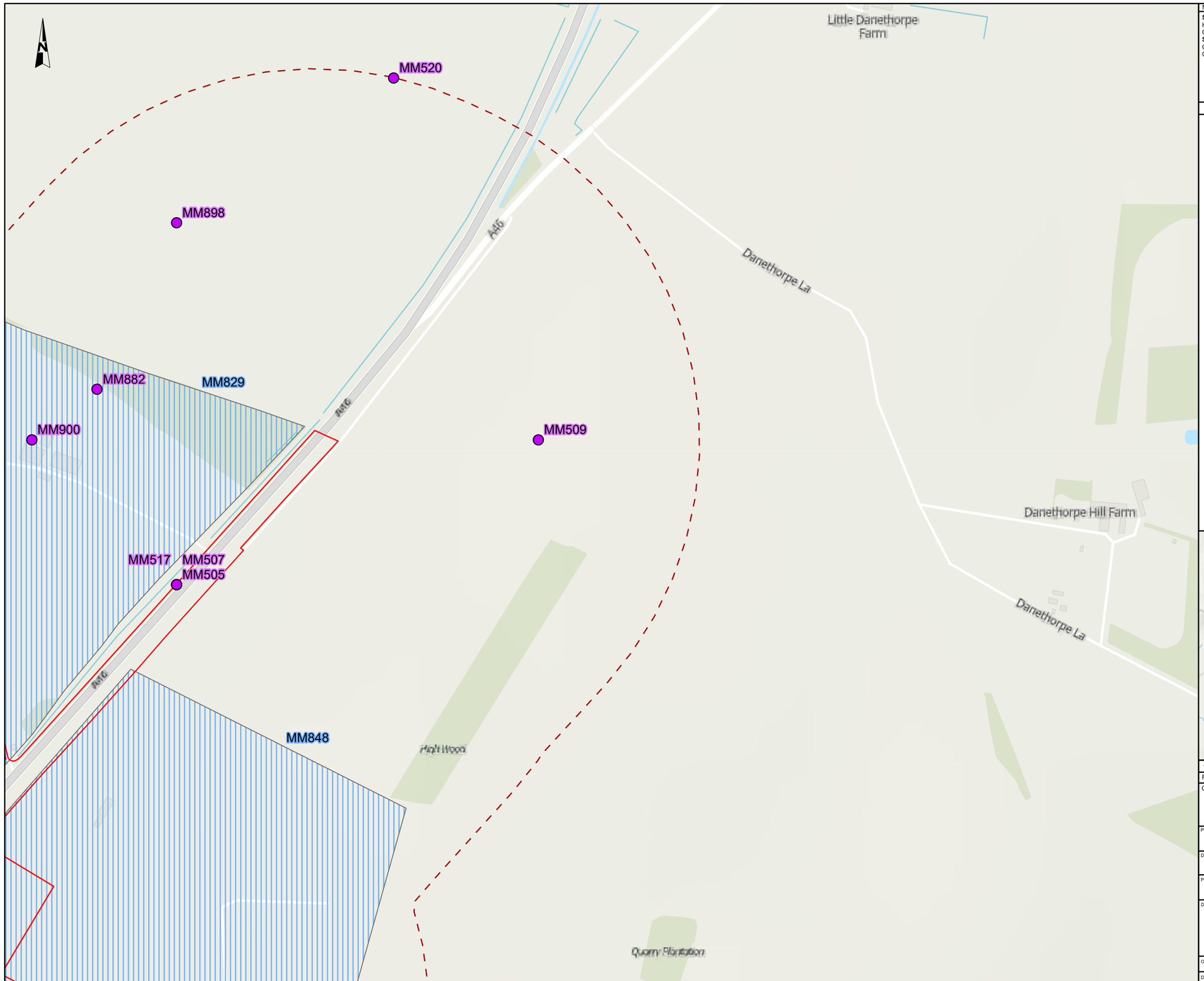
DRAWING TITLE: Appendix B.3
Non-Designated Heritage Assets
Sheet: 2 of 18

ORIGINAL SIZE: A3 SCALE: 1:5,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00037

PROJECT REF NO.: HE551478

REVISION: C01

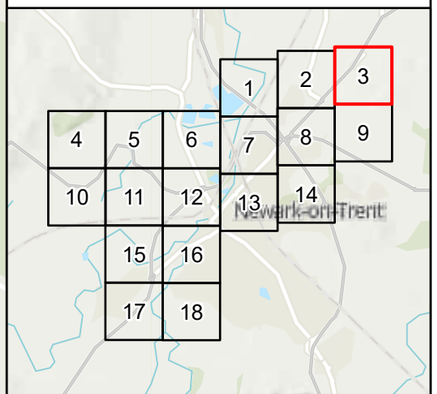


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.3
Non-Designated Heritage Assets
Sheet: 3 of 18

ORIGINAL SIZE: A3 | SCALE: 1:5,000

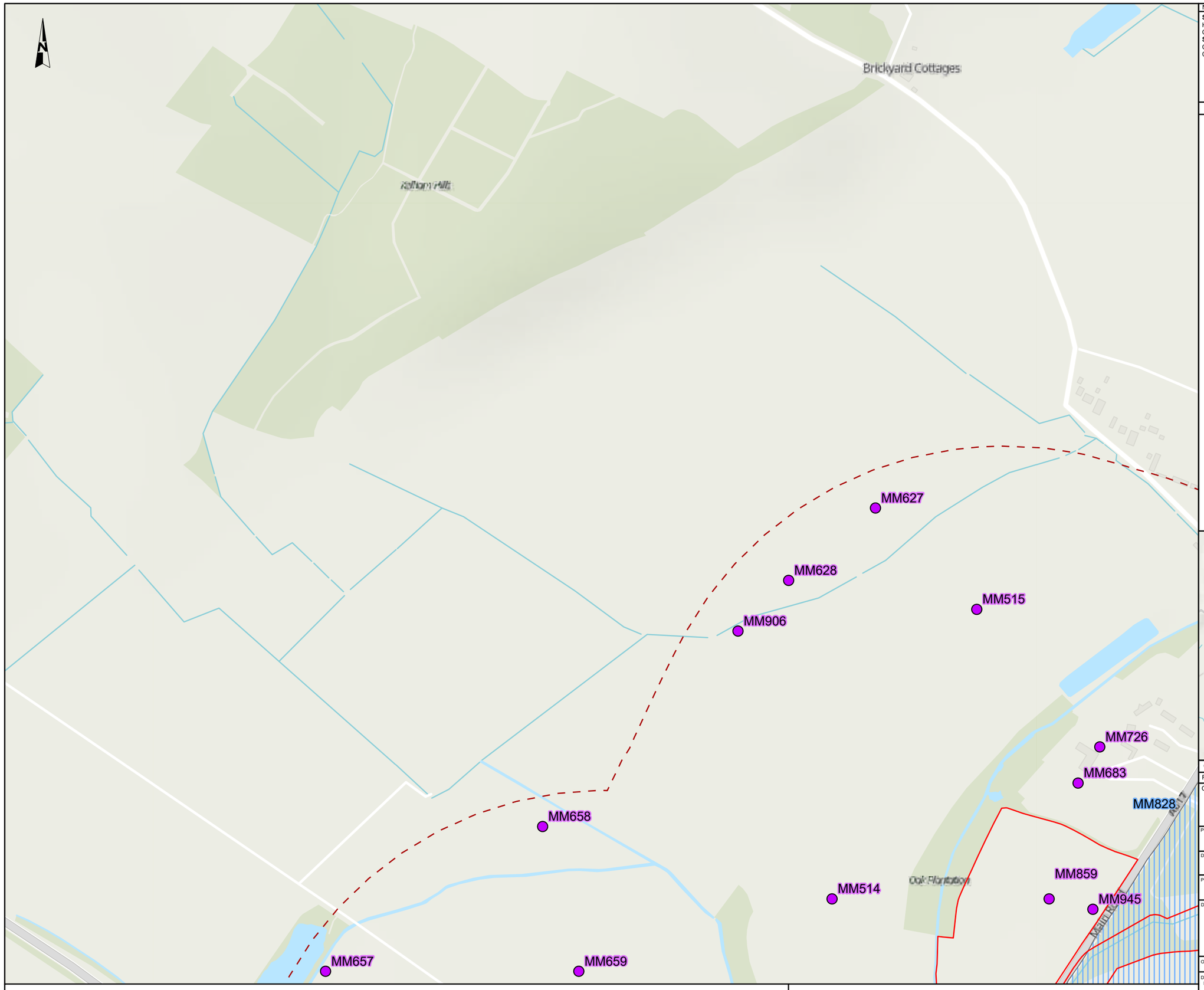
DRAWING NUMBER: HE PIN HE551478 | ORIGINATOR SKAG | VOLUME EHR | LOCATION CONWI_CONW | TYPE DR | ROLE LH | NUMBER 00038

PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

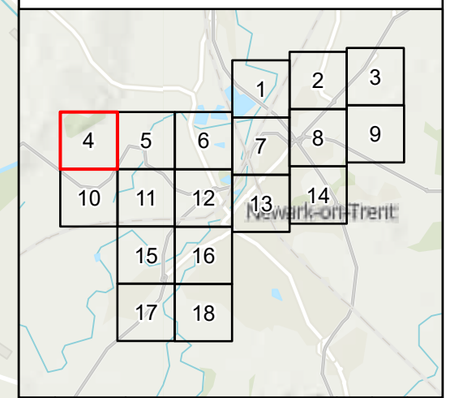


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.3
Non-Designated Heritage Assets
Sheet: 4 of 18

ORIGINAL SIZE: A3

SCALE: 1:5,000

DRAWING NUMBER

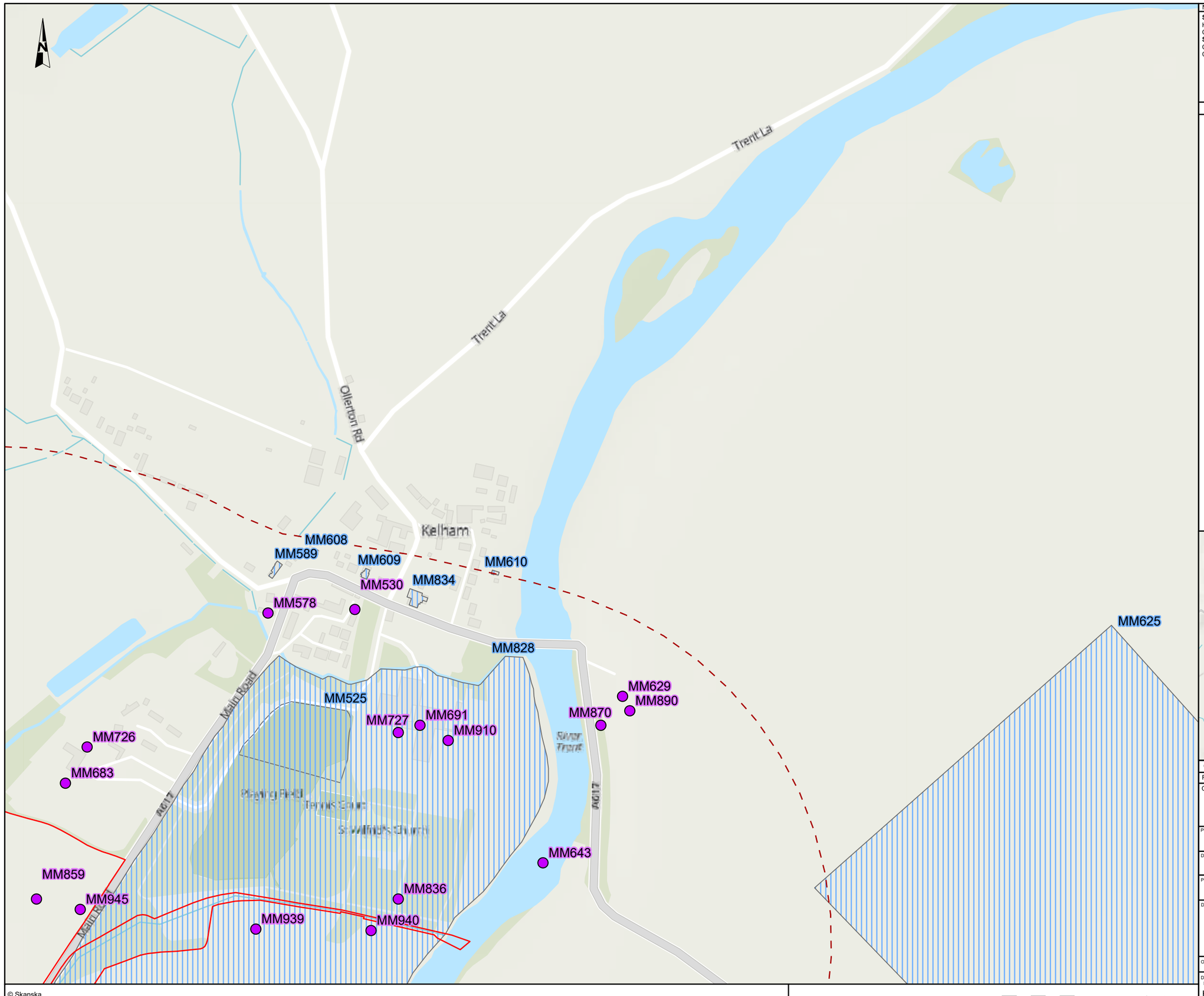
HE PIN	ORIGINATOR	VOLUME	LOCATION	TYPE	ROLE	NUMBER
HE551478	SKAG	EHR	CONWI_CONW	DR	LH	00039

PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

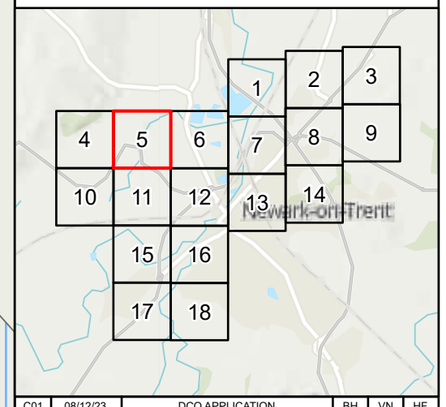


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.3
Non-Designated Heritage Assets
Sheet: 5 of 18

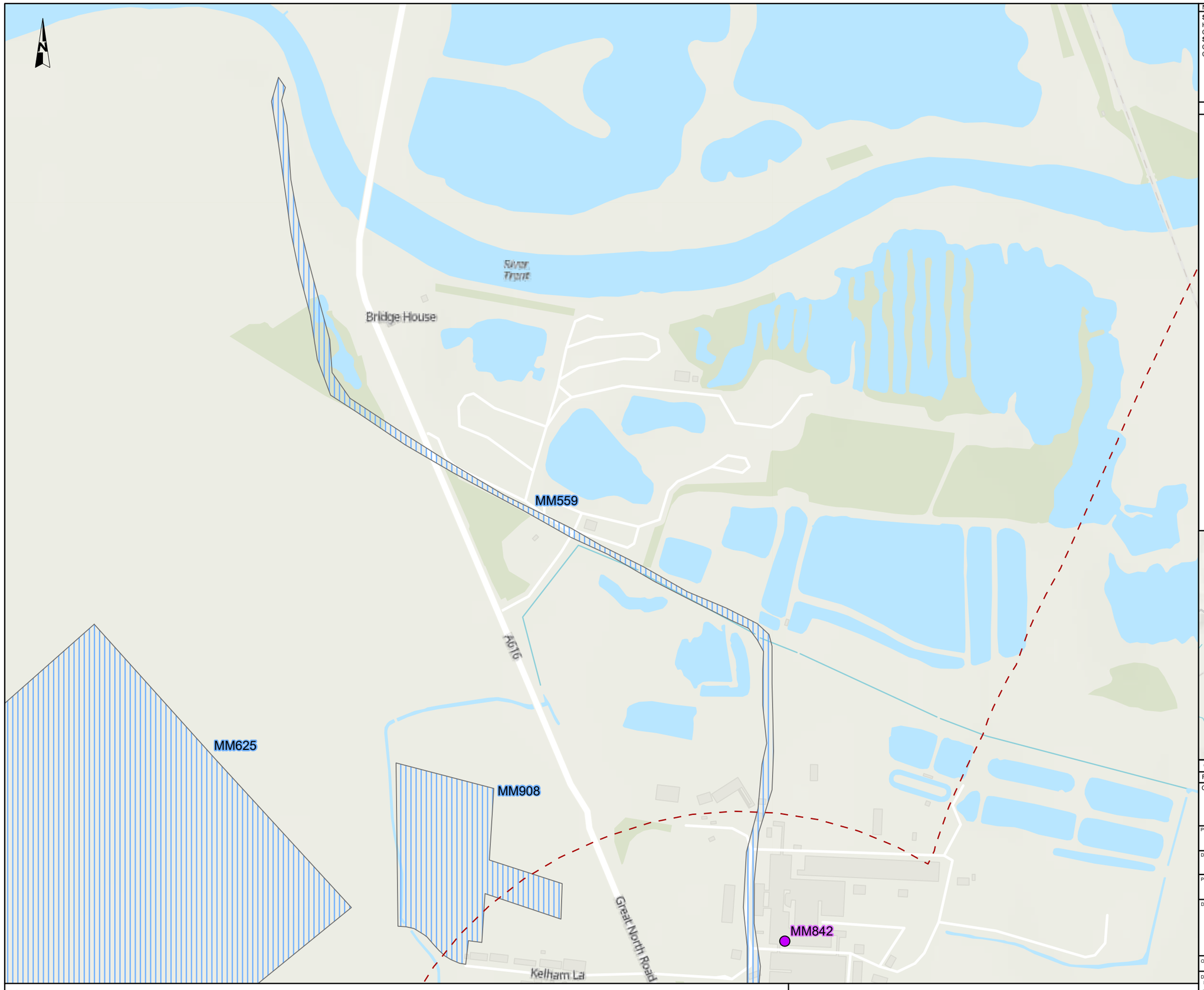
ORIGINAL SIZE A3 SCALE 1:5,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00040

PROJECT REF NO. HE551478
REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

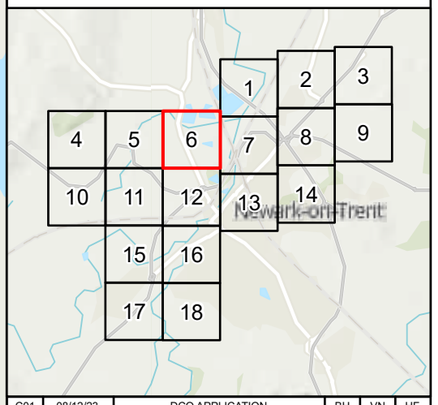


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.3
Non-Designated Heritage Assets
Sheet: 6 of 18

ORIGINAL SIZE A3
SCALE 1:5,000

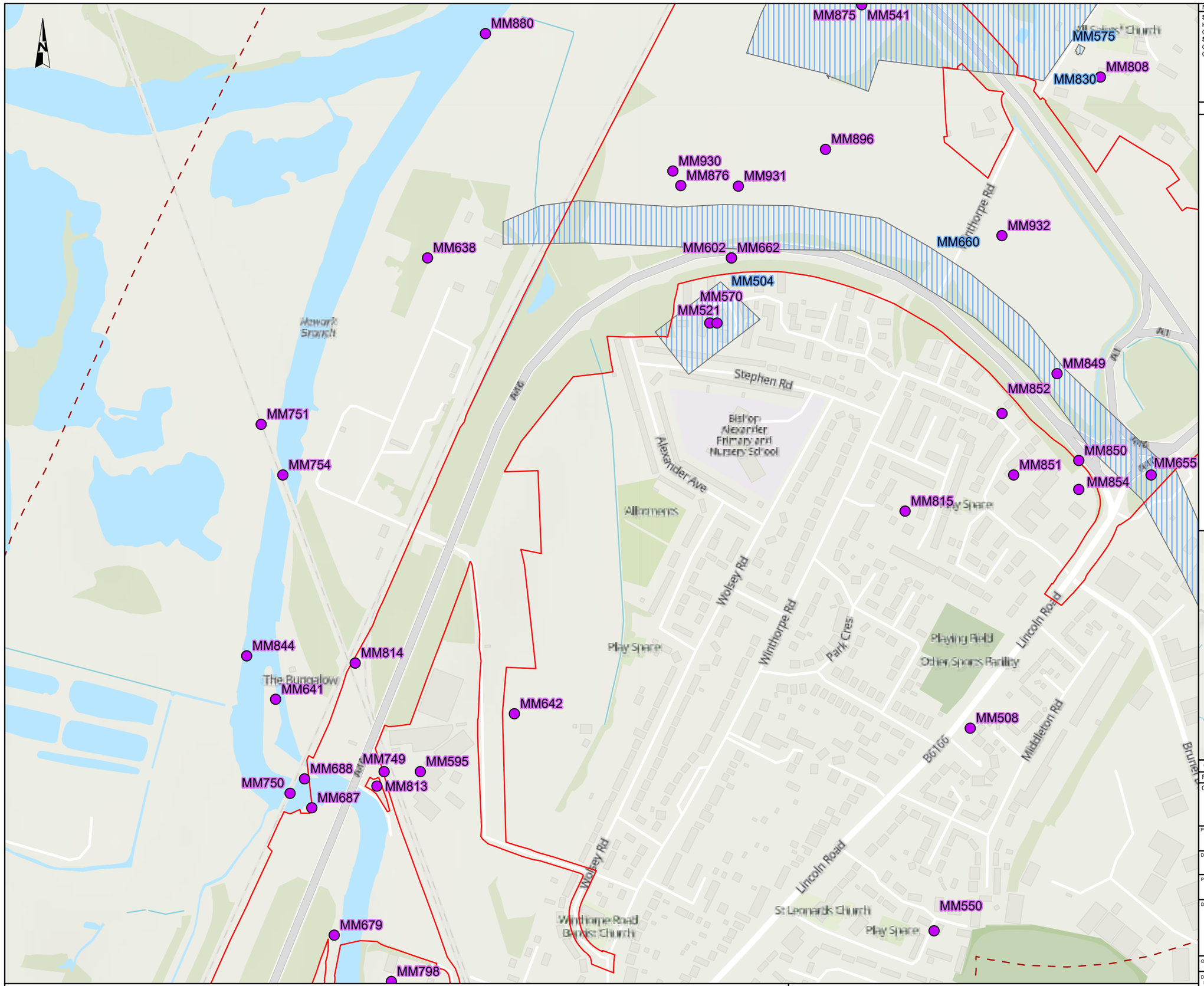
DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00041

PROJECT REF NO.
HE551478

REVISION
C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

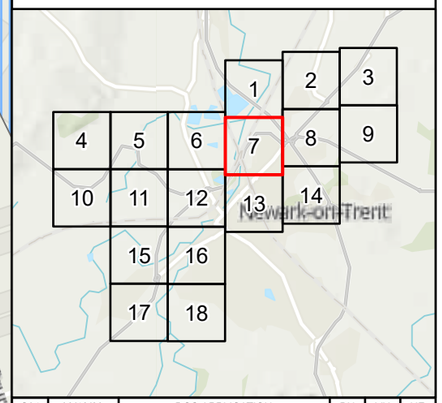


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.3
Non-Designated Heritage Assets
Sheet: 7 of 18

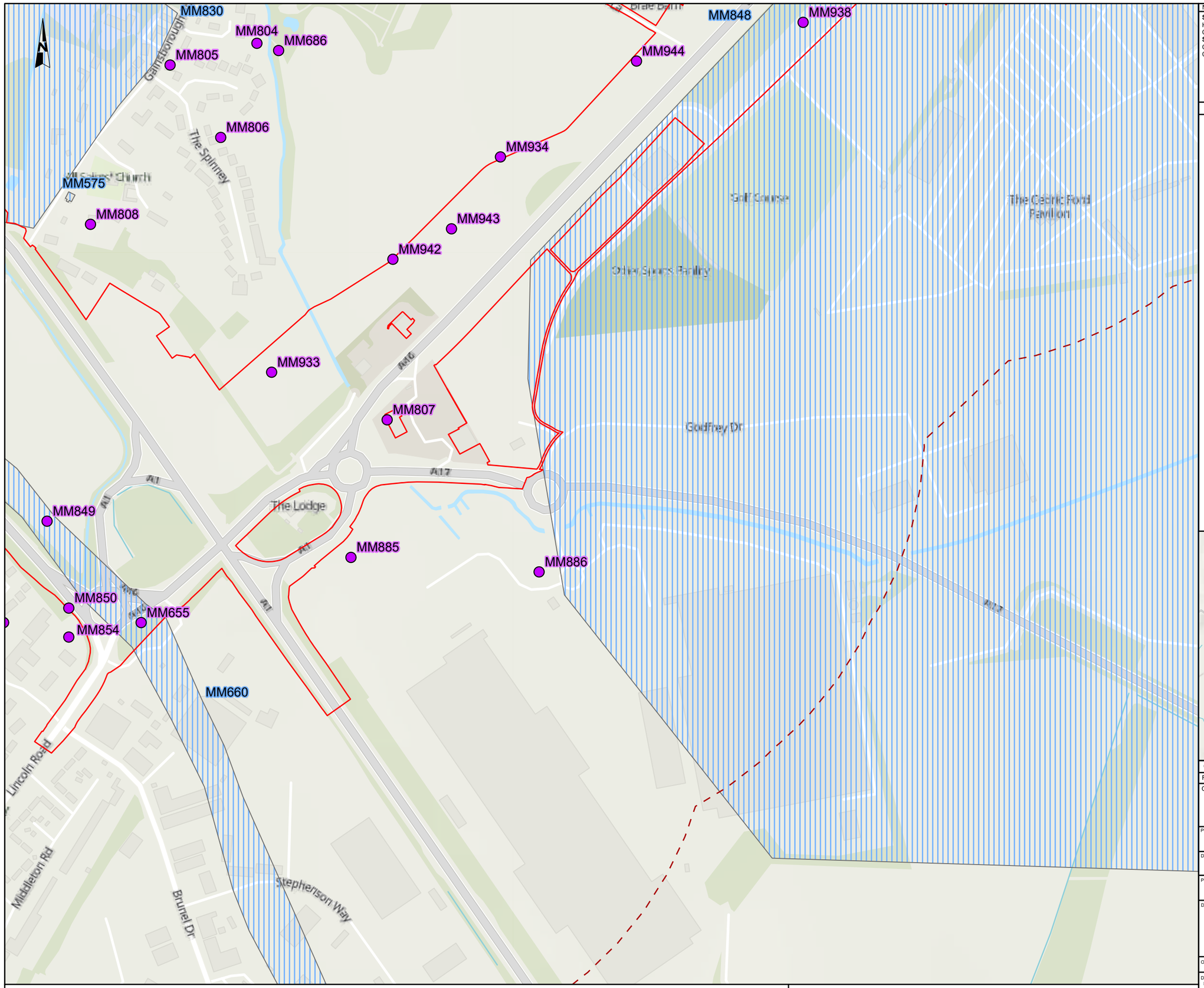
ORIGINAL SIZE A3 SCALE 1:5,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME | LOCATION | TYPE | ROLE | NUMBER
HE551478 SKAG EHR CONWI_CONW DR LH 00042

PROJECT REF NO. HE551478
REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

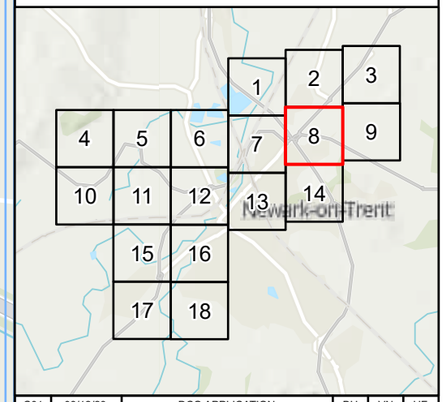


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.3
Non-Designated Heritage Assets
Sheet: 8 of 18

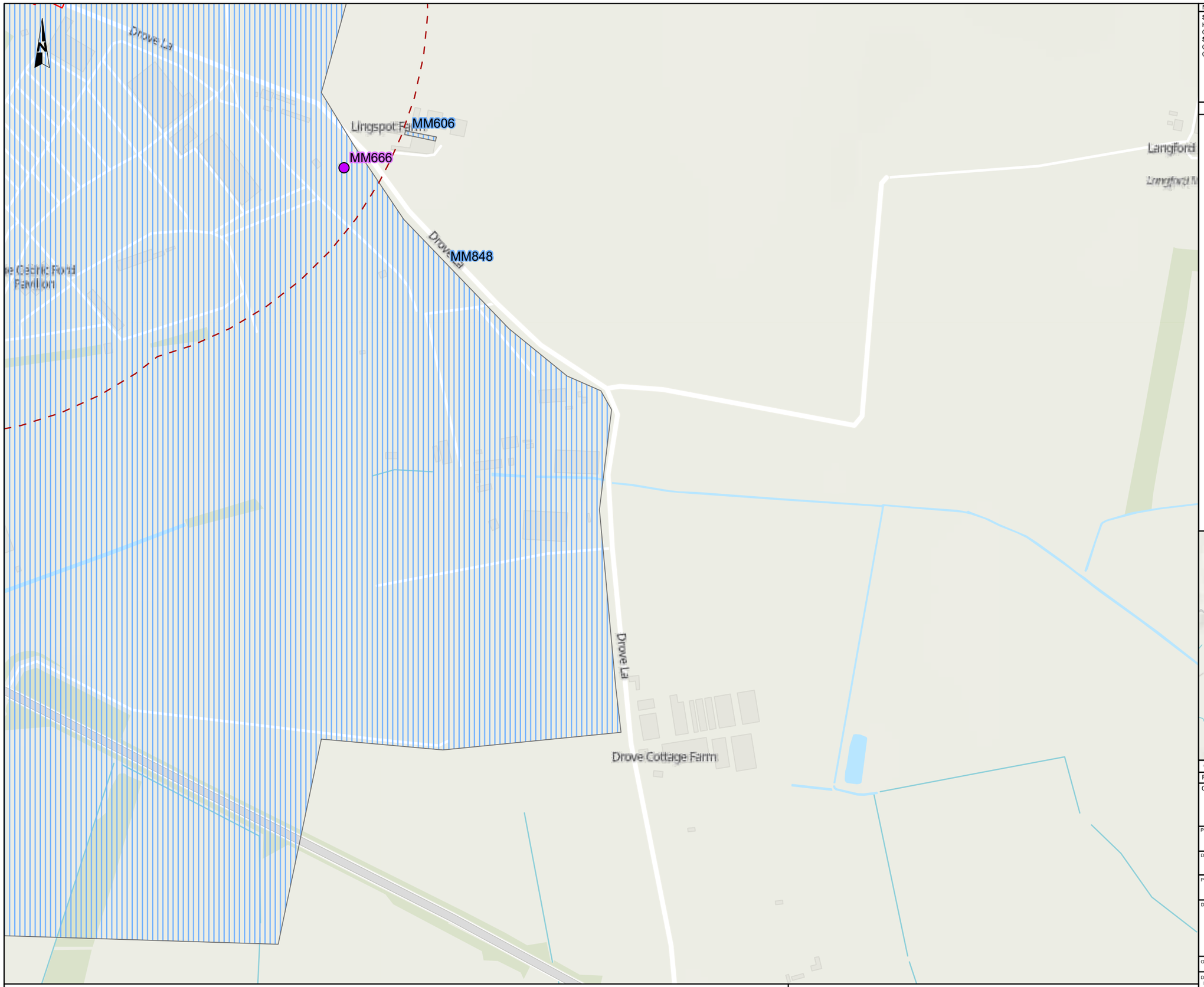
ORIGINAL SIZE A3 SCALE 1:5,000

DRAWING NUMBER HE PIN	ORIGINATOR	VOLUME	PROJECT REF NO.
HE551478	SKAG	EHR	HE551478

LOCATION	TYPE	ROLE	NUMBER	REVISION
CONWI_CONW	DR	LH	00043	C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

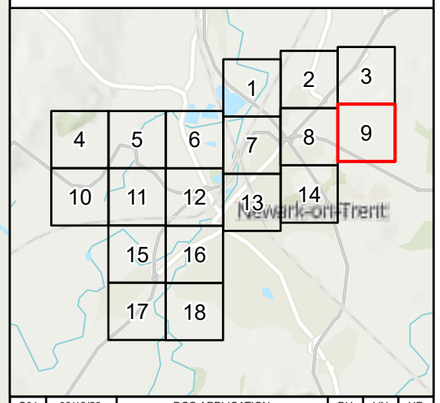


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.3
Non-Designated Heritage Assets
Sheet: 9 of 18

ORIGINAL SIZE A3 | SCALE 1:5,000

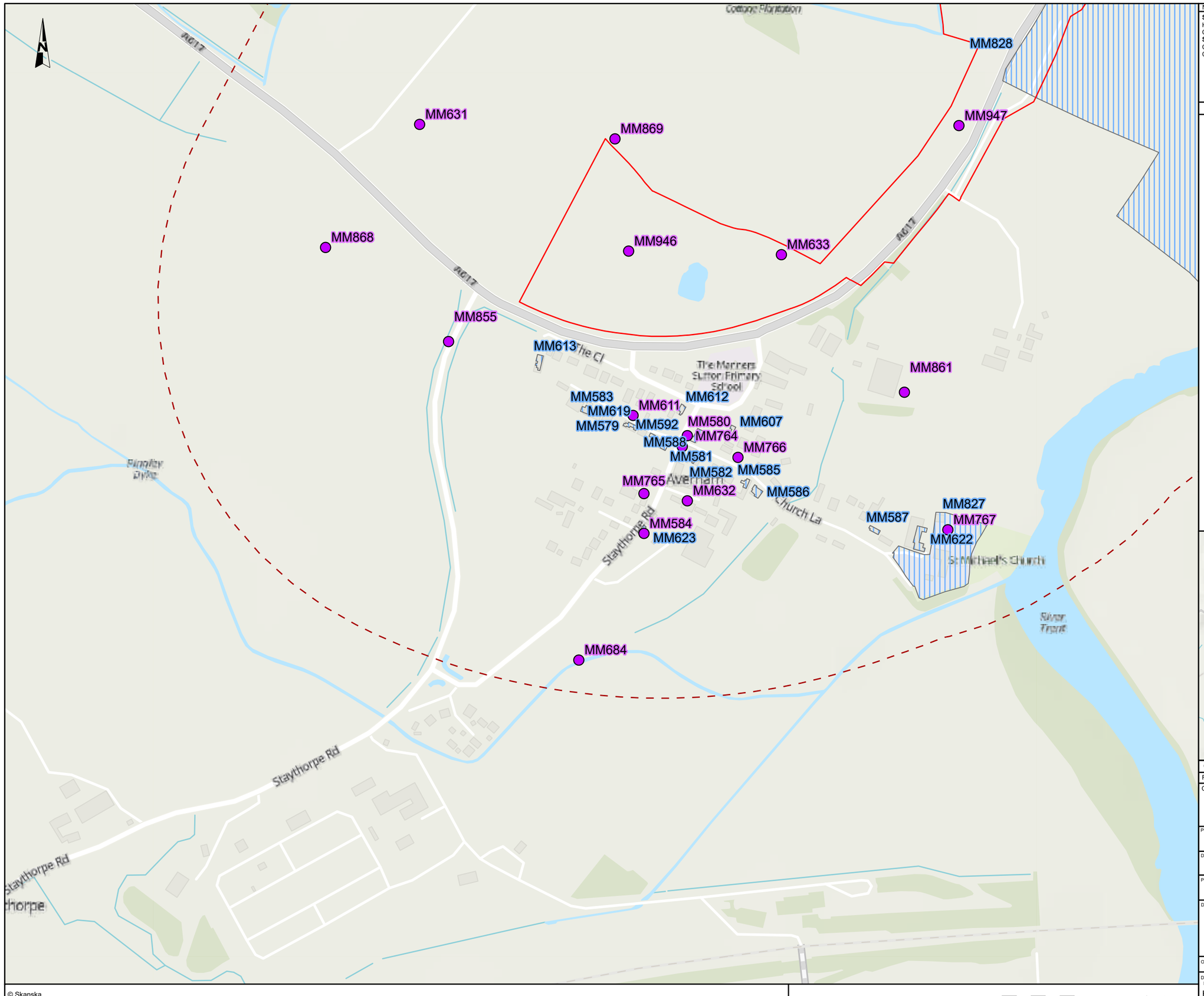
DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
CONWI_CONW DR LH 00044
LOCATION | TYPE | ROLE | NUMBER

PROJECT REF NO. HE551478

REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

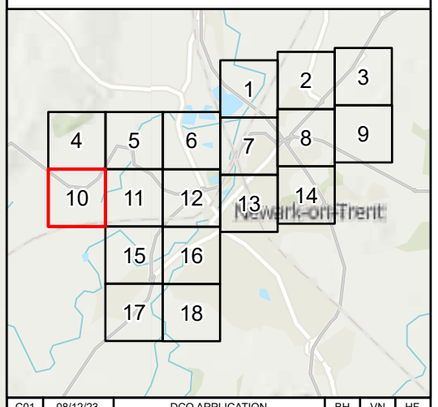


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.3
Non-Designated Heritage Assets
Sheet: 10 of 18

ORIGINAL SIZE A3
SCALE 1:5,000

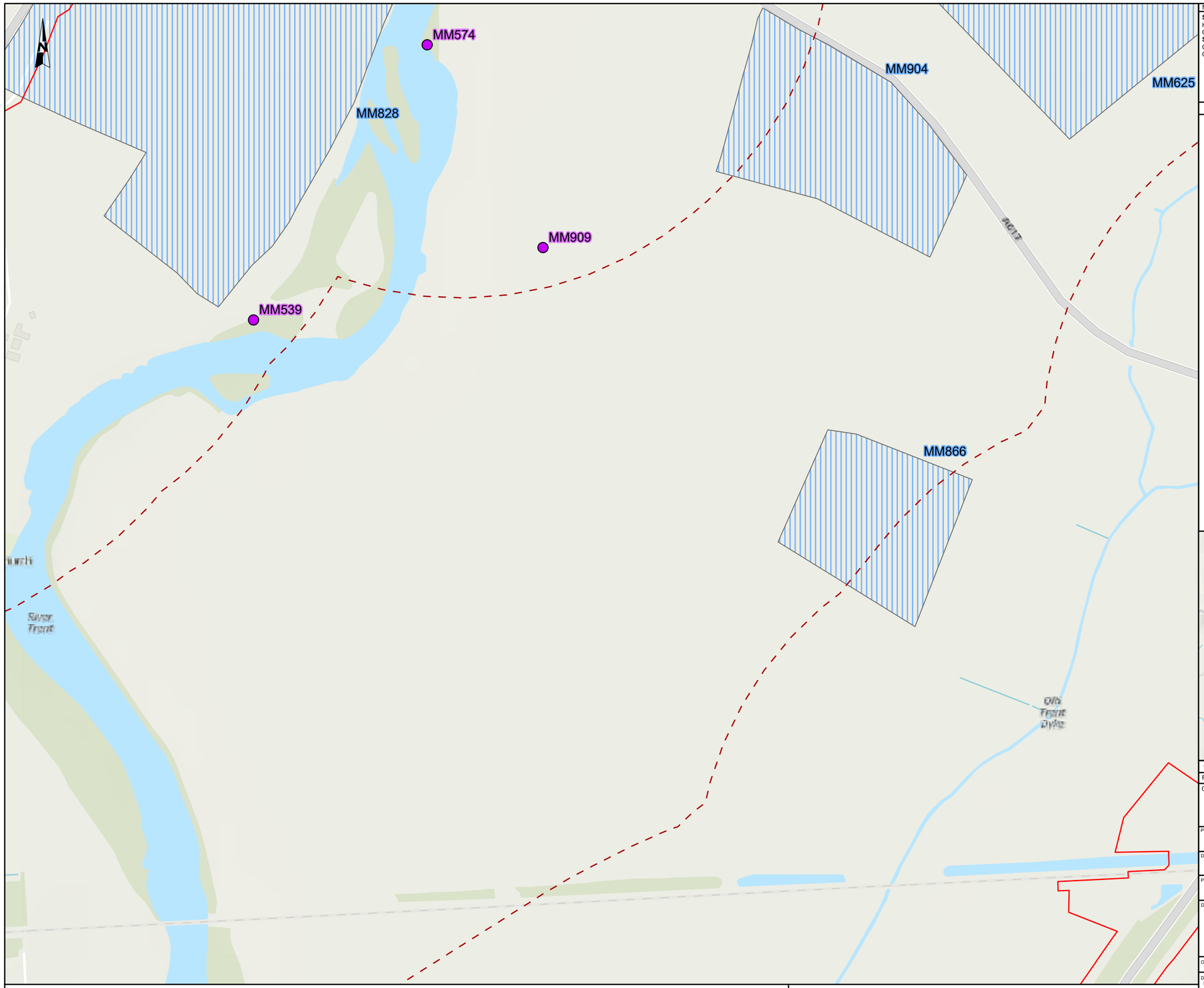
DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00045

PROJECT REF NO.
HE551478

REVISION
C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

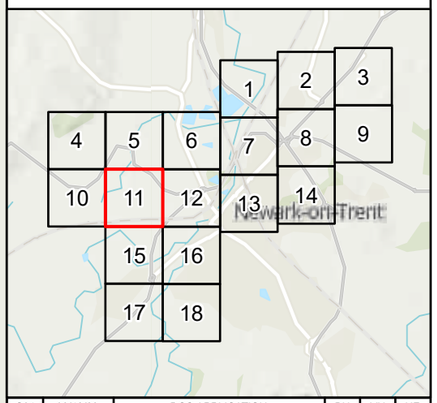


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.3
Non-Designated Heritage Assets
Sheet: 11 of 18

ORIGINAL SIZE A3 SCALE 1:5,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00046

PROJECT REF NO. HE551478

REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

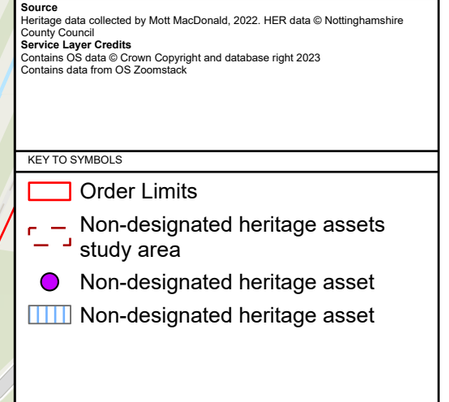
0 100 200 Metres

NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.3
Non-Designated Heritage Assets
Sheet: 12 of 18

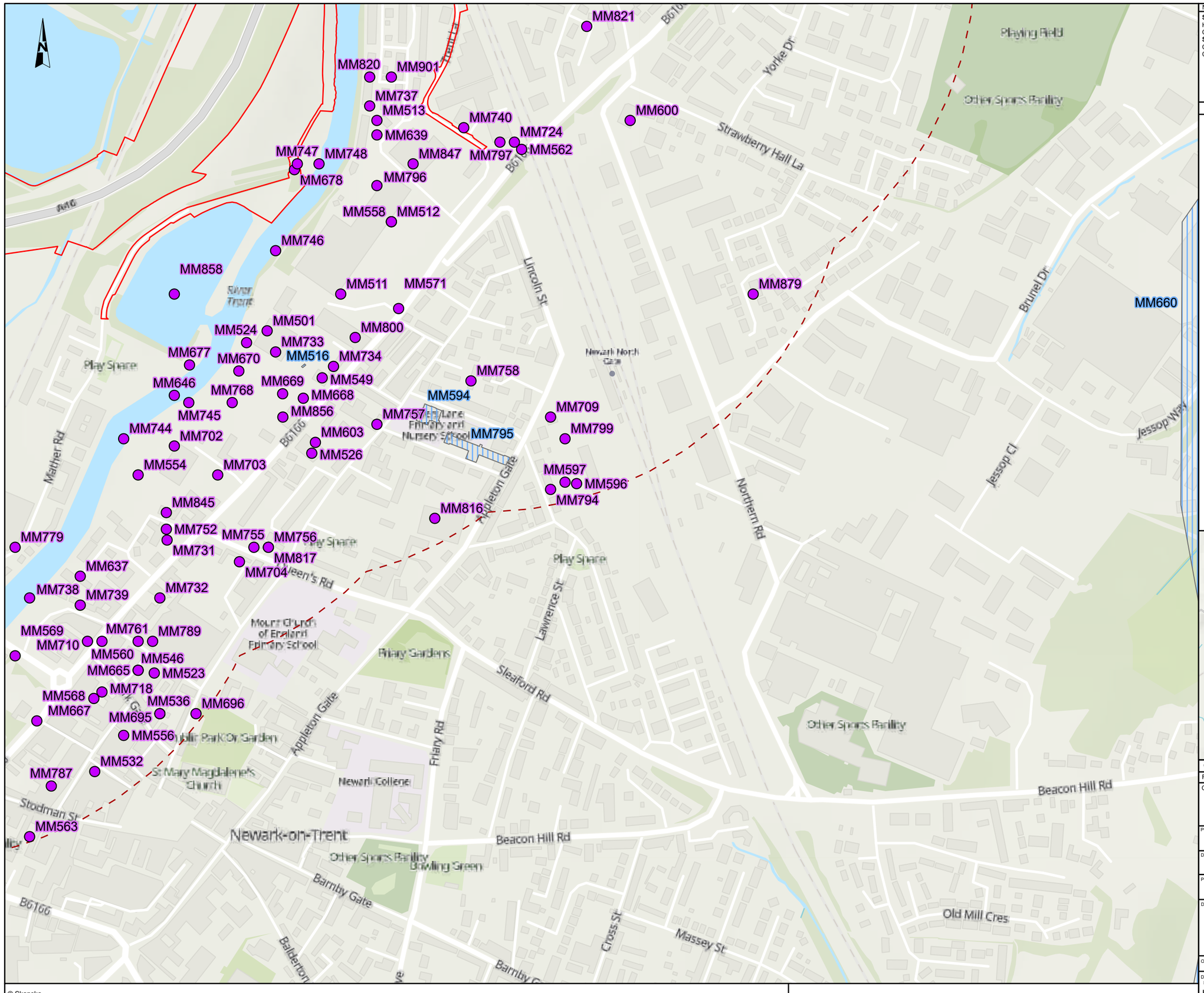
ORIGINAL SIZE A3 SCALE 1:5,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00047

PROJECT REF NO. HE551478
REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

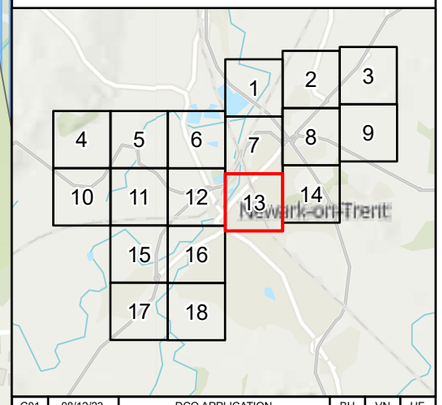


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.3
Non-Designated Heritage Assets
Sheet: 13 of 18

ORIGINAL SIZE: A3 | SCALE: 1:5,000

DRAWING NUMBER | HE PIN | ORIGINATOR | VOLUME | LOCATION | TYPE | ROLE | NUMBER

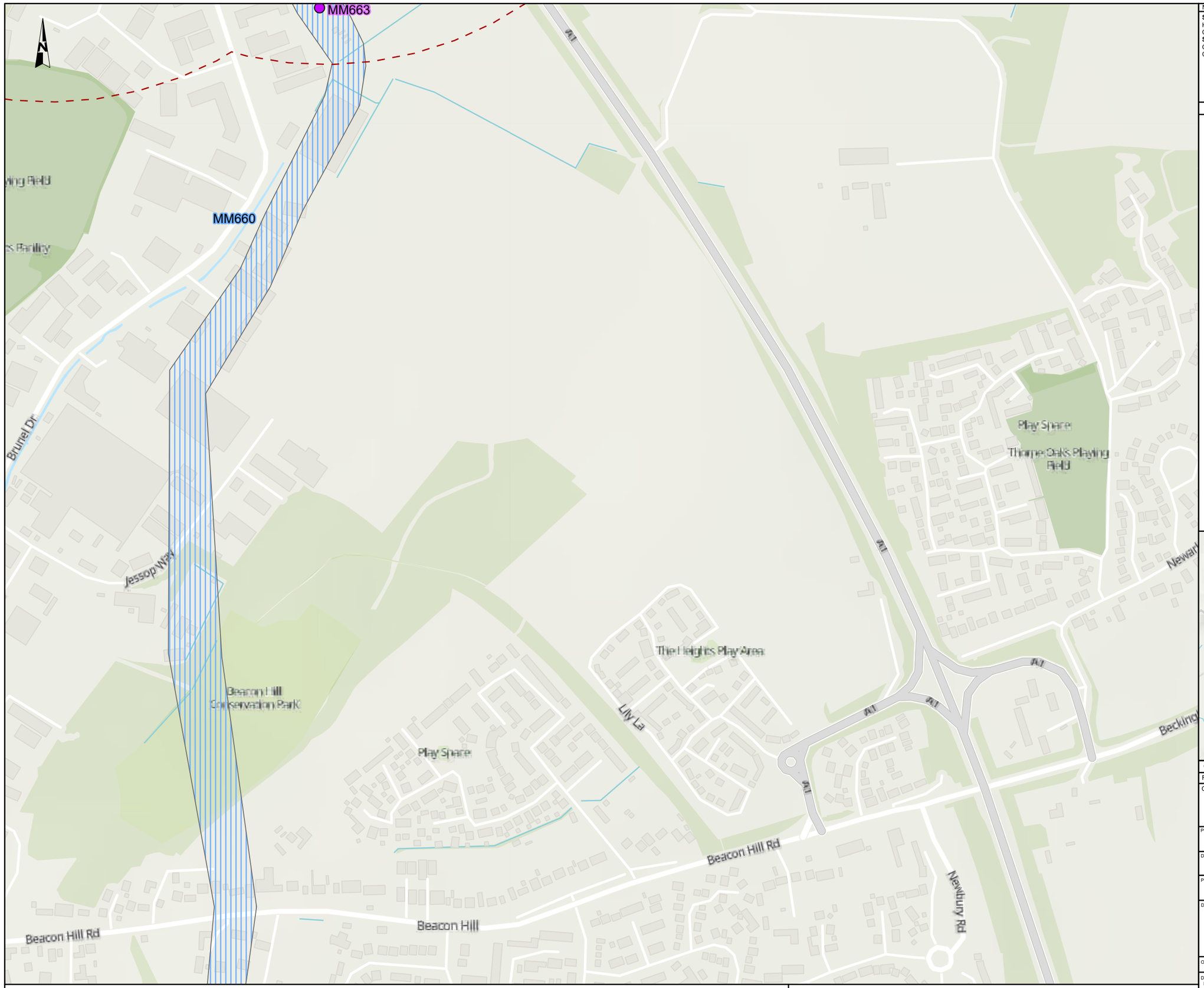
HE551478 | SKAG | EHR | CONWI_CONW | DR | LH | 00048

PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

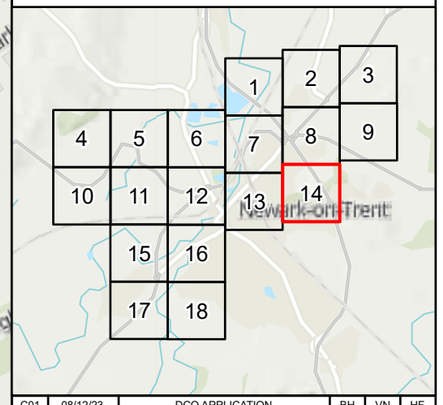


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.3
Non-Designated Heritage Assets
Sheet: 14 of 18

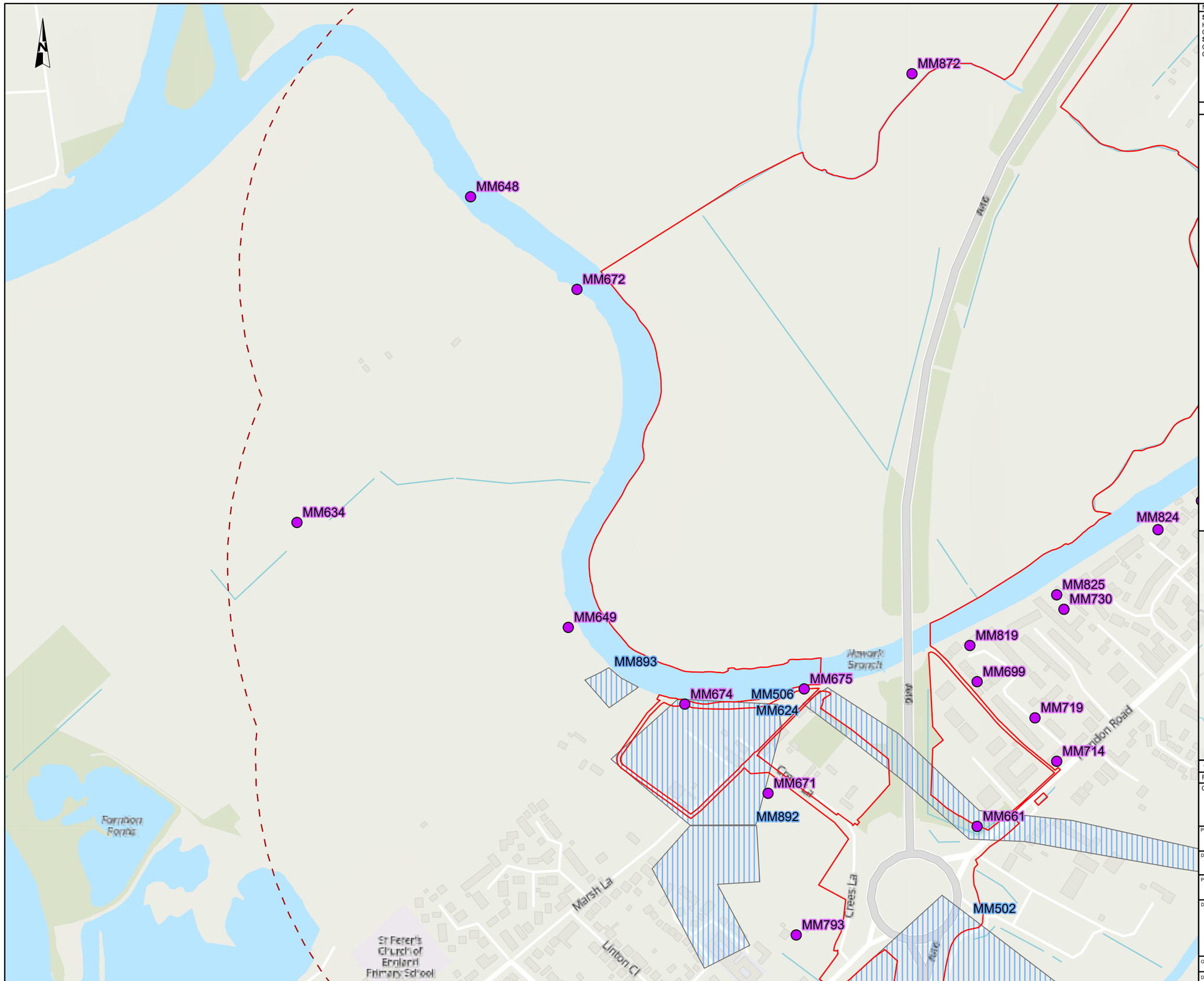
ORIGINAL SIZE A3 SCALE 1:5,000

DRAWING NUMBER HE PIN	ORIGINATOR	VOLUME	PROJECT REF NO.
HE551478	SKAG	EHR	HE551478
CONWI_CONW LOCATION	DR | TYPE	LH | ROLE	00049 | NUMBER

REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

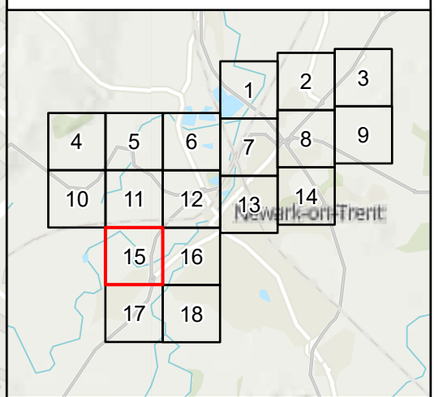


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.3
Non-Designated Heritage Assets
Sheet: 15 of 18

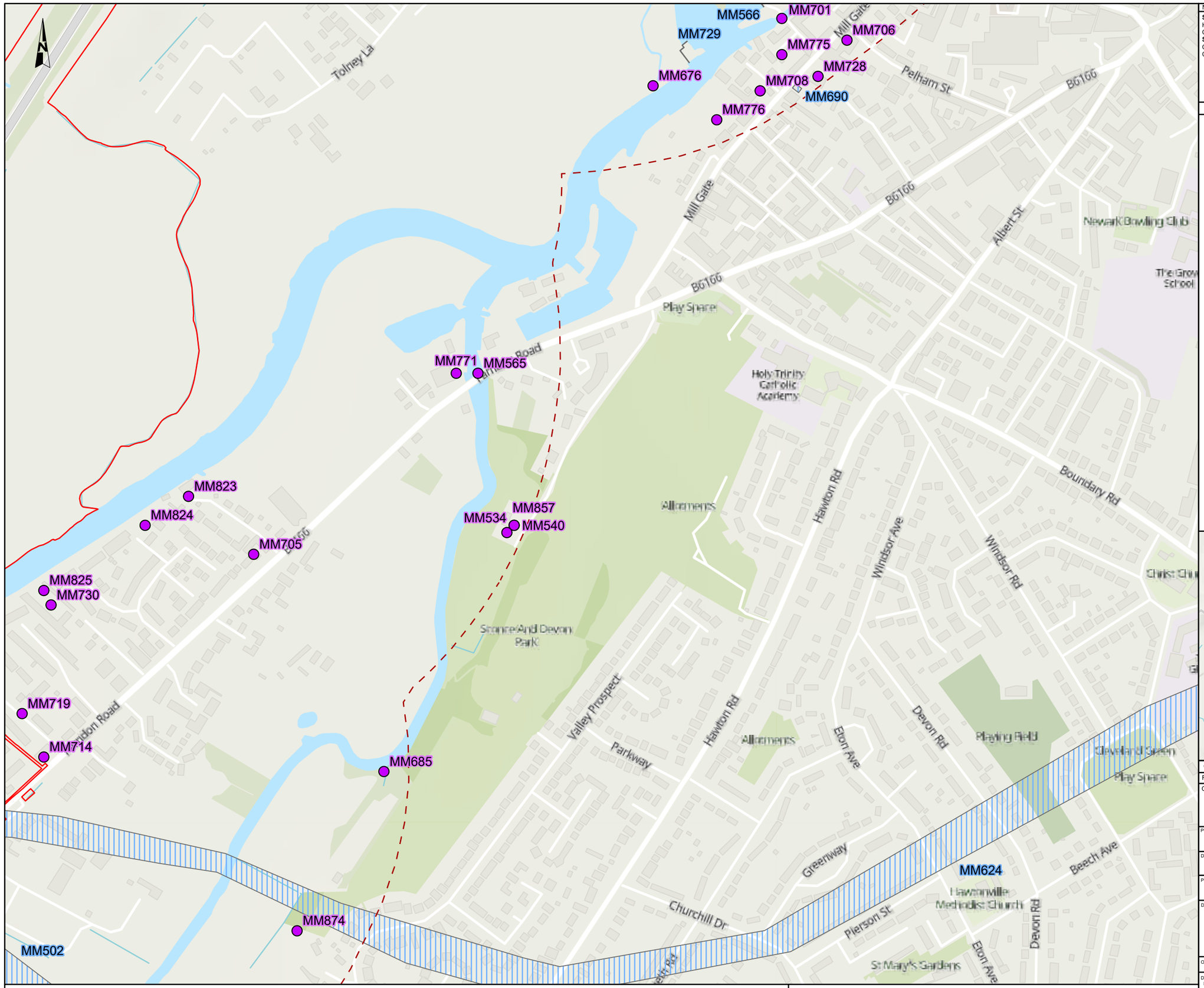
ORIGINAL SIZE A3 | SCALE 1:5,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00050

PROJECT REF NO. HE551478
REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

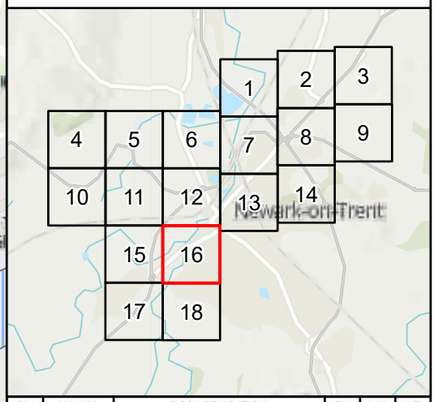


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CH'K'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.3
Non-Designated Heritage Assets
Sheet: 16 of 18

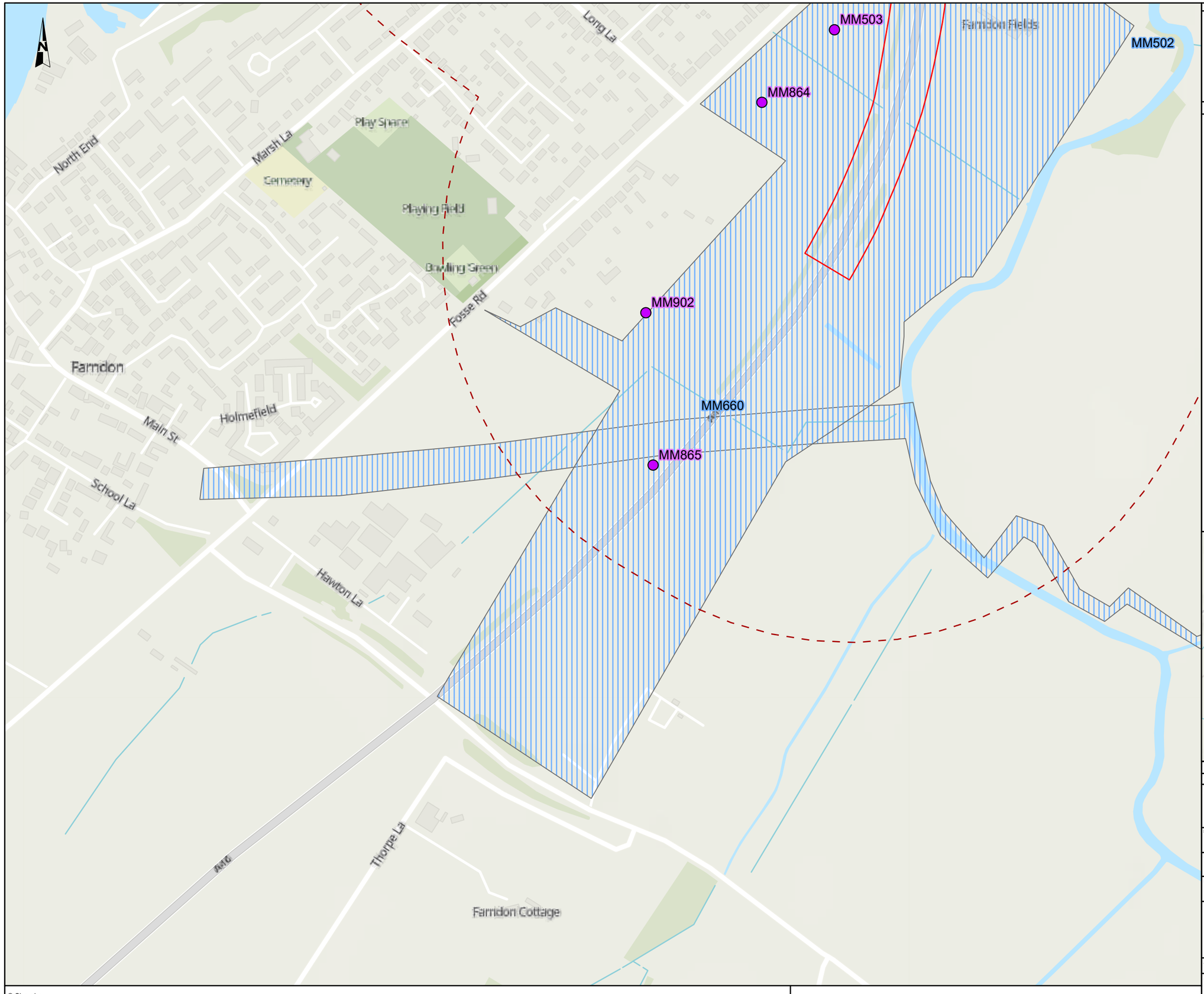
ORIGINAL SIZE A3 SCALE 1:5,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME | LOCATION | TYPE | ROLE | NUMBER
HE551478 SKAG EHR CONWI_CONW DR LH 00051

PROJECT REF NO. HE551478
REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

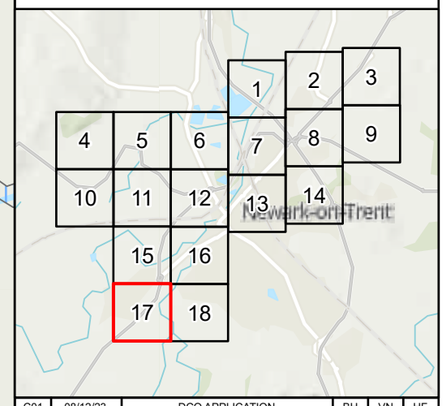


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.3
Non-Designated Heritage Assets
Sheet: 17 of 18

ORIGINAL SIZE A3 | SCALE 1:5,000

DRAWING NUMBER

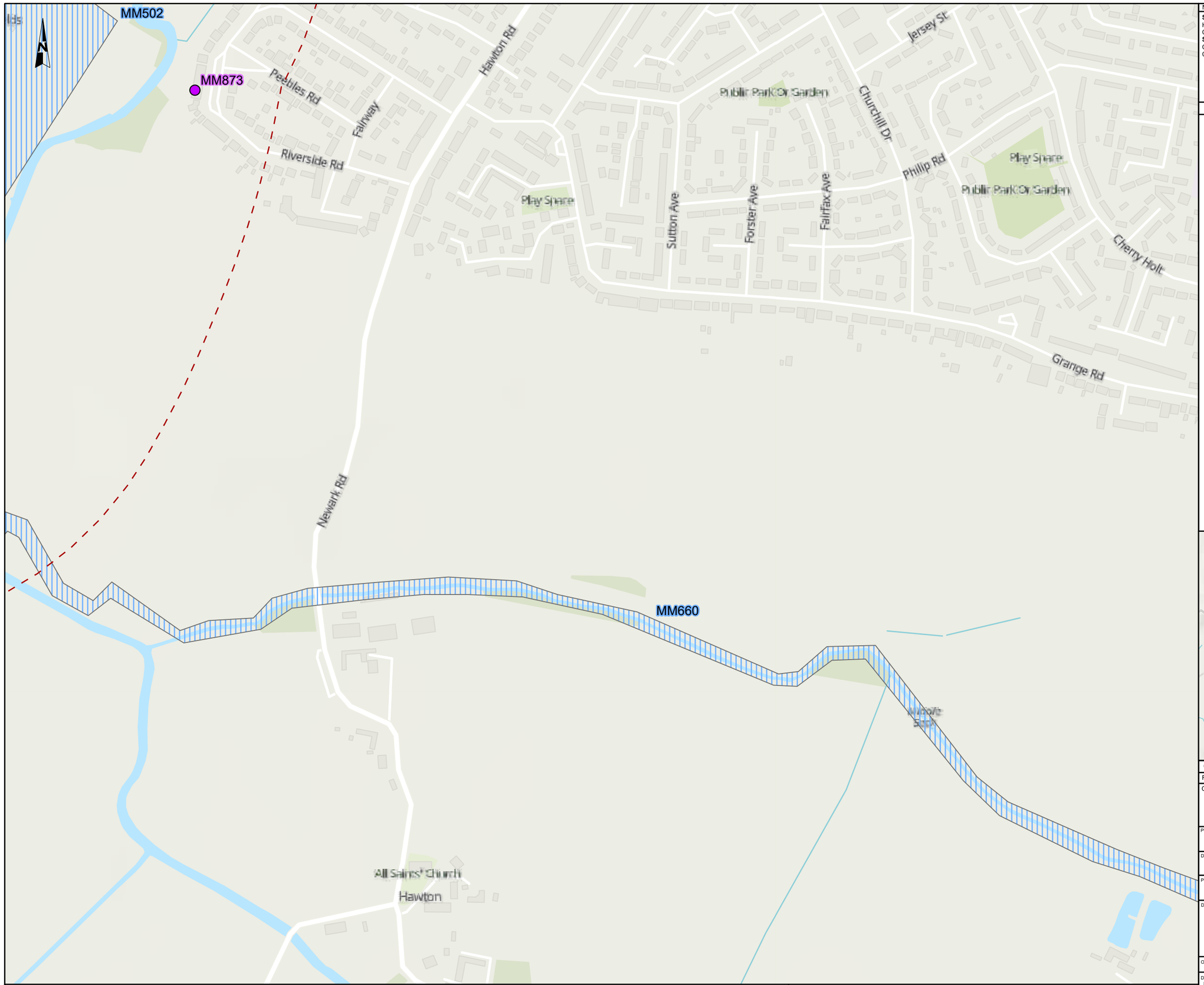
HE PIN	ORIGINATOR	VOLUME			
HE551478	SKAG	EHR			
CONWI_CONW		DR	LH	00054	
LOCATION		TYPE	ROLE	NUMBER	

PROJECT REF NO. HE551478

REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

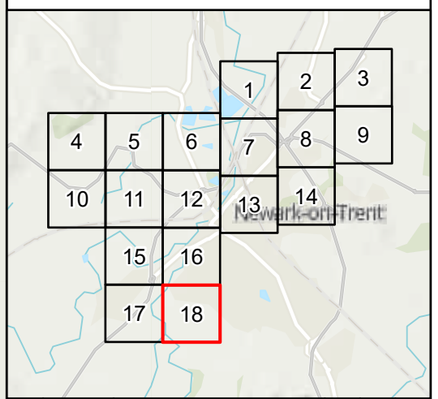


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Non-designated heritage assets study area
- Non-designated heritage asset
- Non-designated heritage asset



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.3
Non-Designated Heritage Assets
Sheet: 18 of 18

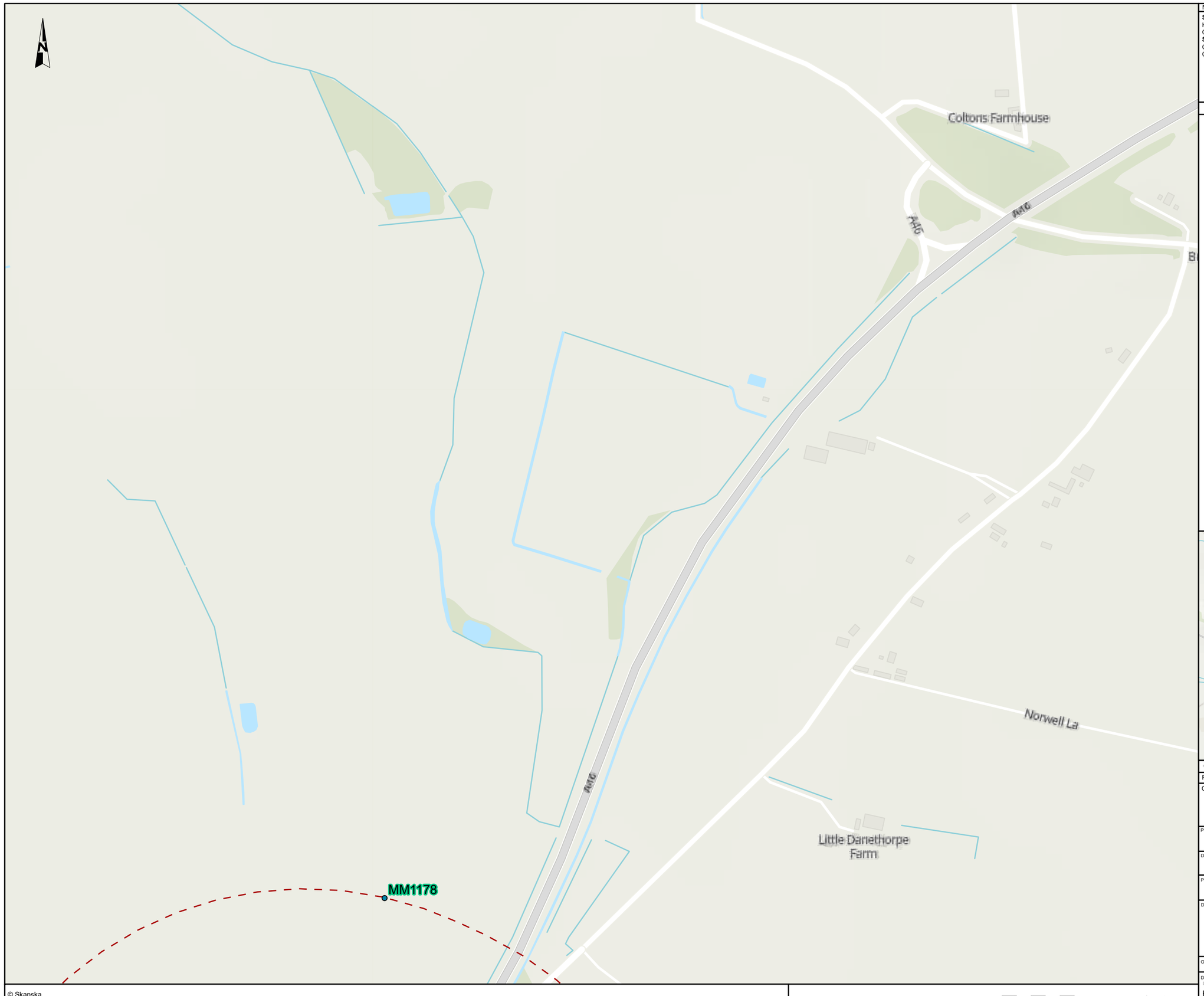
ORIGINAL SIZE A3 | SCALE 1:5,000

DRAWING NUMBER HE PIN	ORIGINATOR	VOLUME	PROJECT REF NO.
HE551478	SKAG	EHR	HE551478
LOCATION CONWI_CONW	TYPE DR	ROLE LH	NUMBER 00055	REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

B.4 Location of archaeological events recorded within the 500m of the Scheme (Sheets 1 to 16)

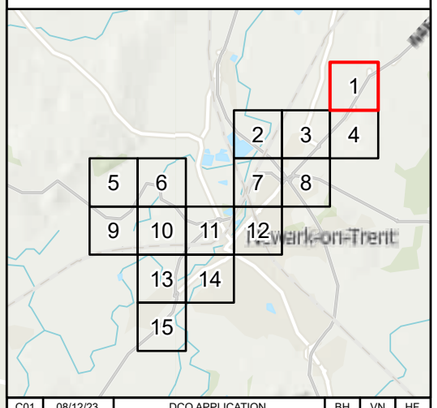


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Non-designated heritage assets study area
- Event



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.4 Heritage Events Sheet: 1 of 15

ORIGINAL SIZE: A3 SCALE: 1:5,000

DRAWING NUMBER: HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
CONWI_CONW DR LH 00020
LOCATION | TYPE | ROLE | NUMBER

PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

NOTES

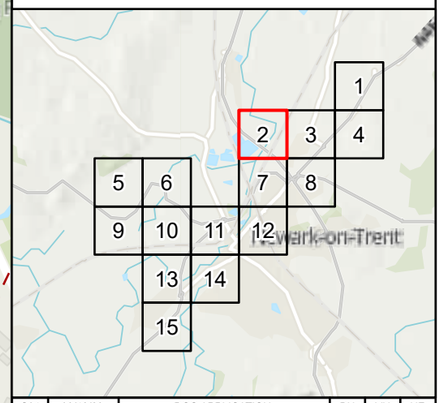
Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event

Survey area

- Geophysical



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.4
Heritage Events
Sheet: 2 of 15

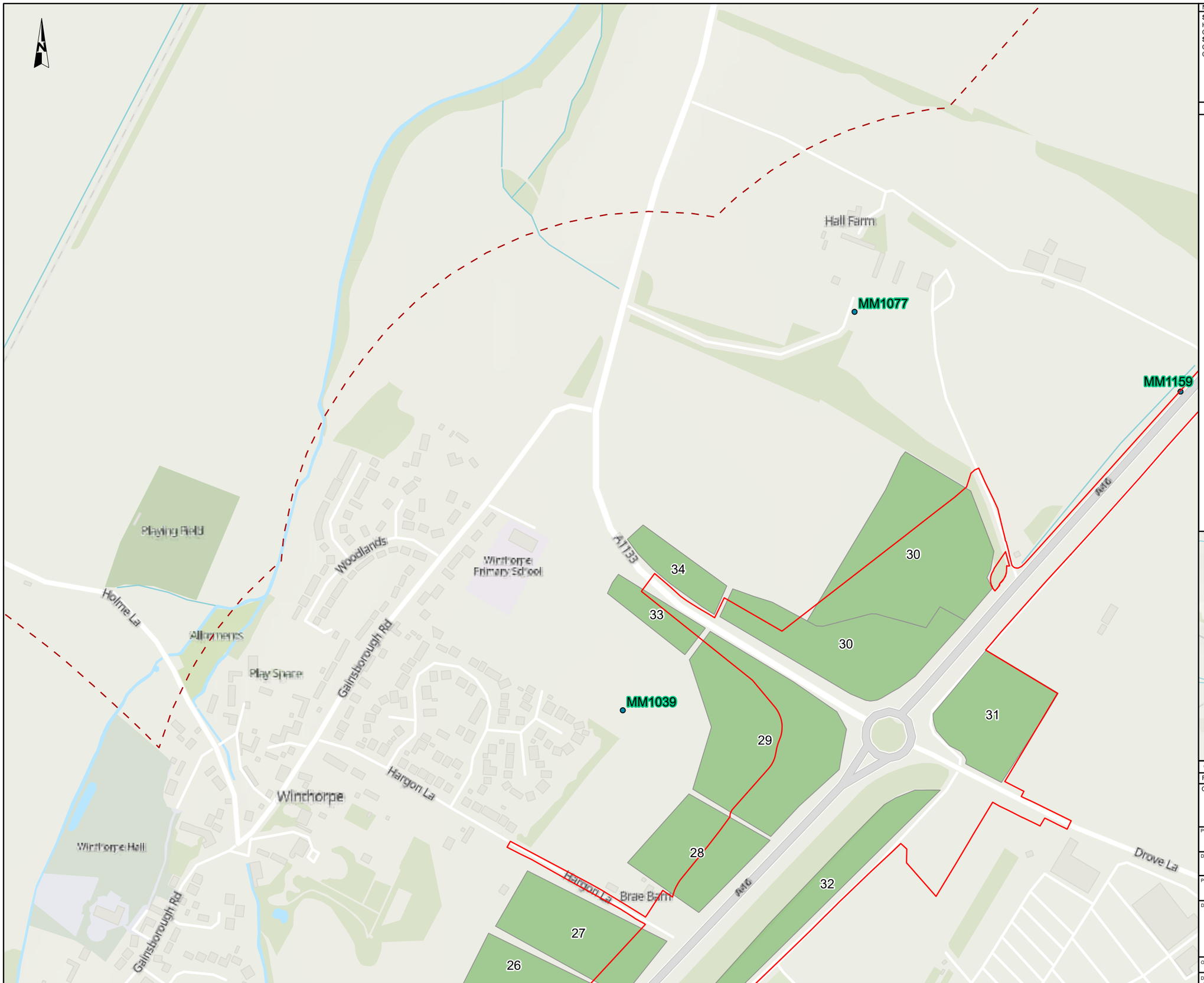
ORIGINAL SIZE A3 | SCALE 1:5,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00021

PROJECT REF NO. HE551478
REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres



NOTES

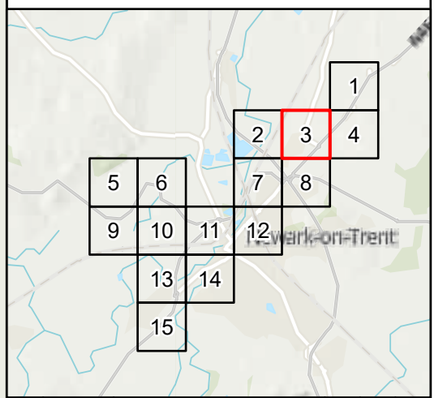
Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event

Survey area

- Geophysical



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

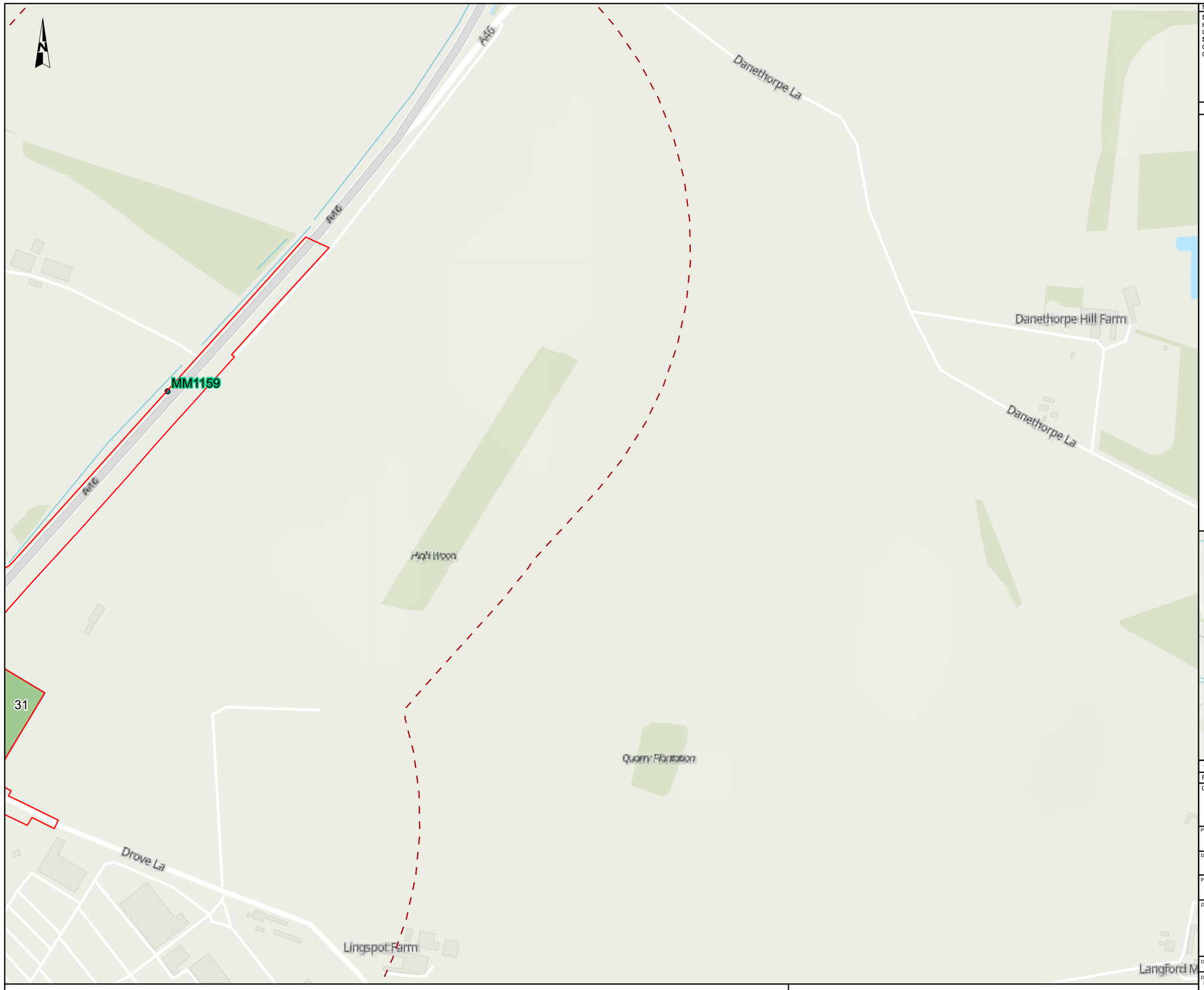
DRAWING TITLE
Appendix B.4
Heritage Events
Sheet: 3 of 15

ORIGINAL SIZE A3 SCALE 1:5,000

DRAWING NUMBER HE PIN	ORIGINATOR	VOLUME			PROJECT REF NO.
HE551478	SKAG	EHR			HE551478
CONWI_CONW LOCATION		DR TYPE	LH ROLE	00022 NUMBER	REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres



NOTES

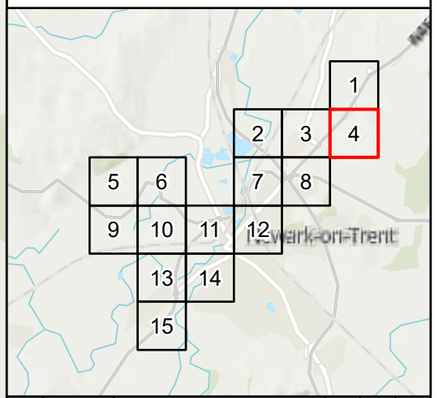
Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event

Survey area

- Geophysical



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE:
Appendix B.4
Heritage Events
Sheet: 4 of 15

ORIGINAL SIZE: A3 | SCALE: 1:5,000

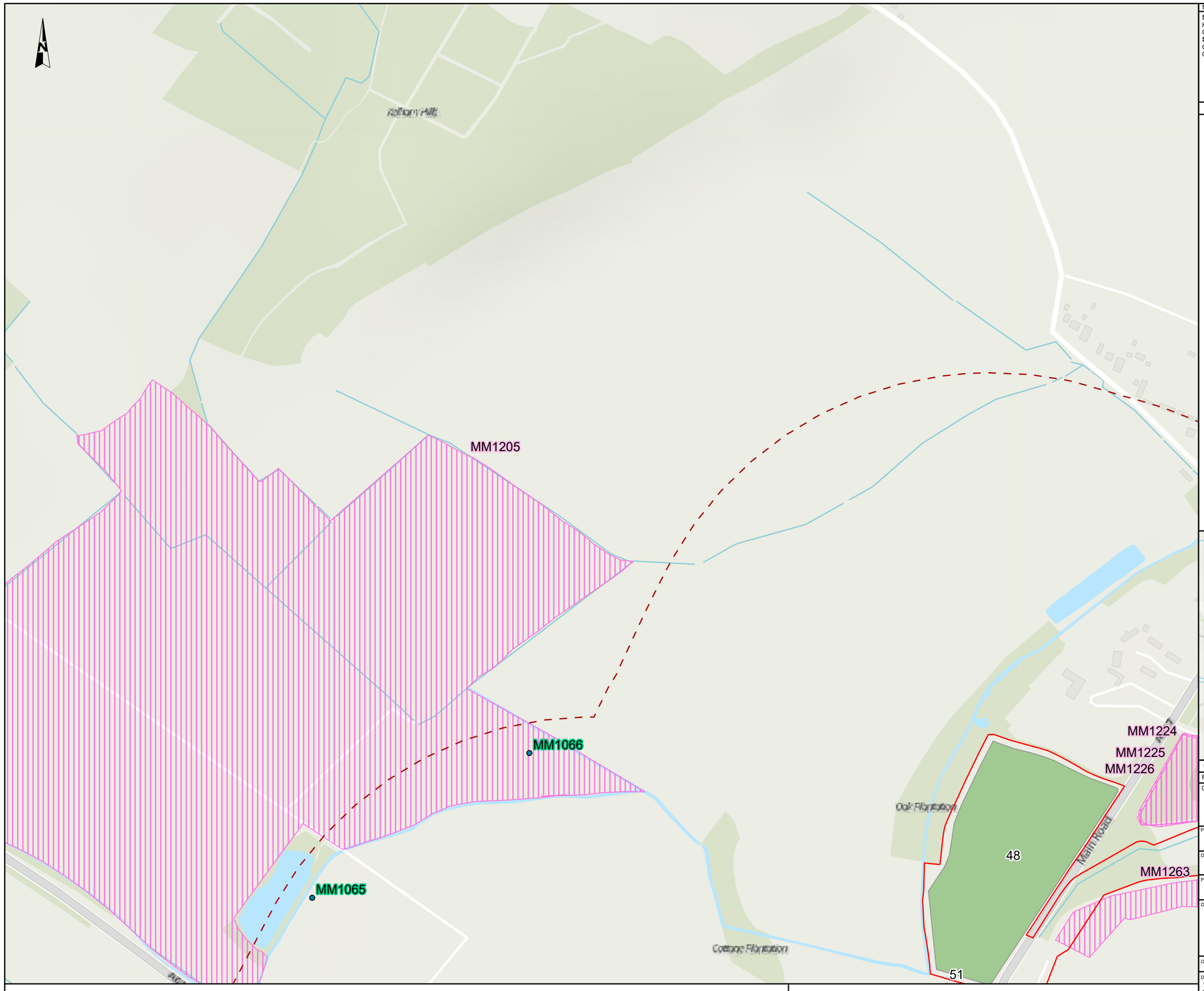
DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00023

PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres



NOTES

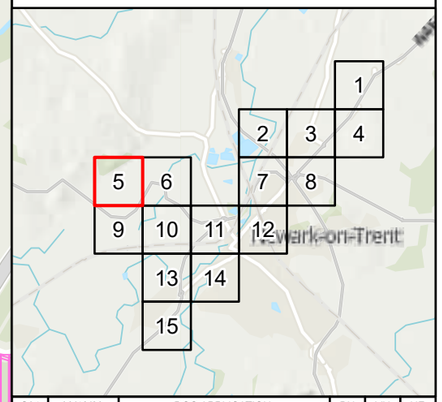
Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event
- Event

Survey area

- Geophysical



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.4
Heritage Events
Sheet: 5 of 15

ORIGINAL SIZE: A3 SCALE: 1:5,000

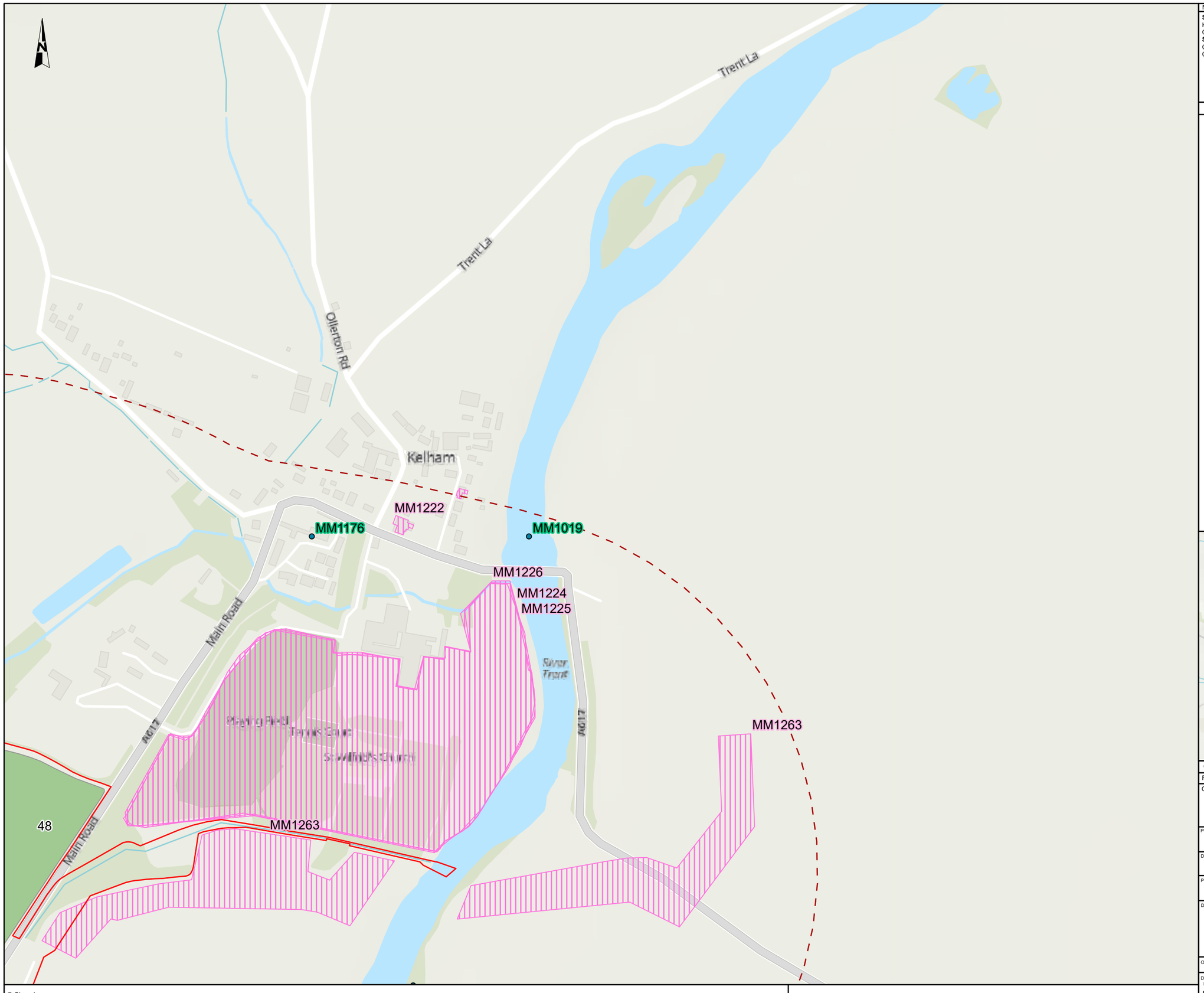
DRAWING NUMBER (HE PIN | ORIGINATOR | VOLUME): HE551478 SKAG EHR
(LOCATION | TYPE | ROLE | NUMBER): CONWI_CONW DR LH 00024

PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres



NOTES

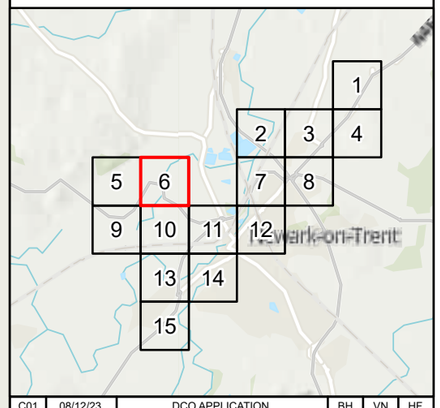
Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event
- Event

Survey area

- Geophysical



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.4 Heritage Events Sheet: 6 of 15

ORIGINAL SIZE: A3 SCALE: 1:5,000

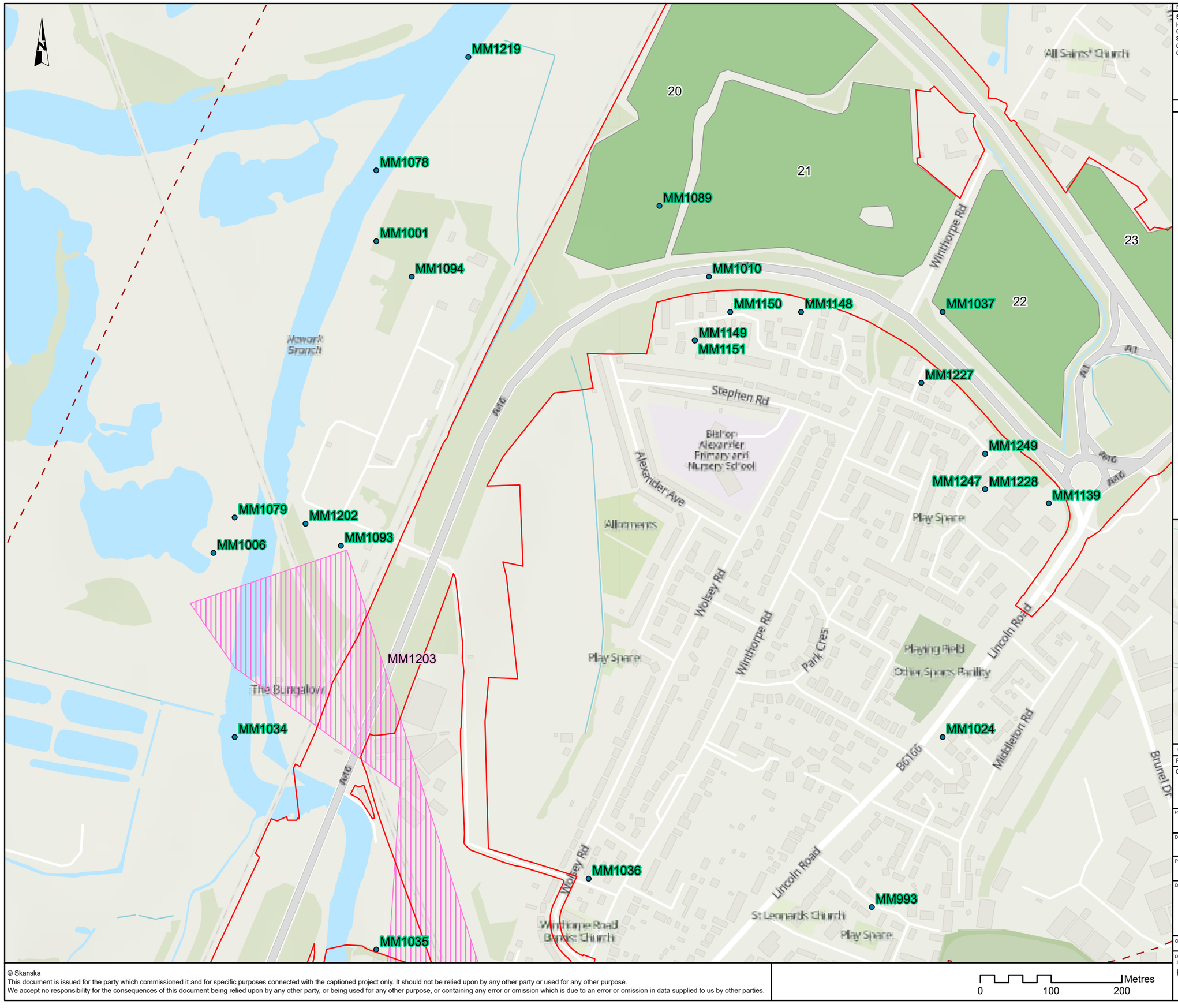
DRAWING NUMBER: HE PIN HE551478 | ORIGINATOR SKAG | VOLUME EHR | LOCATION CONWI_CONW | TYPE DR | ROLE LH | NUMBER 00025

PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres



NOTES

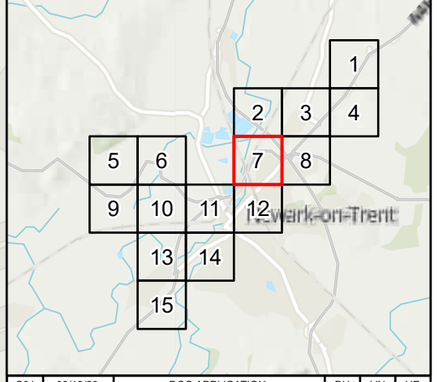
Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event
- Event

Survey area

- Geophysical



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.4 Heritage Events Sheet: 7 of 15

ORIGINAL SIZE: A3 | SCALE: 1:5,000

DRAWING NUMBER: HE PIN HE551478 | ORIGINATOR SKAG | VOLUME EHR | LOCATION CONWI_CONW | TYPE DR | ROLE LH | NUMBER 00026

PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

NOTES

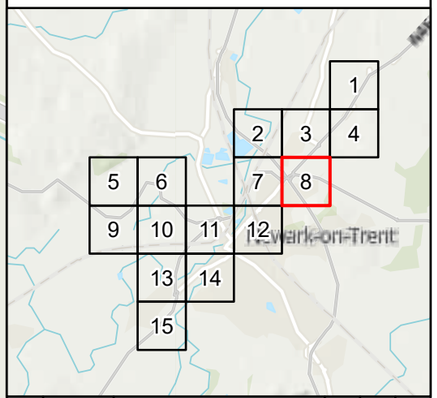
Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event
- Event

Survey area

- Geophysical



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.4
Heritage Events
Sheet: 8 of 15

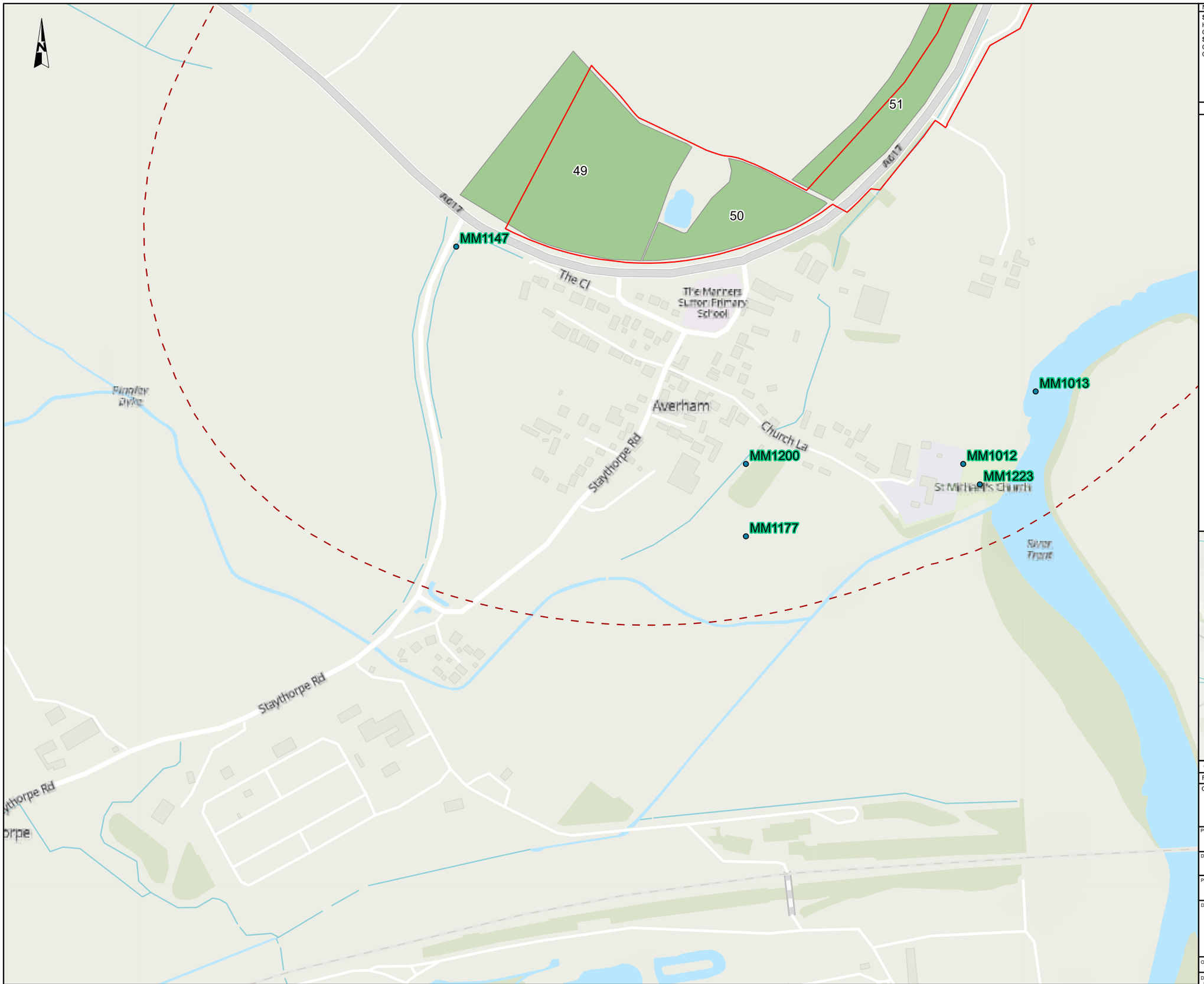
ORIGINAL SIZE A3 SCALE 1:5,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00027

PROJECT REF NO. HE551478
REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres



NOTES

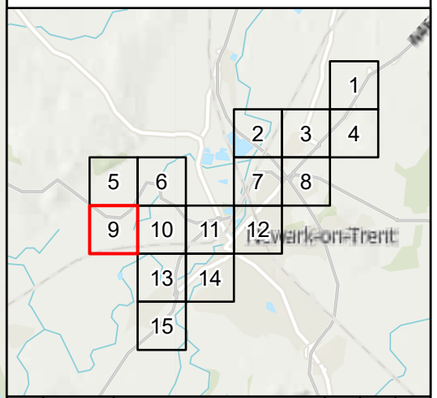
Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event

Survey area

- Geophysical



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.4
Heritage Events
Sheet: 9 of 15

ORIGINAL SIZE: A3 SCALE: 1:5,000

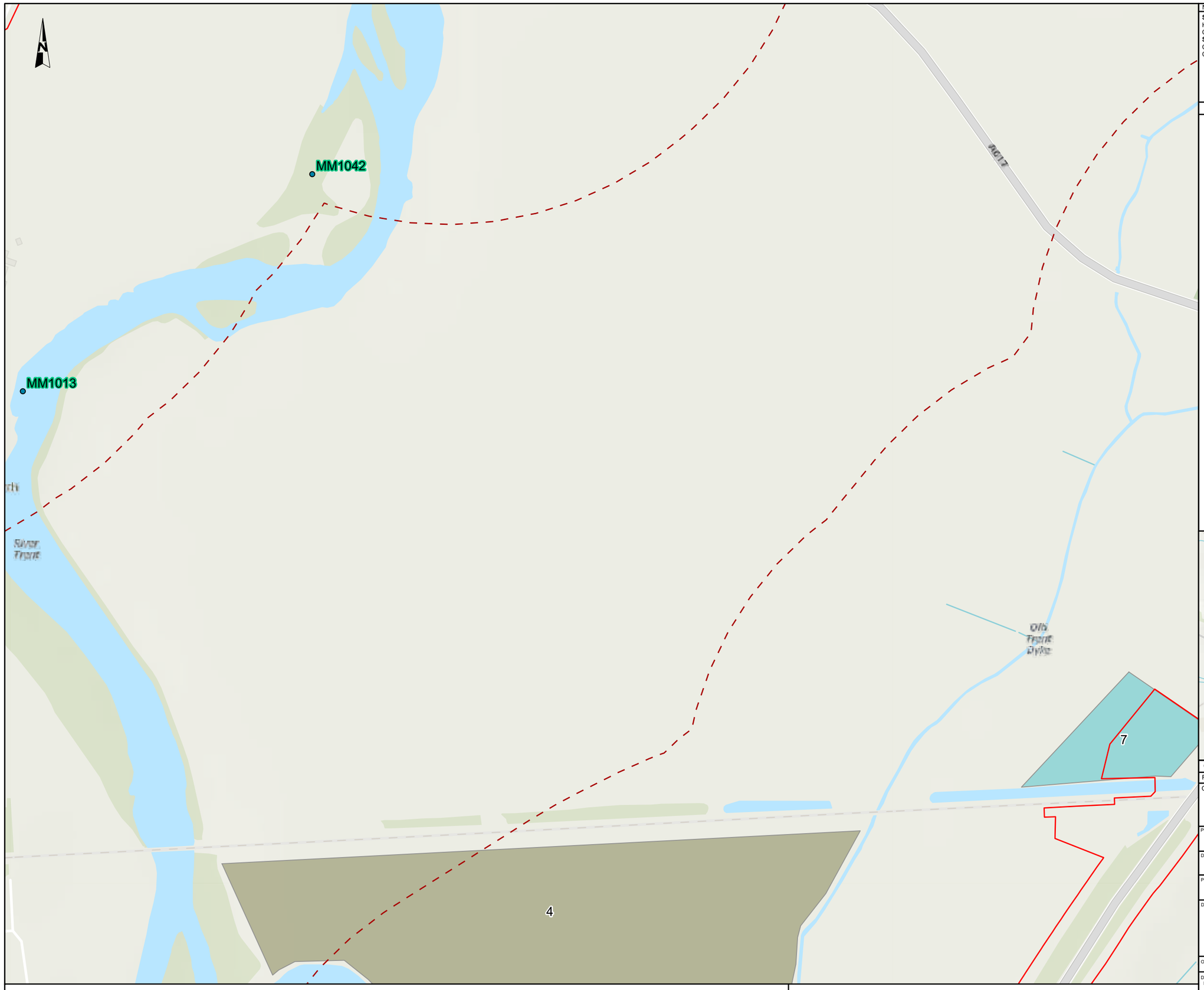
DRAWING NUMBER: HE PIN HE551478 | ORIGINATOR SKAG | VOLUME EHR | LOCATION CONWI_CONW | TYPE DR | ROLE LH | NUMBER 00028

PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres



NOTES

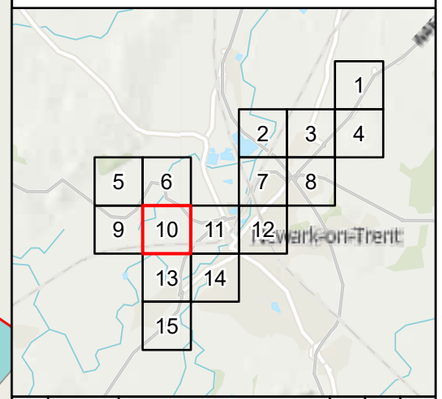
Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event

Survey area

- Metal Detecting
- Metal Detecting/Field Walking



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.4
Heritage Events
Sheet: 10 of 15

ORIGINAL SIZE A3 | SCALE 1:5,000

DRAWING NUMBER

HE PIN	ORIGINATOR	VOLUME			
HE551478	SKAG	EHR			
CONWI_CONW		DR	LH	00029	
LOCATION		TYPE	ROLE	NUMBER	

PROJECT REF NO. HE551478

REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

NOTES

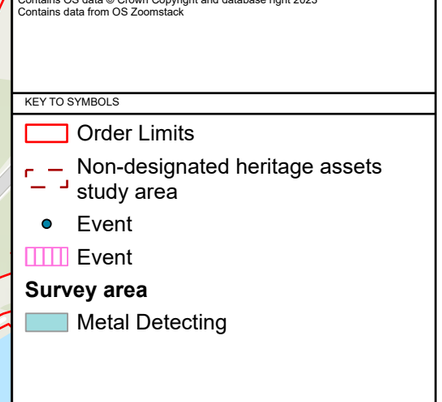
Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event
- Event

Survey area

- Metal Detecting



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.4
Heritage Events
Sheet: 11 of 15

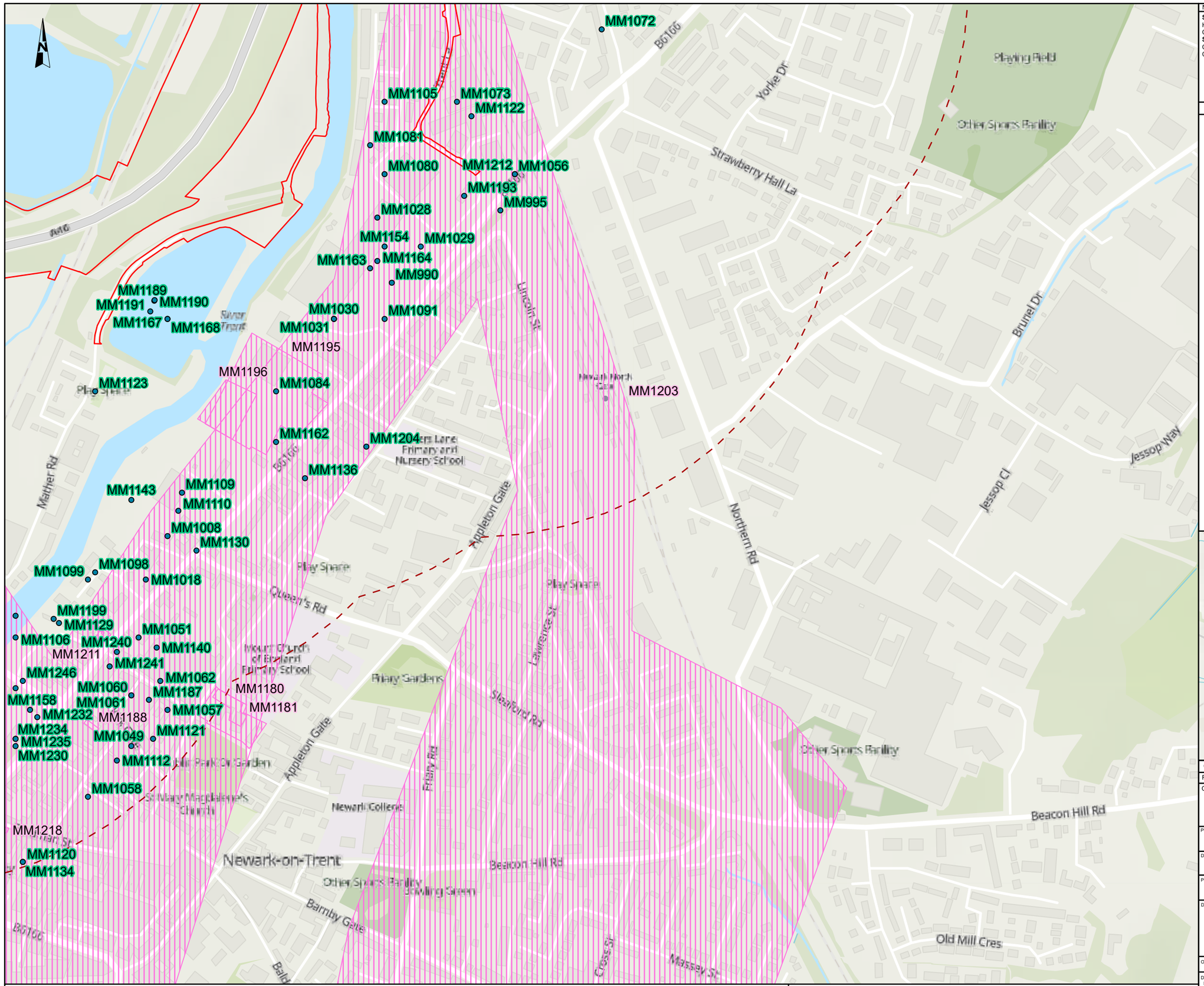
ORIGINAL SIZE A3 | SCALE 1:5,000

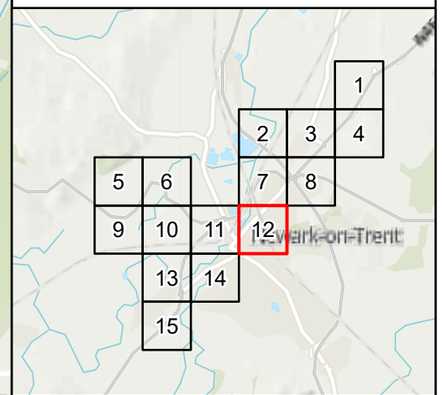
DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00030

PROJECT REF NO. HE551478
REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres





NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event
- Event

REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

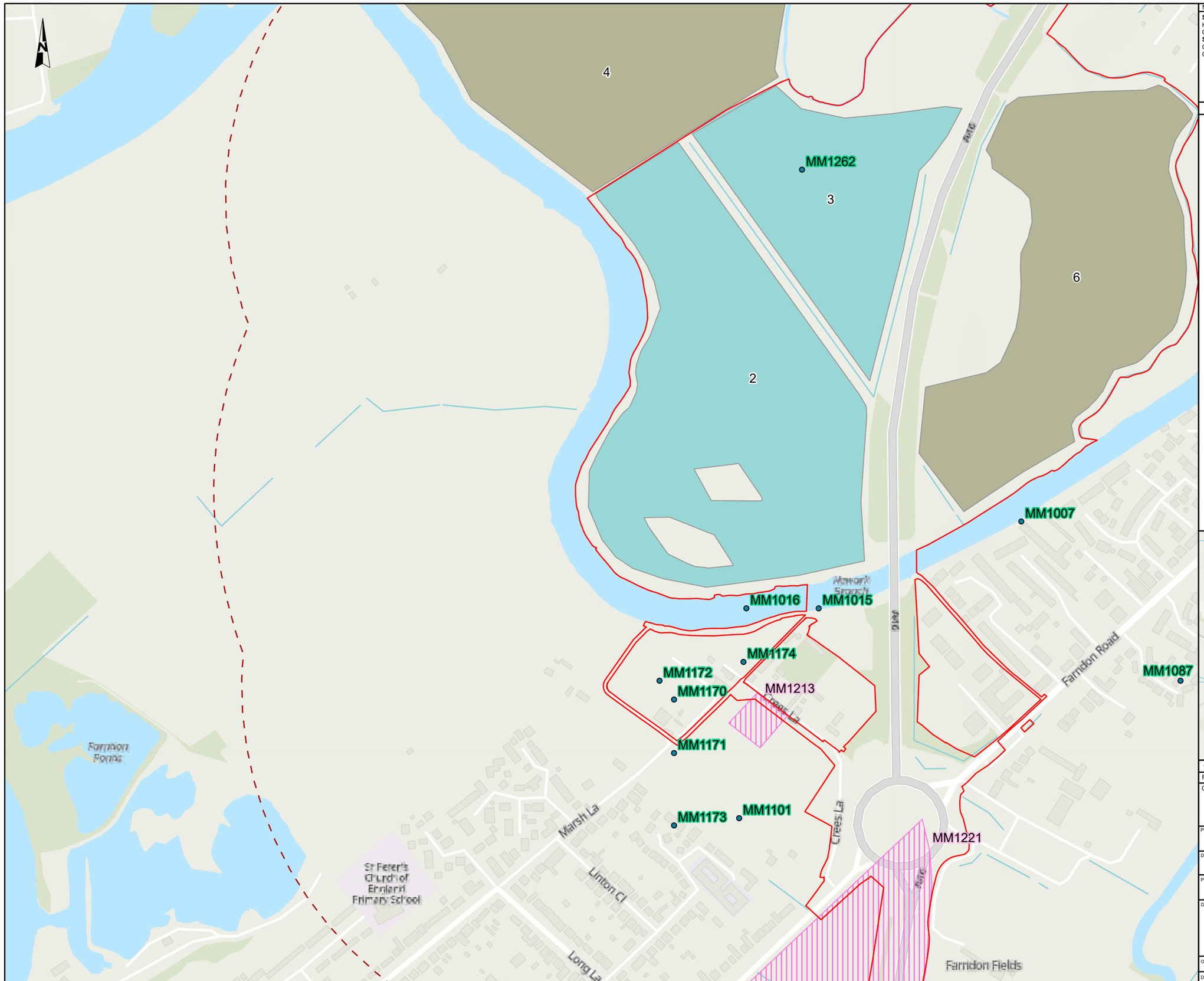
DRAWING TITLE: Appendix B.4 Heritage Events Sheet: 12 of 15

ORIGINAL SIZE: A3 SCALE: 1:5,000

DRAWING NUMBER HE PIN	ORIGINATOR	VOLUME			PROJECT REF NO.
HE551478	SKAG	EHR			HE551478
CONWI_CONW LOCATION		DR TYPE	LH ROLE	00031 NUMBER	REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres



NOTES

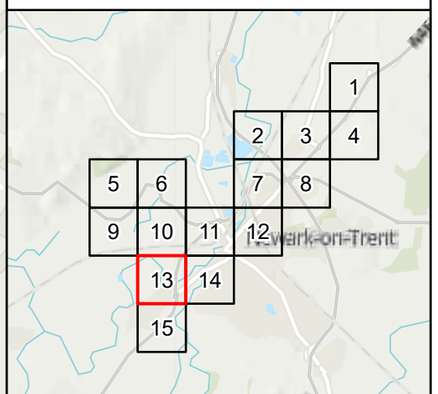
Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event
- Event

Survey area

- Metal Detecting
- Metal Detecting/Field Walking



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.4 Heritage Events Sheet: 13 of 15

ORIGINAL SIZE: A3 SCALE: 1:5,000

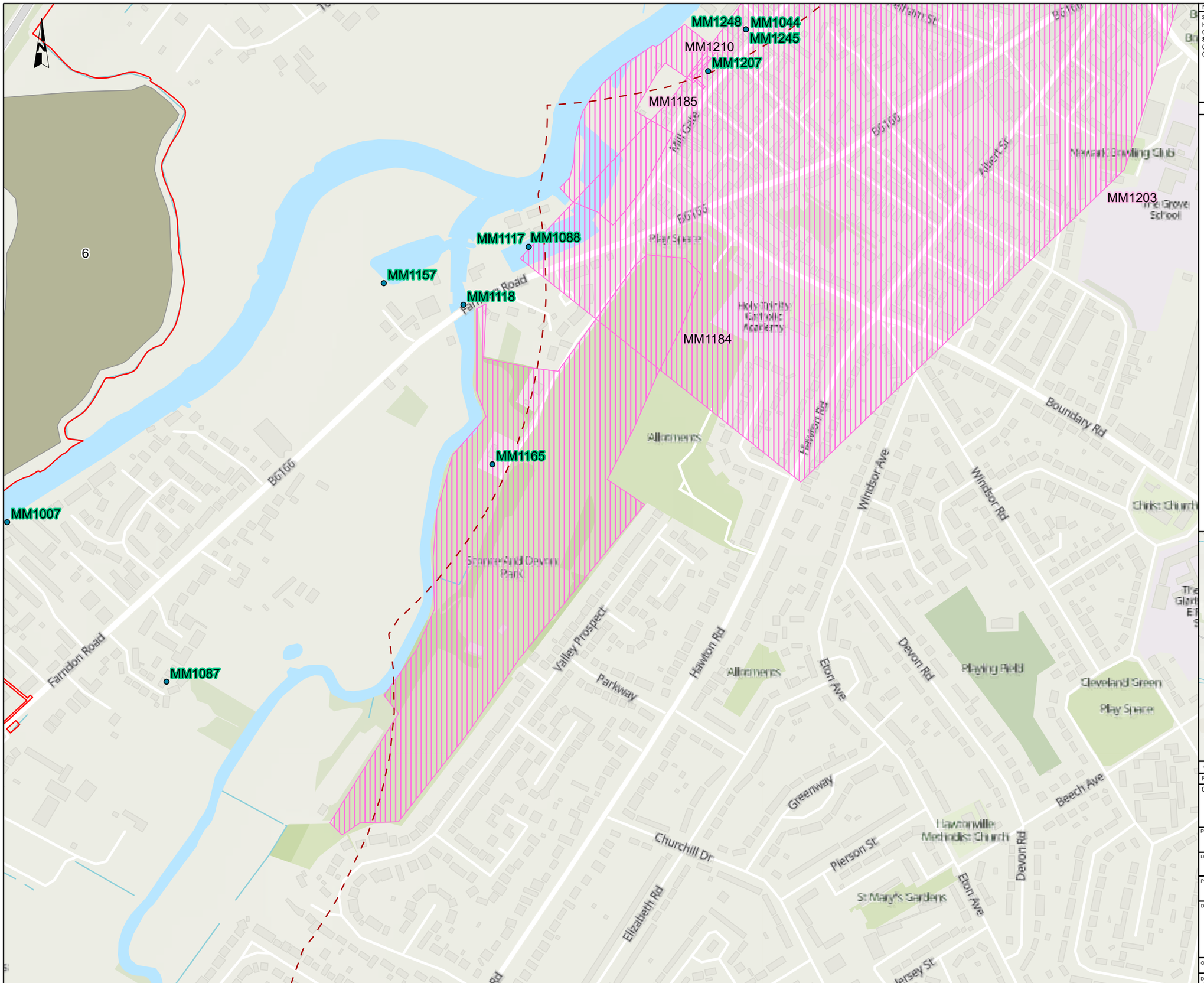
DRAWING NUMBER: HE PIN HE551478 | ORIGINATOR SKAG | VOLUME EHR | LOCATION CONWI_CONW | TYPE DR | ROLE LH | NUMBER 00032

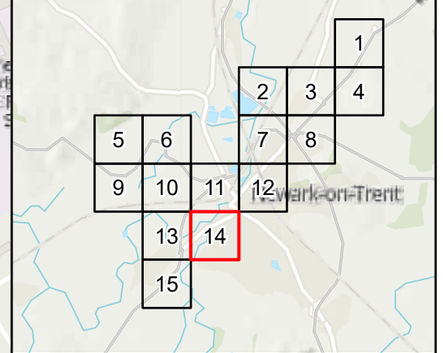
PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres





NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event
- Event

Survey area

- Metal Detecting/Field Walking

REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT: national highways

PURPOSE OF ISSUE: DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER: TR010065

PROJECT TITLE: A46 NEWARK BYPASS

DRAWING TITLE: Appendix B.4
Heritage Events
Sheet: 14 of 15

ORIGINAL SIZE: A3 | SCALE: 1:5,000

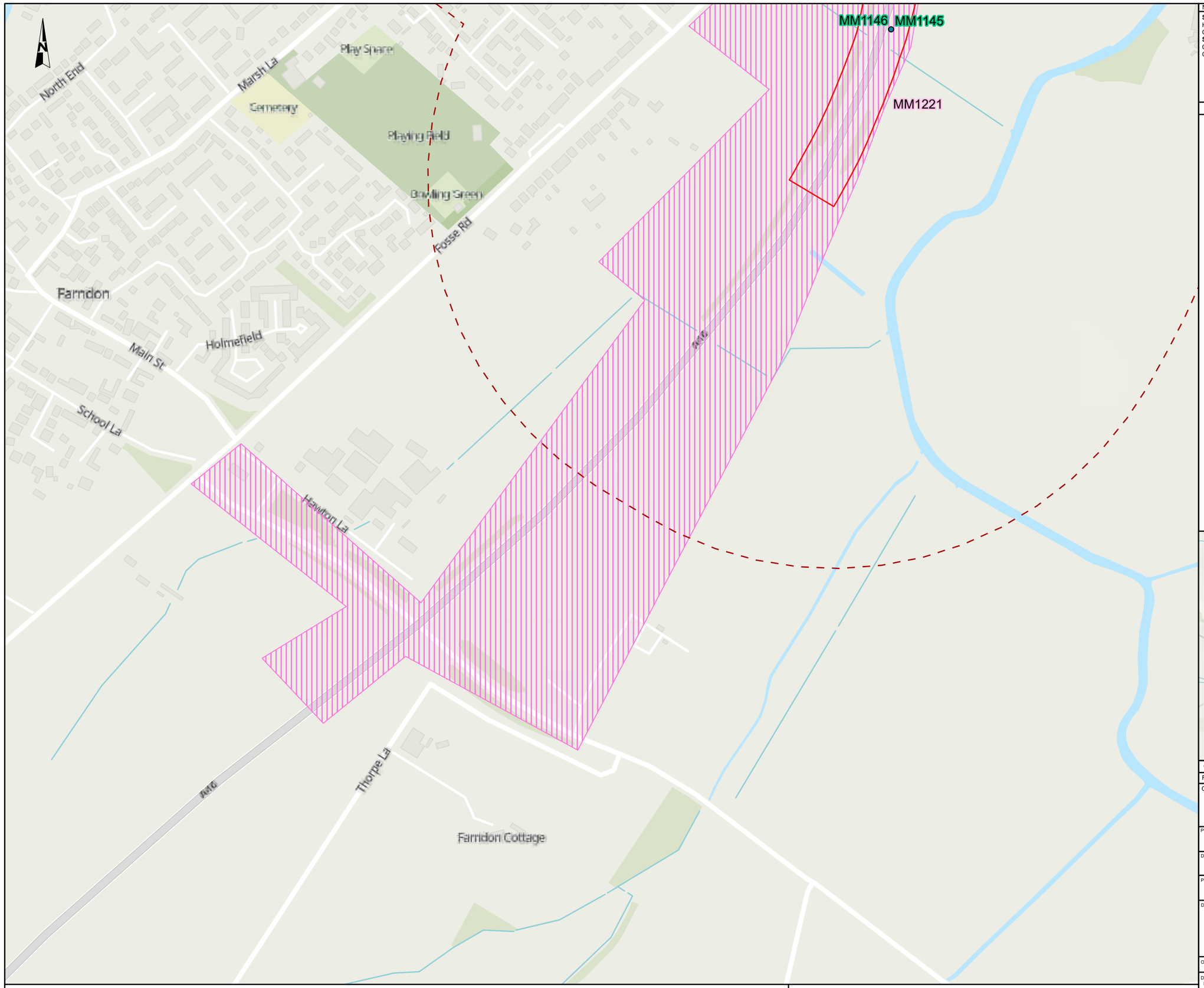
DRAWING NUMBER: HE PIN HE551478 | ORIGINATOR SKAG | VOLUME EHR | LOCATION CONWI_CONW | TYPE DR | ROLE LH | NUMBER 00033

PROJECT REF NO.: HE551478

REVISION: C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

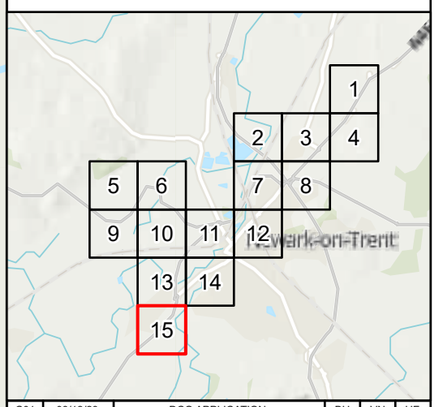


NOTES

Source
Heritage data collected by Mott MacDonald, 2022. HER data © Nottinghamshire County Council
Service Layer Credits
Contains OS data © Crown Copyright and database right 2023
Contains data from OS Zoomstack

KEY TO SYMBOLS

- Order Limits
- Non-designated heritage assets study area
- Event
- Event



REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
C01	08/12/23	DCO APPLICATION	BH	VN	HF

CLIENT
national highways

PURPOSE OF ISSUE
DCO APPLICATION

DEVELOPMENT CONSENT ORDER NUMBER
TR010065

PROJECT TITLE
A46 NEWARK BYPASS

DRAWING TITLE
Appendix B.4
Heritage Events
Sheet: 15 of 15

ORIGINAL SIZE A3 | SCALE 1:5,000

DRAWING NUMBER
HE PIN | ORIGINATOR | VOLUME
HE551478 SKAG EHR
LOCATION | TYPE | ROLE | NUMBER
CONWI_CONW DR LH 00035

PROJECT REF NO. HE551478

REVISION C01

© Skanska
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

0 100 200 Metres

Appendix C: Scoping exercise

C.1 Scoping exercise for designated assets within 1km of the Scheme

Appendix Table 0-1: Scoping exercise for designated assets within 1km of the Scheme

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
MM001	1003474	Newark Castle	Scheduled Monument	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM003	1003488	Newark town wall (Lombard Street)	Scheduled Monument	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM004	1008258	Hawton moated site, fishpond, Civil War redoubt and ridge and furrow	Scheduled Monument	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM005	1012880	Standing cross known as Beaumond Cross	Scheduled Monument	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM006	1016020	Civil War town defences within the Friary Garden	Scheduled Monument	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM007	1016046	Civil War redoubt 550m south-east of Valley Farm	Scheduled Monument	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM008	1016047	Gun platform 440m south-east of Muskham Bridge	Scheduled Monument	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM009	1016048	Civil War redoubt 680m north-west of Dairy Farm	Scheduled Monument	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM010	1016049	Civil War fieldwork on Crankley Point	Scheduled Monument	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM011	1016050	Civil War redoubt on Crankley Point	Scheduled Monument	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM012	1016051	Moated site 750m north-west of Dairy Farm	Scheduled Monument	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM013	1016150	Queen's Sconce	Scheduled Monument	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM014	1016152	Civil War redoubt 580m ENE of sugar refinery	Scheduled Monument	Out	A neutral effect is predicted. The setting does not contribute to the value of the asset. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM015	1017402	Civil War sconce 650m north-west of Devon Bridge	Scheduled Monument	Out	A neutral effect is predicted. The setting does not contribute to the value of the asset. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM016	1017687	Averham moat and enclosure	Scheduled Monument	Out	A neutral effect is predicted. The distance of the asset from the Scheme and vegetation screening means that development within the Order Limits will not have an adverse impact on its value.
MM018	1045982	Kelham Hall	Grade I Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM019	1046008	Church Of St Michael	Grade I Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM020	1196278	Remains of Newark Castle	Grade I Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
MM021	1196430	Town Hall	Grade I Listed Building	Out	A neutral effect is predicted. Buildings screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM022	1279450	Church of St. Mary Magdalene and attached railing	Grade I Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM023	1297633	Governor's House	Grade I Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM024	1302213	Church Of St Wilfrid	Grade I Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM025	1045983	Gazebo And Garden Wall At Kelham Hall	Grade II* Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM026	1046033	Langford Hall	Grade II* Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM027	1178886	Winthorpe Hall	Grade II* Listed Building	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM028	1196076	Club Room And Stables At Rear Of Ossington Hotel	Grade II* Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM029	1196098	Martin Forster House	Grade II* Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM030	1196290	Kiln Warehouse	Grade II* Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM031	1196426	Former White Hart Hotel	Grade II* Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM032	1215654	Shalem House The Friary 1 To 4	Grade II* Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM033	1278230	43, Market Place	Grade II* Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM034	1287626	Ossington Hotel And Adjoining Garden Walls And Summerhouse	Grade II* Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM035	1288060	Former Magnus School And Adjoining Headmaster's House And English School	Grade II* Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM036	1297635	27 AND 28, MARKET PLACE (See Details For Further Address Information)	Grade II* Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM037	1297637	40 And 41, Market Place	Grade II* Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM038	1297721	Concrete Footbridge Across River Trent	Grade II* Listed Building	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM039	1323680	Winthorpe Bridge Carrying Bypass Over River Trent	Grade II* Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM040	1045587	Pilgrim Cottage	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
					value.
MM043	1045944	Former Monastic buildings adjoining Kelham Hall	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM044	1045945	Viaduct 450 Metres South Of Muskham Bridge	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM045	1045984	Garden Boundary Wall At Kelham Hall	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting and structural impacts.
MM046	1045985	Blacksmith Cottage	Grade II Listed Building	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM047	1045986	4,6,8, Blacksmith Lane	Grade II Listed Building	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM048	1045987	Farm Buildings At Home Farm	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM049	1045988	Kelham Bridge	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM050	1045996	Stable Block At Winthorpe House	Grade II Listed Building	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM051	1045997	Pennywise House	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM052	1045998	Conservatory At The Grove	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM053	1045999	Lowwood	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM054	1046000	The Academy	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM055	1046001	The Old Rectory Farmhouse	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM056	1046005	Yew Tree Cottage	Grade II Listed Building	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM057	1046006	Rectory Cottage	Grade II Listed Building	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM058	1046007	The Old Rectory	Grade II Listed Building	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM059	1046034	Coach House, To The West Of The Stables, At Langford Hall	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM060	1178530	Chestnut Farm House	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM061	1178591	Stables, To The West Of Langford Hall	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM062	1178819	The Grove	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
					setting.
MM063	1178837	Church Of All Saints	Grade II Listed Building	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM064	1178838	Thompson Tomb In Church Of All Saints, Church Yard, 15 Feet South Of Baptistry	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM065	1178868	Seven garden urns at Kelham Hall	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM066	1178872	Dial House	Grade II Listed Building	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM067	1178929	Stable At No 6	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM068	1178966	Thirty-Six Railing Piers At Kelham Hall	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM069	1178972	Manor Farm House	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM070	1196038	7 And 9, Bridge Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM071	1196039	15, 17, 19, 23, BRIDGE STREET (See Details For Further Address Information)	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM072	1196040	25, Bridge Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM073	1196041	12-14, BRIDGE STREET (See Details For Further Address Information)	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM074	1196042	The White Hind Public House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM075	1196043	4-8, Carter Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM076	1196044	5 And 7, Carter Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM077	1196045	13-17, Carter Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM078	1196046	25, Carter Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM079	1196047	39 And 41, Carter Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM080	1196048	Crown And Mitre Hotel	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM081	1196049	9, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM082	1196050	Former Corn Exchange, Now Silverline Bingo	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM083	1196051	25, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
					value.
MM084	1196052	28 And 30, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM085	1196053	36 And 38, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM086	1196054	46 And 48, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM087	1196055	60 And 62, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM088	1196056	Former Gilstrap Library	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM089	1196057	11 And 13, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM090	1196058	15-19, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM091	1196059	21, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM092	1196060	29 And 31, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM093	1196061	37, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM094	1196062	39 And 41, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM095	1196063	47 And 49, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM096	1196064	Jalland's Row	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM097	1196065	Northgate Railway Station	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM098	1196066	Alishaan Restaurant	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM099	1196067	Boundary Wall And Gatepiers To The Friary	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM100	1196068	2, Balderton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM101	1196069	12, Balderton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM102	1196070	25 And 27, Balderton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM104	1196072	Nottinghamshire County Council Social Services Office	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM105	1196073	30-36, Barnby Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM106	1196074	Newark Town And District Club	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM107	1196075	Barnby Gate Methodist Church And Attached Railings	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
MM108	1196077	15-21, Boar Lane	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM109	1196096	Castle Brewery	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM110	1196097	1a And 3, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM111	1196257	18, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM112	1196258	20, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM113	1196259	22 And 24, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM114	1196260	23 And 25, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM115	1196261	27 And 29, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM116	1196262	31, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM117	1196263	33 And 33a, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM118	1196264	35 And 35a, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM119	1196265	37 And 39, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM120	1196266	44, 46, 46a, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM121	1196267	6 And 6a, Lombard Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM122	1196268	Newark Area Health Authority Offices	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM123	1196269	Elmhurst Hotel	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM124	1196270	Maurice Key Furnishings	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM125	1196271	Castle And Falcon Public House And Attached Outbuildings	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM126	1196272	Abbeywood	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM127	1196274	Beaumond Cross	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM128	1196275	Lilley And Stone School	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM129	1196276	5, 6, 7, MARKET PLACE (See Details For Further Address Information)	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM130	1196277	Ritz Video	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM131	1196279	7, Chain Lane	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM132	1196280	10, Chain Lane	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
					development within the Order Limits will not have an adverse impact on its value.
MM133	1196281	2 And 3, Church Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM134	1196282	4 And 4a, Church Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM135	1196283	5 And 5a, Church Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM136	1196284	1 And 2, Church Walk	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM137	1196285	Kirkwood House	19th century house, now salon and alt. Constructed of colourwashed brick with slate roof	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM138	1196286	Freestanding Chimney 10 Metres South-east Of Church Of St Mary Magdalene	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM139	1196287	Farndon Windmill	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting and structural impacts.
MM140	1196288	Causeway Arch 1300 Metres North-west Of Level Crossing	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM141	1196289	Causeway Arches 650 Metres North-west Of Level Crossing	Grade II Listed Building	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM142	1196291	The Clock Tower	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM143	1196292	3 And 5, King Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM144	1196293	15, 17, 19, King Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM145	1196294	Former King's Arms Public House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM146	1196295	5, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM147	1196296	16, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM148	1196381	37 And 37a, Stodman Street	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM149	1196382	45, Stodman Street	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM150	1196383	Mount School	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM151	1196384	Warehouse At Rear Of 7 Bargate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM152	1196385	Longstone Bridge	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
MM153	1196386	37, Victoria Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM154	1196387	62, Victoria Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM155	1196388	72 And 74, Victoria Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM156	1196389	15, Wilson Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM157	1196402	87-91, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM158	1196403	93-101, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM159	1196404	Crow View	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM160	1196405	Millbank (British Red Cross Society) And Attached Walls	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM161	1196406	Millgate Folk Museum The Navigation Company Brasserie	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM162	1196407	The Spring House Public House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM163	1196408	Transport House (3)	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM164	1196409	13 And 15, Northgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM165	1196410	Northgate House And Adjoining Boundary Wall	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM166	1196411	The Old Malt Shovel Public House	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM167	1196412	38, Northgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM168	1196413	168), 70 Metres North-west Of Northgate Brewery	Grade II Listed Building	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM169	1196414	1, Parliament Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM170	1196415	3 And 5, Parliament Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM171	1196416	20, Parliament Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM172	1196417	40 And 42, Parliament Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM173	1196418	27 And 29, Pelham Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM174	1196419	15, 17, 19, Portland Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
MM175	1196420	23 And 25, Portland Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM176	1196421	Riverside Cottage And 2 Riverside Cottage	Grade II Listed Building	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM177	1196422	Trustees Savings Bank	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM178	1196423	19, Market Place	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM179	1196424	25 And 26, Market Place	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM180	1196425	Midland Bank	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM181	1196427	36-39, Market Place	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM182	1196428	46, Market Place	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM183	1196429	Pair Of K6 Kiosks 1 Metre South-west Of 12 And 13	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM184	1196431	12 And 14, Middlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM185	1196432	23, Middlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM186	1196433	8-13, Mill Lane	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM187	1196434	5, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM188	1196435	16 A-16e, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM189	1196436	23 And 23a, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM190	1196437	Railing And Gate To Left Of 26 And 28	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM191	1196438	27, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM192	1196439	31, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM193	1196440	34, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM194	1196441	Millgate House Hotel And Adjoining Boundary Wall	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM195	1196442	The Watermill Public House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM196	1196443	The White House And Adjoining Outbuildings, Wall And Railings	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM197	1215019	13-17, ALBERT STREET	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
		(See Details For Further Address Information)			development within the Order Limits will not have an adverse impact on its value.
MM198	1215678	The Palace Theatre	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM199	1215748	4, Balderton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM200	1215824	9, 10 And 11a, Balderton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM201	1215845	14, Balderton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM202	1215966	14d, E, F, And 16, Barnby Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM203	1216121	38, 38a 40, Barnby Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM204	1216276	46, Barnby Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM205	1216589	Castle Cycles	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM206	1227865	19, Carter Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM207	1227883	29, Carter Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM208	1227900	34,36,36a, 38, Carter Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM209	1228192	40-44, Carter Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM210	1228239	7, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM211	1228245	11, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM212	1228260	14 And 16, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM213	1228316	Royal Oak Public House	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM214	1228382	Ram Hotel	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM215	1228412	22 And 24, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM216	1228417	27 And 29, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM217	1228423	Maltsters' Association Of Great Britain National Farmers	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
		Newark Area Internal Drainage Board			
MM218	1228427	35, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM219	1228443	39 And 41, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM220	1228451	43-47, CASTLEGATE (See Details For Further Address Information)	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM221	1228459	57 And 59, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM222	1228461	64, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM223	1228478	Boundary Wall And Gatepiers At Former Gilstrap Library	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM224	1228608	Church House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM225	1228681	War Memorial 30 Metres East Of Church Of St Mary Magdalene	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM226	1228701	Castle Railway Station	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM227	1228717	Former Station Master's House At Castle Station	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM228	1228733	Causeway Arches 500 Metres North-west Of Level Crossing	Grade II Listed Building	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM229	1228754	Causeway Arches 900 Metres North-west Of Level Crossing	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM230	1228781	Causeway Arches And Embankment Walling 50 Metres North-west Of Trent Bridge	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM231	1228791	Causeway Culvert 135 Metres North-west Of Level Crossing	Grade II Listed Building	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM232	1228797	Goods Warehouse 150 Metres North-east Of Castle Station	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM233	1228818	North Malt Warehouse	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM234	1228861	2, Guildhall Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM235	1228886	2-10, King Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
MM236	1228909	Former Infants' School	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM237	1228916	12 And 14, King Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM238	1228922	13, King Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM239	1228946	29 And 31, King Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM240	1228959	Purefoy House (British Rabbit Council)	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM241	1228969	Evening Post Office	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM242	1229111	36 And 38, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM243	1229140	42, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM244	1229217	School Of Violin Making	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM245	1229294	The Blue Man Public House And Adjoining Cottages To Right	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM246	1229348	8, 8a, 8b, Lombard Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM247	1229374	Lombard House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM248	1229395	Fosseway Hotel	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM249	1229418	8, London Road	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM250	1229422	The Mail Coach Public House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM251	1229482	Bowling Club House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM252	1231081	National Westminster Bank	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM253	1231115	6 And 8, Portland Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM254	1231119	The Horse And Gears Public House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM255	1231257	47, Market Place	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM256	1231283	The Arcade	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM257	1231304	Water Pump And Trough	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM258	1231361	16, Middlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM259	1231363	32, 32a, 34, Middlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
					development within the Order Limits will not have an adverse impact on the asset's value.
MM260	1231365	1 And 3, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM261	1231367	14, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM262	1231371	18a-18e, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM263	1231385	26 And 28, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM264	1231395	33, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM265	1231411	52 And 54, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM266	1231420	60, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM267	1231427	69 And 71, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM268	1231516	1, Navigation Yard	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM269	1231520	The Chestnuts	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM270	1231524	Handley House And Adjoining Former House To Left	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM271	1231534	12, Northgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM272	1231535	Newark Physical Culture Club	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM273	1231601	16, Northgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM274	1231611	20, 22, 24, Northgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM275	1231619	Number 35 And Adjoining Malthouse, Kiln And Stable	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM276	1231688	40, Northgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM277	1231702	2-14, Parliament Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
MM278	1231703	13, Parliament Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM279	1231705	Britannia Buildings	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM280	1231721	28-38, Parliament Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM281	1231731	Pelham Mews Workshops	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM282	1231738	24, 24a, 24b, Portland Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM283	1231751	37-43, Portland Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM284	1231801	8, Stodman Street	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM285	1231811	25 And 26, Stodman Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM286	1232004	38, 39, 40, Stodman Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM287	1232012	43, Stodman Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM288	1232018	The Woolpack Public House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM289	1232021	51 And 53, Stodman Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM290	1232038	Warehouse Adjoining Warehouse At Rear Of 7 Bargate	Grade II Listed Building	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM291	1232051	1 And 3, Victoria Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM292	1232068	33, VICTORIA STREET (See Details For Further Address Information)	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM293	1232080	39, VICTORIA STREET (See Details For Further Address Information)	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM294	1232084	Holly Cottage	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM295	1232088	64-70, Victoria Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM296	1232092	Brunswick House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM297	1232099	1-21, Wilson Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM298	1232102	Melton Wingate Opticians	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM299	1277247	Numbers 23 And 25 And Attached Railing	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM300	1277270	1a, Town Wharf	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
MM301	1277334	29 And 31, Stodman Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM302	1277417	4, Queen's Head Court	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM303	1277425	Northgate Brewery Office Range And Brewhouse	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM304	1277437	23 And 25, Pelham Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM305	1277463	27, 29, 31, Northgate	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM306	1278103	85, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM307	1278125	35 And 37, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM308	1278126	55, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM309	1278135	78-82, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM310	1278141	4 And 6, Middlegate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM311	1278142	20, Middlegate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM312	1278143	38, 40, 42, Middlegate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM313	1278144	7 And 9, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM314	1278151	25, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM315	1278155	30 And 32, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM316	1278217	Pair Of K6 Kiosks 1 Metre North-west Of 12 And 13	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM317	1278296	Queen's Head Public House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM318	1278298	12, 12a, 13, Market Place	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM319	1279074	Beaumond Cross House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM320	1279092	Cheltermill House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM321	1279101	Newark Antiques Centre	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM322	1279109	12 And 14, London Road	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM323	1279122	12, Lombard Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM324	1279184	48 And 48a, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
MM325	1279320	16, 18, 20, King Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM326	1279324	37 And 39, King Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM327	1279369	Former Methodist Chapel (H And S Group Services Limited)	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM328	1279442	Orchard House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM329	1287193	55, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM330	1287196	Former Slaughterhouse And Cattle Stall 5 Metres North-west Of 68a	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM331	1287281	Ossington Chambers	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM332	1287580	Trent Bridge	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM333	1287583	Newark Odinist Temple (Formerly Bede House Chapel)	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM334	1287676	Tadorna	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM335	1287817	33, Barnby Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM336	1287857	1-9, Barnby Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM337	1287869	11, 11a And 11b, Barnby Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM338	1287889	29 And 31, Bladerton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM339	1287891	47 And 49, Balderton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM341	1287922	8 And 10, Balderton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM342	1288004	Former Offices At South End Of Northgate Railway Station	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM343	1288018	Jalland's Row	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM344	1288058	43, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM345	1288265	6, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM346	1288267	9 And 9a, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM347	1288291	2 And 4, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM348	1288308	Cask Store At Castle Brewery	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
					development within the Order Limits will not have an adverse impact on its value.
MM349	1297628	9 And 11, Northgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM350	1297629	18, Northgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM351	1297630	33, Northgate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM352	1297631	35 And 35a, Pelham Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM353	1297632	33 And 35, Portland Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM354	1297634	22 And 23, Market Place	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM355	1297636	31 And 32, Market Place	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM356	1297638	Bull Ring Or Bear Baiting Post	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM357	1297639	3, Middlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM358	1297640	18, Middlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM359	1297641	36, Middlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM360	1297642	50, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM361	1297643	56 And 58, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM362	1297653	41 And 42, Stodman Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM363	1297654	49 And 50, Stodman Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM364	1297655	The Wharf Cafe	Grade II Listed Building	Out	A neutral effect is predicted. The setting does not contribute to the value of the asset. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM365	1297656	5 And 7, Victoria Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM366	1297657	The Hollies	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM367	1297658	Hesketh House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM368	1297659	Song School	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM369	1297664	103 AND 105, MILLGATE (See Details For Further Address Information)	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM370	1297665	Former Stable Range 5	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
		Metres South-west Of 109			development within the Order Limits will not have an adverse impact on its value.
MM371	1297666	115-119, Millgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM372	1297667	Weston Mill Pottery	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM373	1297688	3a, 3b, 4, Guildhall Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM374	1297689	9 And 11, King Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM375	1297690	21, 23, 25, 27, King Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM376	1297691	9 And 11, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM377	1297712	Old King's Arms Public House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM378	1297713	21, Kirkgate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM379	1297714	7-12, St Leonards Court	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM380	1297715	10, Lombard Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM381	1297716	Potterdyke House	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM382	1297717	Robin Hood Hotel Systems 80 Double Glazing	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM383	1297718	15-21, London Road	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM384	1297722	16, Market Place	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM385	1297723	6, Chain Lane	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM386	1297724	Agricultural Travel Bureau	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM387	1297725	The Firs	Grade II Listed Building	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM388	1297726	Causeway Arches 1490 Metres North-west Of Level Crossing (Part In Newark Civil Parish)	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM389	1297727	Causeway Culvert 420 Metres North-west Of Level Crossing	Grade II Listed Building	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM390	1297790	7-11, Albert Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM391	1297791	Office Range At Castle Brewery	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM392	1297792	8, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM393	1297808	21, 23, 23a, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
					development within the Order Limits will not have an adverse impact on the asset's value.
MM394	1297809	33, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM395	1297810	40-44, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM396	1297811	66, 68, 68a, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM397	1297812	Old Lock House And Attached Railings	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM398	1297813	12, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM399	1297814	23-27, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM400	1297815	33, Appleton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM401	1297816	6, Balderton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM402	1297817	33, Balderton Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM404	1297819	Newark Royalist Hotel	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM405	1297820	42 And 44, Barnby Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM407	1297822	Former Tollhouse At South-east End Of Trent Bridge And Adjoining Railing	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM408	1297844	4-10, Bridge Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM409	1297845	33 And 35, Carter Gate	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM410	1297846	3 And 5, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM411	1297847	13 And 15, Castlegate	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM412	1302194	6, Main Street	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM413	1302255	Lord Nelson Public House	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM414	1302281	Winthorpe House	Grade II Listed Building	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM415	1302377	The Dairy Farmhouse	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM416	1302384	16, Main Street	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.

MM No.	NHLE No.	Name	Designation	Scoped In/Out	Reason for scoping decision
MM418	1366047	Newark Working Men's Club	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM419	1369951	Grange Cottage	Grade II Listed Building	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM420	1369952	Gate Piers To Church Of All Saints	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM421	1369953	Village Cross	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM422	1369954	Lych Gate At Church Of St Michael	Grade II Listed Building	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM423	1369983	Railing And Gate At No 6	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM424	1369984	Lodge And Gateway At Kelham Hall	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM425	1370003	Viaduct 650 Metres South Of Muskham Bridge	Grade II Listed Building	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM427	1001318	Newark Castle Gardens	Grade II Registered Park and Garden	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM428	N/A	Averham Conservation Area	Conservation Area	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM429	N/A	Farndon Conservation Area	Conservation Area	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM430	N/A	Kelham Conservation Area	Conservation Area	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM431	N/A	Newark Conservation Area	Conservation Area	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM432	N/A	Winthorpe Conservation Area	Conservation Area	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.

C.2 Scoping exercise for non-designated assets within 500m of the Scheme

Appendix Table 0-2: Scoping exercise for non-designated assets within 500m of the Scheme

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
MM501	MNT27050	Prehistoric Ditches And Pits, Northgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM502	MNT27240	Mesolithic - Late Neolithic Site At Farndon	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM503	MNT14729	Palaeolithic Site At Farndon	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM504	MNT14756	Possible Long Barrow At Winthorpe Road, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM505	MNT26080	Neolithic / Early Bronze Age Settlement At Langford	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM506	MNT14324	Iron Age Or Romano-British Settlement At Farndon	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM507	MNT12085	Roman Agger, Fosse Way, Langford	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM509	MNT3595	Cropmark At Langford	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM510	MNT9767	Roman Finds & Ditches At Excavation Area 3, Newark Castle	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM511	MNT25848	Roman Cremation Cemetery At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM512	MNT26020	Roman Settlement, Northgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM513	MNT15873	Pottery Kiln At Farrar's Works, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM514	MNT17089	Roman Settlement At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM515	MNT17090	Settlement At Kelham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM516	MNT27096	Roman Inhumation Cemetery, Northgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM517	MNT12088	Ditches At Fosse Way, Langford	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM518	MNT25712	Saxon Cemetery At Newark Castle	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM519	MNT25713	Early Medieval Building At Newark Castle	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM520	MNT25839	Early Medieval Cemetery At Crococalana	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM521	MNT26013	High Status E Med Inhumation, Winthorpe Road, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM523	MNT26945	Saxo-Norman Kiln At Co-Op, Kirkgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM524	MNT27051	Early Medieval Ditch, Northgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM525	MNT27612	Saxon Settlement At Kelham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
MM526	MNT11580	Medieval Features At Site Of St Leonard's Church, Northgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM527	MNT15827	Medieval Town Defences Of Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM529	MNT10107	Earthworks At Langford	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM530	MNT12228	Medieval Pottery And Undated Ditch At Kelham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM532	MNT5634	Medieval Pit At The Duke Of Cumberland Public House, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM534	MNT25766	St Catherine's Chapel At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM535	MNT25954	Medieval Building On Castlegate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM536	MNT25959	Medieval Building Or Buildings At St. Leonard's Court, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM539	MNT14628	Watermills At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM540	MNT14671	St Catherine's Holy Well At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM541	MNT14752	Settlement At Winthorpe	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM543	MNT14851	South Gate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM546	MNT17160	Medieval Building & Malt Kiln At Slaughterhouse Lane, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM549	MNT27056	Late Medieval Well, Northgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM550	MNT10794	Medieval Features At 98 Lincoln Road, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM553	MNT11530	Metalled Surfaces In Test Pit 4 At The Old Cattle Market, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM554	MNT11652	Late Med - P Med Rubbish Dumping, Cow Lane Wharf, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM556	MNT25944	Medieval Lime Kiln At Middle Gate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM557	MNT25956	Medieval Town Drain Or Ditch At Castlegate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM558	MNT26021	Medieval Settlement Of Osmundthorpe, Northgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM559	MNT14369	Medieval Road At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM560	MNT14405	Medieval Town Gate At North Bar, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM562	MNT14786	St Leonard's Hospital And Cemetery At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM563	MNT25958	Medieval Burgage Plots At Stodman Mews, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM565	MNT14669	Devon Bridge / Markham Bridge	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM566	MNT14676	Parnham's Mill At Newark	Non-designated	Out	A neutral effect is predicted. The distance of the asset from the Scheme means

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
					that development within the Order Limits will not have an adverse impact on its value.
MM568	MNT11420	Metalled Surfaces At Castlegate, Newark	Non-designated	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM569	MNT11422	Post Medieval Metalled Surface, Beastmarket Hill, Newark	Non-designated	Out	A neutral effect is predicted. The distance of the asset from the Scheme means that development within the Order Limits will not have an adverse impact on its value.
MM570	MNT11743	Post Medieval Ditches And Grave Robbing, Winthorpe Road, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM571	MNT12137	?Post Medieval Lime Kiln, Trenches 24, 25 And 36 At Northgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM574	MNT9829	Weir At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM575	MNT21897	1 Gainsborough Road	Non-designated	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM576	MNT21932	Fleet Cottage And Apple Tree Cottage	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM577	MNT21933	The Cottage	Non-designated	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM578	MNT22364	Grove Cottage	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM579	MNT22740	Jascal	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM580	MNT22741	Manor Farmhouse And Attached Outbuildings	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM581	MNT22774	The Old Forge	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM582	MNT22775	Manor Cottage	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM583	MNT22776	Manor Farm Cottage	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM584	MNT22777	The Cottage And Attached Outbuildings	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM585	MNT22820	Summerdell	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM586	MNT22821	First House East Of Summerdell	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM587	MNT22822	Beech Cottage	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM588	MNT23594	Row Of Three Cottages First West Of	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme.

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
		Averill House			Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM589	MNT24665	The Old Post Office	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM591	MNT24855	The Grove House	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM592	MNT24859	Rose Cottage	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM593	MNT24862	Trentside Farmhouse	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM594	MNT25337	County Junior School, Lovers Lane.	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM595	MNT25754	Quibell Bros Glue Factory, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM596	MNT25755	Malthouse At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM597	MNT25758	H Baird & Sons Ltd, Cliff Nook Maltings	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM600	MNT25846	Strawberry Hall At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM601	MNT25953	Post Medieval Metal Working Pit, Castlegate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM602	MNT25983	Well At Newark	Non-designated	In	An adverse effect is predicted. The asset may fall within the Order Limits, therefore there is potential for an adverse impact on its value.
MM603	MNT25993	Church Of St Leonard, Northgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM606	MNT26166	Lingspot Farm Barn	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM607	MNT26270	Averill House	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM608	MNT26278	Corner Farm	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM609	MNT26279	Ivy Cottage, Kelham	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM610	MNT26280	Wheelright Shop, Kelham	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM611	MNT26347	Averham Bakehouse	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM612	MNT26348	19th Century House. Corner Of The Close And Staythorpe Road	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM613	MNT26349	Pinfold Cottage	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
					the asset's value.
MM614	MNT26363	Mill Close And Wynways	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM615	MNT26364	4 And 5 The Drive	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM616	MNT26366	Village Hall	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM617	MNT26367	The Laurels And Roslyn	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM618	MNT26368	Dolls Cottage	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM619	MNT26372	The Lord Nelson	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM620	MNT26374	Dougallen And Hillside	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM621	MNT26375	43 Gainsborough Road	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM622	MNT26459	The Robin Hood Theatre	Non-designated	Out	A neutral effect is predicted. The setting does not contribute to the value of the asset. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM623	MNT26465	The Cottage And Attached Outbuildings	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM624	MNT14372	Second Line Of Circumvallation At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM625	MNT14374	Edinburgh	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM627	MNT14460	Well At Kelham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM628	MNT14461	Well At Kelham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM629	MNT14465	Well Near Kelham Bridge, Kelham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM631	MNT14627	Well At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM632	MNT14632	Well At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM633	MNT14633	Well At Averham	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM634	MNT14657	Well At Cottage Lane	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM635	MNT14661	Well At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM637	MNT14702	Handley; Handley & Sketchley At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
					asset as it lies outside the Order Limits.
MM638	MNT14753	Colonel Gray's Sconce At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM639	MNT14772	King's Sconce, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM640	MNT14807	Civil War Defences At Winthorpe	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM641	MNT14889	Bottom Lock & Nether Lock At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM642	MNT14895	Well At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM643	MNT15805	C17 Bridge At Kelham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM644	MNT15814	Civil War Redoubt At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM645	MNT15815	Civil War Gun Battery At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM646	MNT15816	Civil War Dam At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM647	MNT15817	Civil War Dam At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM648	MNT15818	Civil War Dam At Newark	Non-designated	In	An adverse effect is predicted. The asset may fall within the Order Limits, therefore there is potential for an adverse impact on its value.
MM649	MNT15819	Civil War Redoubt At Newark	Non-designated	In	An adverse effect is predicted. The asset may fall within the Order Limits, therefore there is potential for an adverse impact on its value.
MM653	MNT15823	Civil War Camp At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM655	MNT15867	Moll's Hornwork At Winthorpe	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM657	MNT17086	Settlement At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM658	MNT17087	Settlement At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM659	MNT17088	Farmstead At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM660	MNT17103	First Line Of Circumvallation At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM661	MNT17107	Civil War Redoubt At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM662	MNT17110	Supposed Site Of Redoubt At Newark	Non-designated	In	An adverse effect is predicted. The asset may fall within the Order Limits, therefore there is potential for an adverse impact on its value.
MM663	MNT17111	Redoubt At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM665	MNT17161	Post-Medieval Lime Kiln At Slaughterhouse Lane, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM666	MNT26921	Windrome Cottage	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM667	MNT26950	Wall And Demolition Material At 4-6 Middlegate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM668	MNT27085	Brick Lined Well, Northgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
MM669	MNT27086	Well At Northgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM670	MNT27087	Railway Track, Northgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM671	MNT27174	Enclosures And Linear Features, Crees Lane, Farndon	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM672	MNT27591	Clapper Gate	Non-designated	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM674	MNT27732	Clapper Gate 5	Non-designated	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM675	MNT27735	Clapper Gate 6	Non-designated	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM676	MNT27736	Clapper Gate 7	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM677	MNT27737	Clapper Gate 8	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM678	MNT27738	Clapper Gate 9	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM679	MNT27739	Clapper Gate 10	Non-designated	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM682	MNT11591	Post Medieval Or Modern Ditch At The Cattle Market, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM683	MNT3215	Earthworks At The Red House, Kelham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM684	MNT3444	Weir At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM685	MNT3540	Sluice At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM686	MNT3785	Sluice At Winthorpe	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM687	MNT3786	Sluice At Winthorpe	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM688	MNT3787	Weir At Newark	Non-designated	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM690	MNT25341	Methodist Chapel, 65 Mill Gate	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM691	MNT25491	Kelham Hall, First Building	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM694	MNT25955	Post Medieval Cottage At Castlegate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM695	MNT25960	Post Medieval Building At St. Leonard's Court, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM696	MNT25961	C18 Terraced Houses, Wilson Street, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM697	MNT26495	Newark Castle Signal Box	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
MM698	MNT14345	Lock Entry Cottage	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM699	MNT14349	Farndon Maltings; Marfleet And Richardson's; Thomp	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM700	MNT14353	Former Warehouse At Navigation Yard, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM701	MNT14355	Mill Bridge	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM702	MNT14358	Malthouse, Cow Lane, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM703	MNT14359	Ellis And Everard Builders Suppliers, North Gate/Cow Lane	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM704	MNT14360	John Lee, Queen's Road	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM705	MNT14361	Malthouse, 74 Farndon Road	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM706	MNT14362	Malthouse, James Clark And Son	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM708	MNT14364	Malthouse, Trent Brewery	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM709	MNT14410	Station Masters House At Appleton Gate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM710	MNT14413	Jl Maltby Ltd At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM711	MNT14422	Workshop At 32a-32d Castle Gate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM712	MNT14425	Warehouse At 49 Carter Gate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM713	MNT14426	Cuckstool Wharf At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM714	MNT14433	Malthouse Workers Houses At Farndon Road, Newark	Non-designated	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM715	MNT14436	Trent Works; Windsor & Stephenson At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM716	MNT14437	Abattoir At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM718	MNT14445	Malthouse To The Rear Of 14-16 Kirk Gate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM719	MNT14446	Terraced Houses At Newark	Non-designated	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM723	MNT14452	Workshop At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM724	MNT14453	Railway Turntable At Jw & H Branstons, Newark	Non-designated	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM725	MNT14457	Workshop To The Rear Of 30 Millgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM726	MNT14462	Glasshouse, The Red House, Kelham	Non-designated	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
MM727	MNT14464	Glasshouse & Conservatories At Kelham Hall	Non-designated	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM728		Maltings At 61 Millgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM729		Ruined Sawmill At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM730	MNT14469	J Horace Mills At Newark	Non-designated	Out	A neutral effect is predicted. The setting does not contribute to the value of the asset. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM731	MNT14471	Workshop At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM732		Maltings Complex At 16,16a Northgate	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM733	MNT14477	Wellington Foundry At Newark	Non-designated	Out	A neutral effect is predicted. The setting does not contribute to the value of the asset. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM734	MNT14478	Almshouses At 79-89 Northgate, Newark	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM736	MNT14488	Flour Mill At Newark	Non-designated	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM737	MNT14489	Farrar Boilerworks Ltd At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM738	MNT14490	Town Wharf At Newark	Non-designated	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM739	MNT14495	Vincent H Dodson Ltd, Town Wharf, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM740		Malt Kiln Terrace At Newark	Non-designated	In	An adverse effect is predicted. The asset may fall within the Order Limits, therefore there is potential for an adverse impact on its value.
MM741	MNT14500	Castle Wharf At Newark	Non-designated	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM742	MNT14501	River Wharf At Newark	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM743	MNT14503	Huddlestone's Wharf Newark	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM744	MNT14504	Disused Wharf At Newark	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM745	MNT14505	Wharf At Cow Lane, Newark	Non-designated	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM746	MNT14506	Wharf At Newark	Non-designated	Out	A neutral effect is predicted. The setting of the asset does not extend to the Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM747	MNT14507	Railway Bridge At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM748	MNT14508	Railway Bridge At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
					there is potential for an adverse impact on its value.
MM749	MNT14509	Railway Bridge At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM750	MNT14510	Railway Viaduct At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM751		Railway Bridge At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM752	MNT14513	Workshop To The Rear Of 17 Northgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM754	MNT14520	Newark Dyke Bridge	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM755	MNT14523	Smithy At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM756	MNT14524	Maltings At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM757	MNT14525	Depot At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM758	MNT14527	Storehouse At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM760	MNT14537	Workshop To The Rear Of 34 Millgate, Newark	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM761		Maltings On Slaughterhouse Lane, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM762		Wheelwrights Workshop To Rear Of 30/32 Millgate, Newark	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM764	MNT14630	Chapel At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM765		Saw Pit At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM766		Glasshouse At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM767		Glasshouses At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM768	MNT14644	Broadhurst; Gilstrap, Earp & Co Malthouse At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM771		Boathouse By Devon Bridge, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM773		Dry Docks At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM774		Top Lock At Newark	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM775		Tannery At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM776		White House, Glasshouse At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM777	MNT14682	Timber Yard At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM778		Midland Works; G Stephenson & Sons Ltd	Non-designated	Out	A neutral effect is predicted. The setting of the asset does not extend to the

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
		At Newark			Scheme. This means that development within the Order Limits will not have an adverse impact on the asset's value.
MM779		Trent Works At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM780		Newark Cattle Market	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM786		Malthouse At Newark	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM787		Malthouse At 48 Middle Gate, Newark	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM789		Malthouse At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM793		Glasshouses And Windpump At Farndon	Non-designated	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM794		Malthouse At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM795		Malthouse On George Street, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM796		Peach Maltings; R Bishop & Sons, Newark	Non-designated	Out	A neutral effect is predicted. The setting does not contribute to the value of the asset. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM797		Associated British Maltsters; Jw & H Branstons, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM798		Jw And H Branston, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM799		Probable Warehouse At The Rear Of 96 Appleton Gate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM800		Warwicks And Richardsons Brewery At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM801		Smithy At Winthorpe	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM802		Summerhouse At Winthorpe Hall	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM803		Glasshouse At Winthorpe	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM804		Sleepwash At Winthorpe	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM805		Glasshouse At Winthorpe	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM806		The Grange At Winthorpe	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM807		Bleaching House At Winthorpe	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM808		Glasshouse At Winthorpe	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM809		Glasshouses At Winthorpe House	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM810		Windmill At Winthorpe	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
MM811		Outbuildings At Langford Hall	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM812		Two Mile House At Langford	Non-designated	In	An adverse effect is predicted. The asset may fall within the Order Limits, therefore there is potential for an adverse impact on its value.
MM813	MNT3788	Former Chemical Works At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM814	MNT14890	Newark Crossing	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM815		The Hollies At Winthorpe Road, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM816		Osmondthorpe Works; Mumby & Son Ltd At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM817		Malthouse At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM818		House At 17-21 Millgate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM819		Windmill At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM820		Windmill, Trent Side, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM821		Windmill, Lincoln Road, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM822		Windmill, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM823		Windmill, Farndon Field, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM824		Windmill, Farndon Field, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM825		Windmill Site At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM826		Mill At Town Lock, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM827		Grounds At Averham Parsonage	Non-designated	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM828		Park At Kelham Hall	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM829		Grounds At Langford Hall	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM830		Park At Winthorpe Hall	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM832		41, 43, 45, 47 And 49 King Street	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM833		12 To 52 (Even) Victoria Street	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM834		The Fox Inn	Non-designated	Out	A neutral effect is predicted. Vegetation screening means that development within the Order Limits will not have an adverse impact on the asset's value.
MM836		Pillbox At Kelham Hall	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM838		Southfield House	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
MM839		Footbridge At Town Lock, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM840		Webb Woollies Ltd At Newark	Non-designated	In	An adverse effect is predicted. There is potential for development within the Order Limits to have an adverse impact on the value of the asset, through alteration to its setting.
MM841		Town Lock At Millgate, Newark	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM842		Kelham Home Grown Sugar	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM843		Abattoir At Newark	Non-designated	Out	A neutral effect is predicted. The setting does not contribute to the value of the asset. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM844		Wharf At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM845		Former Telephone Exchange On Water Lane, Newark	Non-designated	Out	A neutral effect is predicted. Buildings screen the asset from the Scheme. Therefore development within the Order Limits will not have an adverse impact on the asset's value.
MM846		Town Lock House At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM847		Baird's Malthouse; J Hole & Co, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM848		RAF Winthorpe	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM849		Pit Alignment At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM850		Ditch At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM851		Linear Features At Lincoln Road, Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM852		Linear Features At Lincoln Road, Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM854		Ditches At Lincoln Road, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM855		Ditches, Averham Relief Road, Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM856		Limestone Deposit At North Gate, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM857		Geophysical Anomalies In Area A, St Catherine's Cottage, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM858		Earthworks At Newark Kiln Marina, Newark	Non-designated	In	An adverse effect is predicted. The asset may fall within the Order Limits, therefore there is potential for an adverse impact on its value.
MM859		Enclosures At Kelham	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM861		Cropmark Complex At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM864		Linear Features & ? Circle At Farndon	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM865		Linear Features At Farndon	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM866		Enclosures & Linear Features At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
					asset as it lies outside the Order Limits.
MM868		Linear Features At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM869		Linear Features & Enclosure At Averham	Non-designated	In	An adverse effect is predicted. The asset may fall within the Order Limits, therefore there is potential for an adverse impact on its value.
MM870		Oval Depression At Kelham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM872		Spring At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM873		Bank At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM874		Bank At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM875		Cropmark Complex At Winthorpe	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM876		Cropmark Complex At Newark	Non-designated	In	An adverse effect is predicted. The asset may fall within the Order Limits, therefore there is potential for an adverse impact on its value.
MM877		Circular Enclosure At Langford	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM878		Enclosure At Langford	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM879		Cropmarks At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM880		Piles At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM881		Ditch At Langford	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM882		Ditch At Langford	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM883		Bank At Winthorpe	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM884		Earthwork At Winthorpe	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM885		Earthwork And Pond At Winthorpe	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM886		Drainage Ditch At Winthorpe	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM888		Possible Ring Ditch At Langford	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM890		Earthwork At Kelham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM892		Enclosure & Linear Feature At Farndon	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM893		Enclosure At Farndon	Non-designated	In	An adverse effect is predicted. The asset may fall within the Order Limits, therefore there is potential for an adverse impact on its value.
MM896		Linear Feature At Newark	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM898		Cropmark Complex At Langford	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM899		Cropmark Complex At Langford	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
MM900		Cropmark Complex At Langford	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM901		Burial From Hoval Farrar, Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it has been excavated.
MM902		Enclosure At Farndon	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM903		Enclosure & Pits At Newark	Non-designated	In	An adverse effect is predicted. The asset may fall within the Order Limits, therefore there is potential for an adverse impact on its value.
MM904		Field Boundaries & Enclosure At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM905		Enclosures At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM906		Enclosures At Kelham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM908		Settlement At Newark	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM909		Enclosure At Averham	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM910		Undated Pits	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM911		Old Trent Dyke	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM912		Palaeochannel Associated With The Old Trent Dyke	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM930		Possible enclosure sites and associated archaeological features	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM931		Possible enclosure site, palaeochannel and relict field system	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM932		Possible archaeological feature	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM933		Possible enclosure site and/or relict field system	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM934		Enclosure Cropmarks	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM935		Possible archaeological features	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM936		Possible archaeological features	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM937		Possible ring ditch, barrows and ditches	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM938		Possible ditches/field boundaries	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM939		Brick Culvert	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM940		Former Parish Boundary	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM941		Site Of Manor House	Non-designated	Out	A neutral effect is predicted. There will be no physical impact on the heritage asset as it lies outside the Order Limits.
MM942		Possible ditches/field boundaries	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM943		Possible ditches and pits	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore

MM No.	HER No.	Name	Designation	Scoped in / out	Reason for Scoping Decision
					there is potential for an adverse impact on its value.
MM944		Possible ditches/field boundaries/pits	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM945		Possible enclosure site and/or relict field system	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM946		Possible ditches/field boundaries/drains	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM947		Possible ditches	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM948		Paleochannel on route of ditch	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM949		Organic deposit	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM950		Paleochannel	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM951		Paleochannel	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM952		Paleochannel	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM953		Paleochannel/Organic deposits	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM954		Organic Deposits	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM955		Paleochannel	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM956		Paleochannel	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM957		Paleochannel	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM958		Paleochannel	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM959		Paleochannel	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM960		Paleochannel	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM961		Paleochannel	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM962		Paleochannel	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM963		Organic Deposits	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.
MM964		Newark Civil War Landscape	Non-designated	In	An adverse effect is predicted. The asset falls within the Order Limits, therefore there is potential for an adverse impact on its value.

Appendix D: Fieldwalking Survey Report of Lands along the A46 Newark Bypass

Fieldwalking Survey Report of Lands along the A46 Newark Bypass

Prepared for Skanska Construction UK Ltd on behalf of National Highways Regional Delivery Partnership Framework

By [redacted]

February 2023

TITLE PAGE

AMS Job No.:	J3063-A
Project Name:	Regional Delivery Partnership A46 Newark Bypass
Grid Reference (OSGB36):	478807, 354376
Report Status/Revision:	Final
Revision Date:	2 March 2023
Report Author:	[redacted]
Technical Reviewer:	
Report Editor:	
Approved By:	
File Name:	J3063-A_A46_Newark_Fieldwalking_Report_Final

AMS Cultural Heritage Consultancy Limited trading as Archaeological Management Solutions

Company Registration No. 721173

Fahy's Road, Kilrush, Co. Clare. V15 C780

T +353 (0)65 810 3001

www.ams-consultancy.com

Disclaimer

The results, conclusions and recommendations contained within this report are based on information available at the time of its preparation. Whilst every effort has been made to ensure that all relevant data have been collated, the author and AMS accept no responsibility for omissions and/or inconsistencies that may result from information becoming available subsequent to the report's completion.

© Archaeological Management Solutions 2023

NSAI ENVIRONMENT NSAI Certified HEALTH & SAFETY NSAI Certified QUALITY NSAI Certified

Summary

This report describes the results of a fieldwalking survey which was carried out over 18.1ha at Newark-upon-Trent along the route of the proposed A46 Newark Bypass, Nottinghamshire, by archaeologists from Archaeological Management Solutions (AMS) and specialist advisors from Archaeology Warwickshire.

The scheme extends for approximately 6km, passing the western and northern extents of Newark-on-Trent, between the Farndon and Winthorpe roundabouts. The fieldwalking survey was carried out between 16 and 20 January 2023. Fieldwalking took place immediately after the completion of Phase 2 of a metal detecting survey (Gethin and Appleby 2023). Initially, it was intended to survey five fields (numbered Areas 2–4, 6 and 7). However, access to Areas 2, 3 and 7 was not available, and approximately only one third of Area 4 was not in crop. All of the areas were located on a piece of land which lies between two arms of the River Trent and is known as 'The Island'.

The fieldwalking survey recorded 172 items, mostly pottery sherds but including a few fragments of clay tobacco pipe. No prehistoric, Roman or early medieval finds were noted. The earliest finds were three sherds of medieval pottery with a date range from the thirteenth to fourteenth century. The bulk of pottery had a date range from the late eighteenth to the early twentieth century. The largest group consisted of white glazed wares, some with traces of blue transfer printed decoration, followed by Nottinghamshire stonewares and black glazed earthenwares.

Pottery is usually spread over fields along with manure from farms. Only two farms exist on 'The Island', and both are likely to be eighteenth or nineteenth century in date. The generally late date of the bulk of the finds may indicate that they were spread from one of these farms but may also suggest that rubbish from Newark itself was being dumped on these fields from at least the mid-nineteenth century and into the early twentieth century.

The finds assemblage did not indicate the presence of any early underlying archaeological sites, nor did it have any great concentration of finds dating to the English Civil War period, the main reason for the preceding metal detecting survey. In general, the results seemed of low archaeological significance.

Table of Contents

1 Introduction 6
1.1 Project Background 6
1.2 Purpose and Scope of this Assessment 6
1.3 Site Location 6
1.4 Proposed Works 7
2 Methodology 8
3 Findings 8
3.1 Ceramic 8
3.2 Clay pipe 8
4 Conclusions and Recommendations 9
4.1 Conclusions 9
4.2 Recommendations for Further Work 10
5 Bibliography 11
5.1 References 11
5.2 Online Sources 11
Figures 12
Plates 21
Appendix 1: Finds Register 23

List of Tables

Table 1: Survey Areas 7

List of Figures

Figure 1: Site Location 13
Figure 2: Survey Results – Site Overview 14
Figure 3: Survey Results 15
Figure 4: Survey Results – Area 4 (i) 16
Figure 5: Survey Results – Area 4 (ii) 17
Figure 6: Survey Results – Area 6 (i) 18
Figure 7: Survey Results – Area 6 (ii) 19
Figure 8: Land Available 20

List of Plates

Plate 1: Setting out transects prior to fieldwalking 21
Plate 2: Fieldwalking in progress 21
Plate 3: Find spot being surveyed 22
Plate 4: Medieval pottery sherd – Find No. 102 22

Abbreviations and Definitions

Abbreviation	Definition
AMS	Archaeological Management Solutions
CIfA	Chartered Institute for Archaeologists
EAR	Environmental Assessment Report
OSGB36	Ordnance Survey Great Britain 1936 coordinate system
PCF	Project Control Framework
RTK DGPS	Real Time Kinetics Differential Global Positioning System
WSI	Written Scheme of Investigation

Coordinate System

All grid coordinates in this document use the OSGB36 coordinate reference system unless otherwise stated.

1 Introduction

1.1 Project Background

This fieldwalking survey report has been prepared by AMS on behalf of Skanska Construction UK Ltd on behalf of National Highways Regional Delivery Partnership Framework on lands forming part of the A46 Newark Northern Bypass, Nottinghamshire (Figure 1).

The A46 Newark Northern Bypass scheme is approximately 6km in length, passing the western and northern extents of Newark-on-Trent, Nottinghamshire, between Farndon and Winthorpe roundabouts. The aim of the scheme is to increase capacity and reduce traffic congestion on the A46 in the vicinity of Newark, improve connectivity from Lincolnshire to the national motorway network, and improve route standard consistency for the A46.

The scheme has been subject to a PCF Stage 2 Environmental Assessment Report (EAR) undertaken by Atkins in 2021 (Highways England 2021), which found archaeologically sensitive areas across the route.

1.2 Purpose and Scope of this Assessment

The aims of the fieldwalking survey, and the methods and standards that were employed, were set out in a Written Scheme of Investigation (WSI) prepared by AMS on behalf of Skanska Construction UK Ltd (McKenna 2022). This conformed to current best practice and was planned, managed, and undertaken in accordance with the requirements of this specification and based on the guidance provided by:

- *Standard and Guidance for Archaeological Field Evaluation* (CIfA 2014a);
- *Our Portable Past* (Historic England 2018);
- *Standard and Guidance for the Collection, Documentation, Conservation, and Research of Archaeological Materials* (CIfA 2014b);
- *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (CIfA 2014c);
- *Code of Conduct: Professional Ethics in Archaeology* (CIfA 2014d); and
- *Management of Archaeological Projects* (Andrews 1991).

1.3 Site Location

The fieldwalking survey was initially intended to be implemented over five neighbouring fields (designated as ‘Areas 2–4 and 6-7, as numbered in the project specifications). These were located to the east and north of the River Trent in Averham Civil Parish and Newark Civil Parish, along the existing A46, and covering a combined area of approximately 60.99ha (Table 1; Figure 2–Figure 8). Access

problems and ground conditions meant that it was only possible to survey Area 6 and part of Area 4 (Figure 8). This added up to a total of 18.1ha out of the initial target of 60.99ha.

Table 1: Survey Areas

Area	Size (ha.)
2	14.46
3	6.87
4	25.44
6	11.88
7	2.34

The underlying bedrock of the locality comprises Mercia Mudstone Group, an early Triassic lithostratigraphic group which is widespread in the English Midlands. Bedrock of this type is of fluvial, lacustrine, and marine origin (British Geological Survey 2022). Within the area of the fieldwalking survey, the bedrock consists of Gunthorpe Member mudstones (parts of Areas 2–4 and Areas 7) and Edwalton Member mudstones (parts of Areas 2 and 3 and Area 6). The superficial deposits over all of the areas are alluvium — clay, silt, sand, and gravel — formed by the River Trent, dating to the Quaternary period.

1.4 Proposed Works

The fieldwalking survey was undertaken as part of a scheme of archaeological works associated with widening the A46 bypass around the western and northern sides of Newark.

The scheme will involve the widening of the A46 to a dual carriageway, with junction improvements between the Farndon and Winthorpe roundabouts. The new A46 mainline would run parallel to the existing road, cross over the A1 and then run slightly north of the existing A46 before tying into Winthorpe roundabout. The Winthorpe roundabout will be enlarged, with signals added to improve traffic flow.

2 Methodology

The fieldwalking was carried out with 10% coverage across two fields (Areas 4 and 6) within the project area (Figure 3). Only 7.05ha out of a total area of 25.44ha in Area 4 could be surveyed due to crop growth or flooding. The survey was non-intrusive and limited to the recording of finds in the field without any surface collection.

Each field was surveyed by subdivision into 20m transects, laid out using 2m cross-sight ranging poles and 100m tapes to create base lines (Plate 1). The ends of the transects were surveyed in using the Real Time Kinetics Differential Global Positioning System (RTK DGPS).

Each archaeologist walked down the centre of each transect, checking 1m to either side (i.e., a 2m-wide corridor), thereby ensuring a coverage of 10%. The fieldwalking archaeologist marked all archaeological finds with a flag (Plate 2). Brick and tile finds were excluded from recording due to their high abundance and minimal archaeological significance. A second archaeologist and a surveyor followed over each transect, recording the location of each artefact using a Leica GS07 GPS and providing a brief description (Plate 3). Descriptions were based on the Warwickshire Medieval and Post Medieval Type Series (Soden and Ratkai, 1998) and can be concorded to an alternative type series if required.

The description and unique identifier of each find was inputted into a database.

No finds covered by the *Treasure Act* (2003) and *Treasure Order* (2002) were recovered.

3 Findings

3.1 Ceramic

A total of 163 sherds of ceramic pottery were recorded during the fieldwalking survey. The overwhelming majority of pottery consisted of glazed wares with a date range from the later eighteenth to the early twentieth century. Three sherds of pottery dating to the medieval period were recorded during the survey (Plate 4). These consisted of an unglazed sherd dating from the thirteenth to fourteenth century; a fourteenth century jug fragment with a brown outer/dark grey inner fabric and one line of yellow glaze decoration; and a fifteenth to sixteenth century Midlands purple sherd.

3.2 Clay pipe

A total of nine clay tobacco pipe fragments were recorded, all of which dated from the eighteenth to the twentieth centuries. All but one of these were stem fragments with no apparent decorations or maker's marks. A single fragment of clay pipe bowl with fluted decoration, of eighteenth or nineteenth century date was also found.

4 Conclusions and Recommendations

4.1 Conclusions

The fieldwalking survey found a scattering of pottery across both fields within the areas covered (Areas 4 and 6, Figure 3). More than half of Area 4 was planted with a crop of sugar beet and could not be surveyed; however, the rest was covered by the fieldwalking. This resulted in an area of 18.1ha being surveyed, out of a possible area of 60.99ha.

Despite this limited coverage, some broad conclusions can be made for the areas that were surveyed. Most pottery, and many metal objects are thought to get into the ploughsoil during the spreading of manure for agricultural purposes. Essentially, rubbish and other small lost items end up in a manure heap and are subsequently spread onto the fields. This is why it is typical to find a 'halo' of pottery during work in fields around any typical English village or small town. Earlier finds, such as roman pottery, may also have been spread during manuring but may also indicate a buried site of that period which has been partially disturbed by ploughing.

No finds of early pottery or flint were recovered during the fieldwalking. The earliest finds were three sherds of medieval pottery, two from Area 6 and one from Area 4. This is quite low for a site which lies just across the river from a relatively large medieval town. Almost all the pottery consisted of eighteenth or nineteenth century glazed wares, mostly white, or fragments of Nottinghamshire stoneware. A small amount of clay tobacco pipe was also recorded. It was notable that most of the objects recorded were small, suggesting secondary deposition from their original area of disposal. The post-medieval pottery may represent manuring of the fields at that time, although, it is possible that some of it represents dumping of rubbish, most likely from Newark itself.

The areas surveyed were located on the area known as 'The Island', which lies between two arms of the River Trent. This low-lying ground is both susceptible to flooding and relatively difficult to access, the only bridges being located at Newark, Muskham Bridge and Kelham Bridge. There are no villages on the island, and the two farms located here are some distance to the northeast and are likely to be eighteenth to nineteenth century in date. This may indicate that in the medieval period, only small amounts of medieval pottery were deposited on the field due to the distance to travel for manuring, as well as susceptibility to flooding in Areas 4 and 6. The area has been accessible from a trackway at the end of Tolney Lane since the nineteenth century at least, and this might suggest why most of the finds were from that date. It also remains possible that regular episodes of flooding have buried earlier finds under layers of silt, and that only a few have been brought to the surface by later ploughing.

4.2 Recommendations for Further Work

The fieldwalking finds for the areas covered (Areas 4 and 6) were of a relatively low significance and were not helpful for locating any early sites (Prehistoric, Roman or Early Medieval) that may potentially exist in the area covered. Out of 172 finds, only three were medieval, and the rest had date ranges from the nineteenth to the earlier twentieth century. Further fieldwalking of the areas covered is unlikely to uncover additional significant evidence.

The fieldwalking in Areas 4 and 6 took place along transects spaced 20m apart, whilst the metal detecting during Phase 2 metal detecting survey of the same fields was carried out along transects that were 10m apart. Therefore, an area approximately twice as large was walked during the detecting than the fieldwalking. No significant pottery was noted whilst surveying this larger area. Although it was not possible to fieldwalk any of Areas 2, 3 and 7, it was possible to metal detect them during Phase 1 of the metal detecting survey in September 2022 (Gethin and Appleby 2023) when conditions for fieldwalking were better. No significant pottery was noted at that time, although it was kept under consideration, as a spread of earlier finds might have indicated more likely areas of metal finds. Although not definitive evidence, it does suggest that further fieldwalking of these areas would be unlikely to significantly change the findings of this report.

5 Bibliography

5.1 References

Andrews, G. 1991. *Management of Archaeological Projects: MAP 2*. London: English Heritage.

Chartered Institute for Archaeologists (CIfA). 2014a (updated 2020). *Standard and Guidance for Archaeological Field Evaluation*. [online]. Available https://www.archaeologists.net/sites/default/files/CIfAS&GFieldevaluation_1.pdf [Accessed 25 October 2022].

CIfA. 2014b (updated 2020). *Standard and Guidance for the Collection, Documentation, Conservation, and Research of Archaeological Materials*. [online]. Available https://www.archaeologists.net/sites/default/files/CIfAS%26GFinds_2.pdf [Accessed: 25 October 2022].

CIfA. 2014c (updated 2020). *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives*. [online]. Available https://www.archaeologists.net/sites/default/files/CIFAS%26GArchives_4.pdf [Accessed: 25 October 2022].

CIfA. 2014d (updated 2020). *Code of Conduct: Professional Ethics in Archaeology*. [online]. Available https://www.archaeologists.net/sites/default/files/Code%20of%20conduct%20revOct2022.pdf [Accessed: 25 October 2022].

Gethin, B. and Appleby, J. 2023. Metal Detecting Survey Report of Lands along the A46 Newark Northern Bypass. Unpublished report by Archaeological Management Solutions for Skanska Construction UK Ltd.

Highways England. 2021. Regional Investment Programme A46 Newark Northern Bypass Environmental Assessment Report PCF Stage 2, Volume I, Main Chapters. 28/05/21.

Historic England. 2018. *Our Portable Past.* Swindon. Historic England.

McKenna, L. 2022. A46 Newark Northern Bypass, Nottinghamshire: Written Scheme of Investigation for Field Walking Survey. Unpublished WSI by Archaeological Management Solutions for Skanska Construction UK Ltd.

Soden, I. and Ratkai, S. *Warwickshire Medieval and Post Medieval Pottery Type Series*, December 1998

5.2 Online Sources

British Geological Survey. 2022. Geology of Britain viewer [online]. Available at: https://www.bgs.ac.uk/map-viewers/geology-of-britain-viewer/ [Accessed: 5 May 2022].

Portable Antiquities Database: https://finds.org.uk/database

Figures

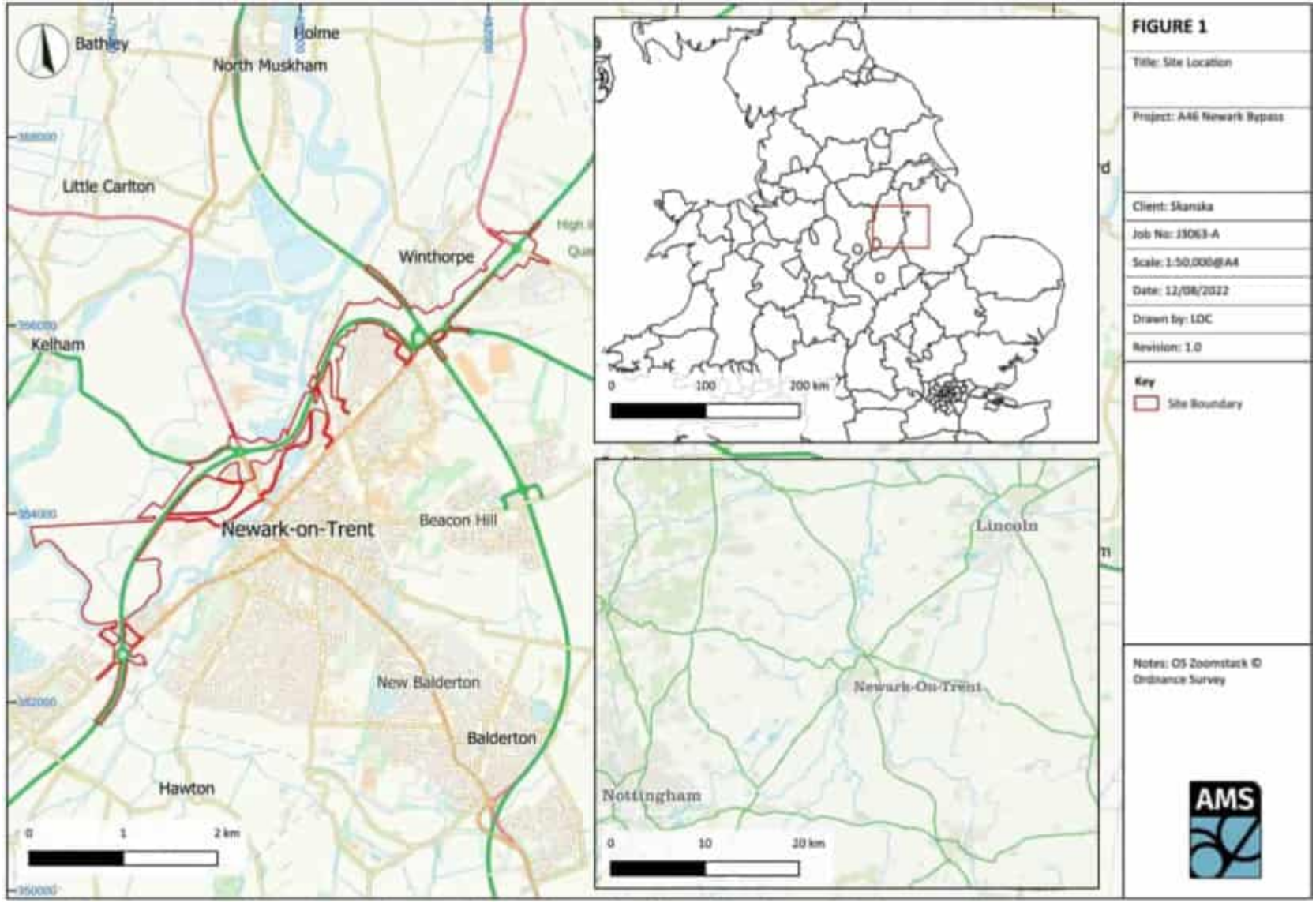


Figure 1: Site Location

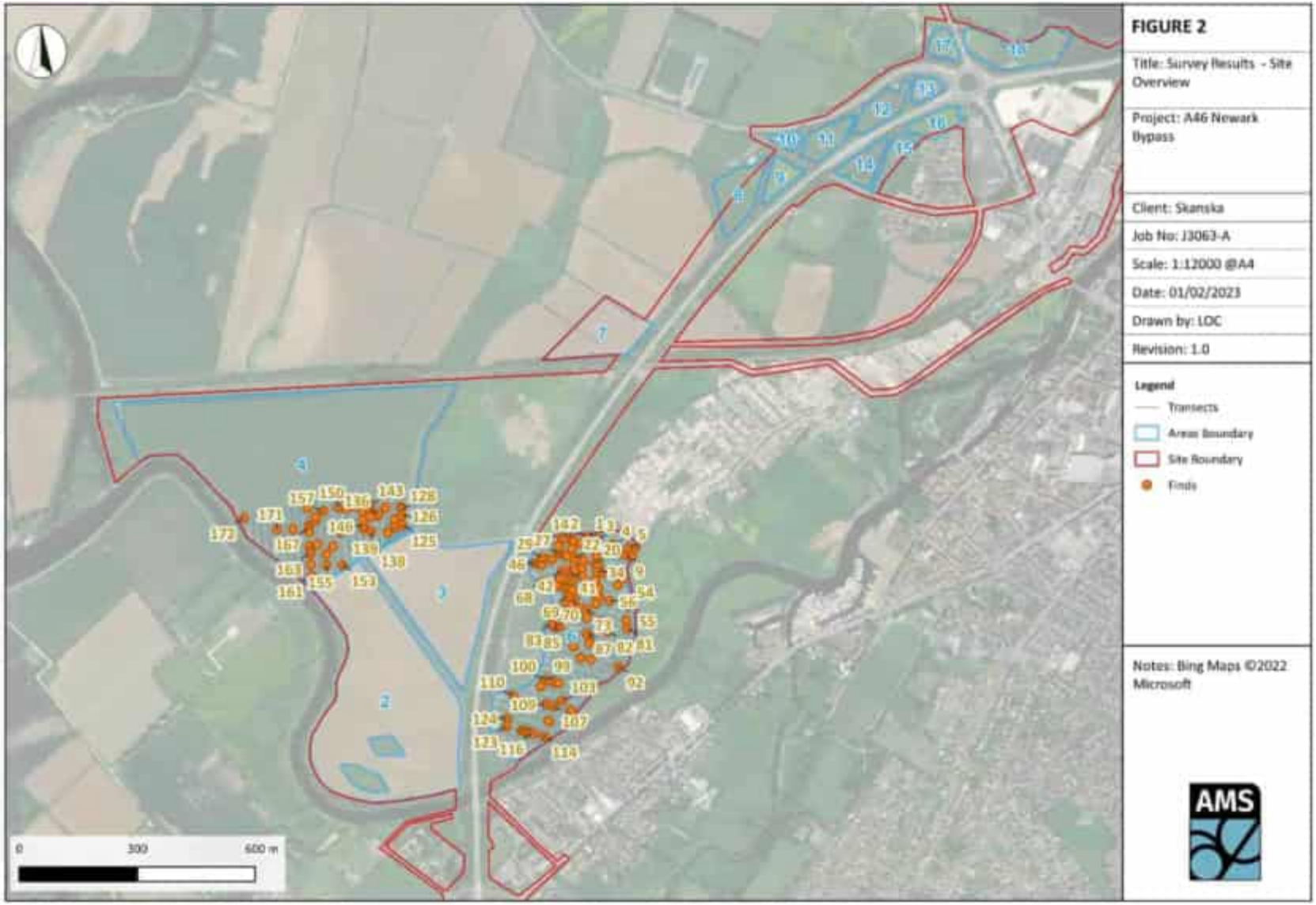


Figure 2: Survey Results – Site Overview

Figure 3: Survey Results

Figure 4: Survey Results – Area 4 (i)

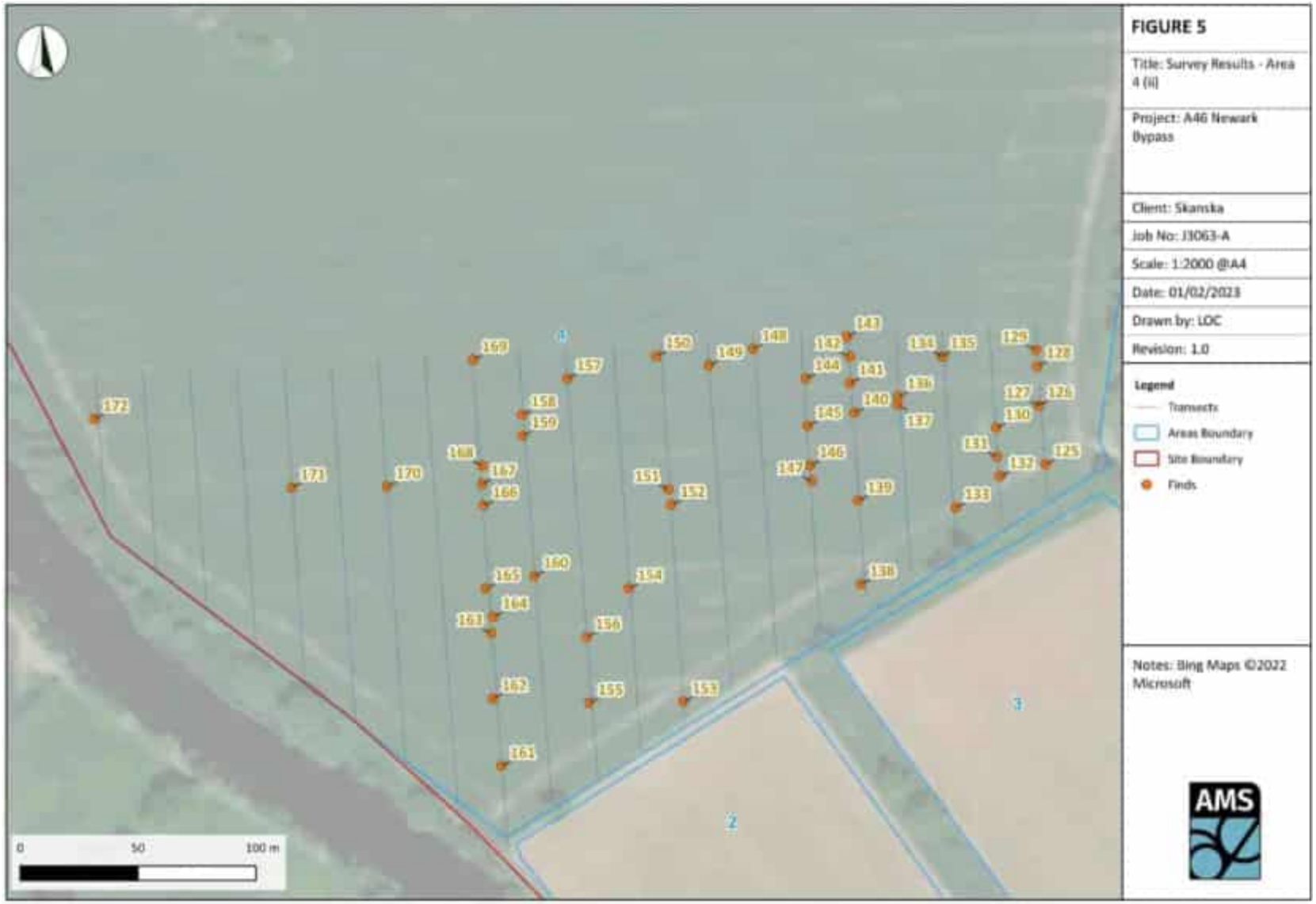


Figure 5: Survey Results – Area 4 (ii)

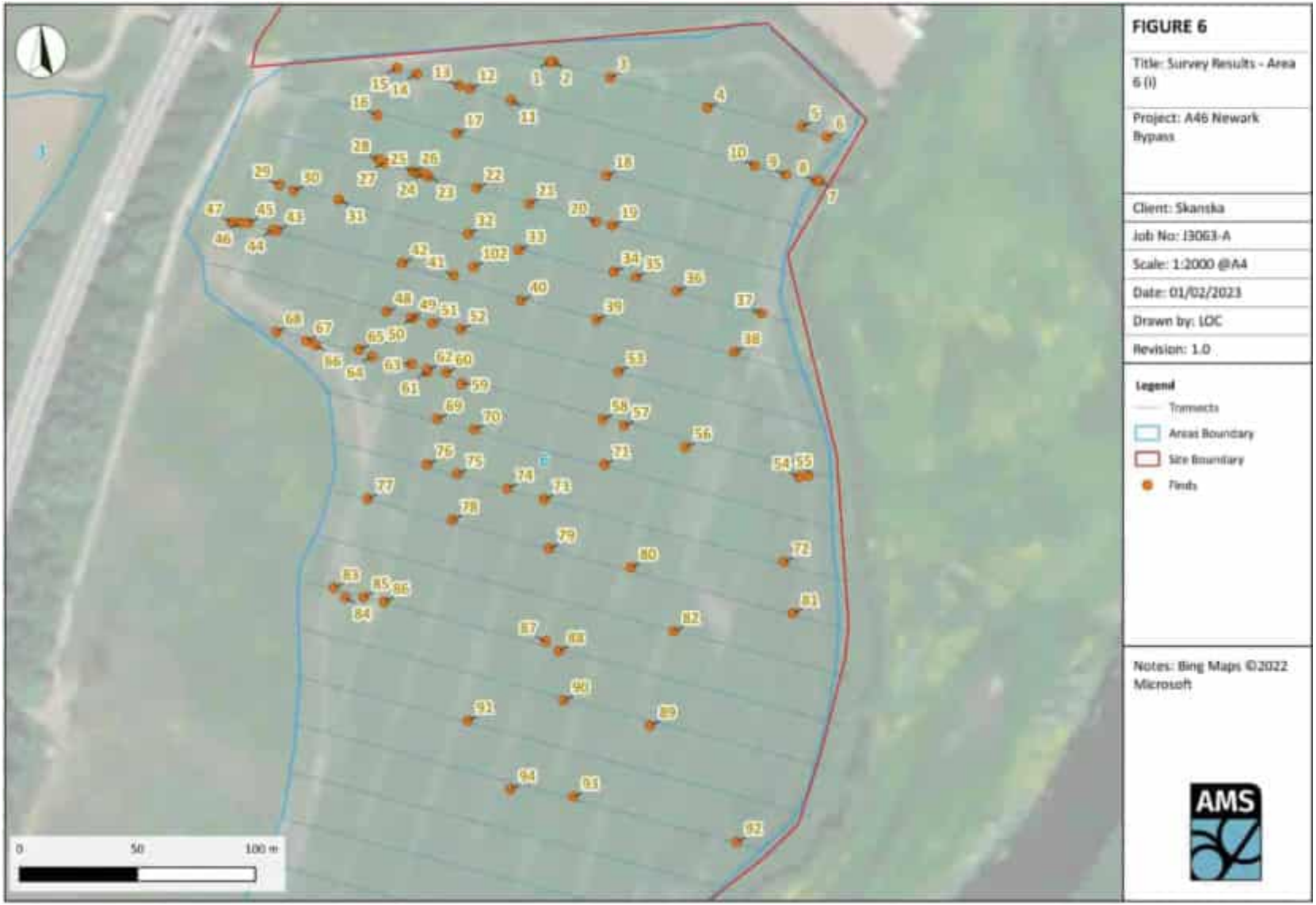


Figure 6: Survey Results – Area 6 (i)

Figure 7: Survey Results – Area 6 (ii)

Figure 8: Land Available

Plates

Plate 1: Setting out transects prior to fieldwalking

Plate 2: Fieldwalking in progress

Plate 3: Find spot being surveyed

Plate 4: Medieval pottery sherd – Find No. 102

Appendix 1: Finds Register

Find Number	Area	Material	Description
1	6	Ceramic	White glaze pottery with part of fleur de lys blue transfer print. Modern Glazed Ware, later 18th to 20th century
2	6	Ceramic	Midlands blackware, later tradition. Circa 16001−800, probably later part of date range
3	6	Clay pipe	Clay pipe stem. 18th/19th century
4	6	Ceramic	Red ceramic pot rim, no glaze. Midlands blackware, later tradition. Circa 1600−1800, probably later part of date range
5	6	Ceramic	White glazed, willow pattern type. Modern Glazed Ware, later 18th to 20th century
6	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
7	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
8	6	Ceramic	White salt-glazed stoneware, circa 1720−1790
9	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
10	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
11	6	Ceramic	Nottingham salt glazed stoneware, circa 1750−1900
12	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
13	6	Ceramic	White glazed pottery with scalloped decoration, Modern Glazed Ware, later 18th to 20th century
14	6	Ceramic	White glazed pottery with blue transfer print, Modern Glazed Ware, later 18th to 20th century
15	6	Ceramic	Salt glazed stoneware, 19th/20th century
16	6	Ceramic	White glazed pottery with blue transfer print, Modern Glazed Ware, later 18th to 20th century
17	6	Ceramic	White glazed pottery, willow pattern type. Modern Glazed Ware, later 18th to 20th century
18	6	Ceramic	White glazed pottery with blue transfer print. Modern Glazed Ware, later 18th to 20th century
19	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
20	6	Ceramic	White glazed pottery with blue transfer print, Modern Glazed Ware, later 18th to 20th century

Find Number	Area	Material	Description
21	6	Ceramic	White glazed pottery, (two pieces). Modern Glazed Ware, later 18th to 20th century
22	6	Ceramic	White glazed pottery with blue transfer print, Modern Glazed Ware, later 18th to 20th century
23	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
24	6	Ceramic	White glazed pottery with blue transfer, willow pattern. Modern Glazed Ware, later 18th to 20th century
25	6	Clay pipe	Clay pipe stem, 18th/19th century
26	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
27	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
28	6	Ceramic	White glazed pottery, willow pattern type, Modern Glazed Ware, later 18th to 20th century
29	6	Ceramic	Midlands blackware, later tradition. Circa 1600–1800, probably later part of date range
30	6	Clay pipe	Clay pipe stem, 18th–20th century
31	6	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900 (2 pieces)
32	6	Ceramic	Dark brown greenish glaze, possibly 17th century
33	6	Ceramic	White glazed pottery sliver, Modern Glazed Ware, later 18th to 20th century
34	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
35	6	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900
36	6	Ceramic	Midlands blackware, later tradition. Circa 1600–1800, probably later part of date range
37	6	Ceramic	White glazed pottery blue transfer, Modern Glazed Ware, later 18th to 20th century
38	6	Ceramic	White + 'buff' salt-glazed stoneware, 19th/20th century
39	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
40	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
41	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
42	6	Ceramic	White glazed pottery blue transfer print, Modern Glazed Ware, later 18th to 20th century

Find Number	Area	Material	Description
43	6	Ceramic	White glazed pottery brown transfer, Modern Glazed Ware, later 18th to 20th century
44	6	Ceramic	Off white salt-glazed stoneware, 19th/20th century
45	6	Ceramic	Off white salt-glazed stoneware, 19th/20th century
46	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
47	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
48	6	Ceramic	Pale grey salt-glazed stoneware, 19th/20th century
49	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
50	6	Ceramic	White glazed pottery blue transfer, Modern Glazed Ware, later 18th to 20th century
51	6	Ceramic	White glazed pottery with blue feather edge decoration, Pearlware, circa 1780–1840.
52	6	Ceramic	White glazed pottery blue transfer, Modern Glazed Ware, later 18th to 20th century
53	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
54	6	Clay pipe	Clay pipe, 18th–20th century
55	6	Ceramic	Dark brown glaze buff fabric. Probably Manganese mottled ware, circa 1680–1740
56	6	Clay pipe	Clay pipe, 18th–20th century
57	6	Ceramic	White glazed pottery blue transfer print, Modern Glazed Ware, later 18th to 20th century
58	6	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900
59	6	Ceramic	White glazed pottery, willow pattern type, Modern Glazed Ware, later 18th to 20th century
60	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
61	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
62	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
63	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
64	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century

Find Number	Area	Material	Description
65	6	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900
66	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
67	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
68	6	Ceramic	White glazed pottery with blue transfer, Modern Glazed Ware, later 18th to 20th century
69	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
70	6	Ceramic	Mocha ware, circa 1790s–early 20th century
71	6	Ceramic	Salt-glazed Stoneware, 19th/20th century
72	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
73	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
74	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
75	6	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900
76	6	Ceramic	Midlands blackware, later tradition. Circa 1600–1800, probably later part of date range
77	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
78	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
79	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
80	6	Ceramic	White glazed pottery Modern Glazed Ware, later 18th to 20th century
81	6	Ceramic	White glazed pottery with blue transfer print, Modern Glazed Ware, later 18th to 20th century
82	6	Ceramic	Midlands blackware, later tradition. Circa 1600–1800, probably later part of date range
83	6	Ceramic	White glazed pottery with blue transfer print, Modern Glazed Ware, later 18th to 20th century
84	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
85	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
86	6	Ceramic	Brownish red pottery, no glaze. 18th century?

Find Number	Area	Material	Description
87	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
88	6	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900
89	6	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900
90	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
91	6	Ceramic	Porcelain, 2 pieces, Modern Glazed Ware, later 18th to 20th century
92	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
93	6	Ceramic	Mocha ware, circa 1790s–early 20th century
94	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
95	6	Ceramic	Salt-glazed stoneware, 19th/20th century
96	6	Ceramic	Medieval pottery, *c.*1200–1400s. No glaze
97	6	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900
98	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
99	6	Ceramic	Yellow/buff glaze, beaded edge. Modern Glazed Ware, later 18th to 20th century
100	6	Ceramic	Salt-glazed stoneware, 19th/20th century
101	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
102	6	Ceramic	Medieval pottery *c.*1300's, jug fragment. Brown outer/dark grey inner. One line of vertical yellow glaze decoration.
103	6	Ceramic	White glazed pottery with blue transfer, Modern Glazed Ware, later 18th to 20th century
104	6	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900
105	6	Ceramic	Black glazed earthenware handle, 17th/18th century
106	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
107	6	Ceramic	White glazed pottery with blue transfer, Modern Glazed Ware, later 18th to 20th century
108	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century

Find Number	Area	Material	Description
109	6	Clay pipe	Clay pipe. 18th/19th century
110	6	Ceramic	White glazed pottery with blue transfer, Modern Glazed Ware, later 18th to 20th century
111	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
112	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
113	6	Ceramic	Midlands blackware, later tradition. Circa 1600–1800, probably later part of date range
114	6	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900
115	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
116	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
117	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
118	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
119	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
120	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
121	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
122	6	Ceramic	Pottery with reddish fabric, dark red slip pottery, possibly unglazed Midlands blackware fragment, *c*.18th century
123	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
124	6	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
125	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
126	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
127	4	Ceramic	White glazed pottery with blue transfer, Modern Glazed Ware, later 18th to 20th century
128	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
129	4	Ceramic	White glazed pottery with blue transfer, Modern Glazed Ware, later 18th to 20th century
130	4	Ceramic	White glazed pottery with blue feather edge decoration, Pearlware, circa 1780–1840.

Find Number	Area	Material	Description
131	4	Ceramic	Brown glazed pottery, Modern Glazed Ware, later 18th to 20th century
132	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
133	4	Ceramic	White glazed pottery with blue transfer, Modern Glazed Ware, later 18th to 20th century
134	4	Ceramic	White glazed pottery with blue transfer, Modern Glazed Ware, later 18th to 20th century
135	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
136	4	Clay pipe	Clay pipe, 18th–20th century
137	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
138	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
139	4	Ceramic	Yellowish white salt-glazed stoneware, 19th–20th century
140	4	Clay pipe	Clay pipe, 18th–20th century
141	4	Ceramic	Mocha ware, circa 1790s–early 20th century
142	4	Ceramic	Medieval pottery, probably Midlands Purple, circa 15th–16th century
143	4	Ceramic	Midlands blackware, later tradition. Circa 1600–1800, probably later part of date range
144	4	Ceramic	Midlands blackware, later tradition. Circa 1600–1800, probably later part of date range
145	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
146	4	Ceramic	Midlands blackware, later tradition. Circa 1600–1800, probably later part of date range
147	4	Ceramic	White glazed pottery, yellow and black transfer. Modern Glazed Ware, later 18th to 20th century
148	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
149	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
150	4	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900
151	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
152	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century

Find Number	Area	Material	Description
153	4	Ceramic	Midlands blackware, later tradition. Circa 1600–1800, probably later part of date range
154	4	Ceramic	White glazed, blue painted decoration, Modern Glazed Ware, later 18th to 20th century
155	4	Ceramic	White glazed handle fragment, Modern Glazed Ware, later 18th to 20th century
156	4	Ceramic	White glazed pottery with blue transfer Modern Glazed Ware, later 18th to 20th century
157	4	Ceramic	Green glazed fragment, 'cabbage type', Probably creamware, circa 1740–1790
158	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
159	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
160	4	Ceramic	Grey salt-glazed stoneware, 19th/20th century
161	4	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900
162	4	Ceramic	White glazed hand painted decoration, tea-cup. Modern Glazed Ware, later 18th to 20th century but probably earlier 19th century
163	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
164	4	Ceramic	White glazed pottery with blue transfer print, Modern Glazed Ware, later 18th to 20th century
165	4	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900
166	4	Ceramic	White glazed pottery with blue feather edge decoration, creamware, circa 1740–1790.
167	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
168	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
169	4	Clay pipe	Clay pipe bowl fragment, late 18th/early 19th century
170	4	Ceramic	White glazed pottery, Modern Glazed Ware, later 18th to 20th century
171	4	Ceramic	Nottingham salt glazed stoneware, circa 1750–1900
172	4	Ceramic	White glazed pottery with blue transfer, Modern Glazed Ware, later 18th to 20th century

Appendix E: Metal Detecting Survey Report of Lands along the A46 Newark Bypass

Metal Detecting Survey Report of Lands along the A46 Newark Bypass

Prepared for Skanska Construction UK Ltd on behalf of National Highways Regional Delivery Partnership Framework

By [redacted]

February 2023

TITLE PAGE

AMS Job No.:	J3063-A
Project Name:	Regional Delivery Partnership A46 Newark Bypass
Grid Reference (OSGB36):	478807, 354376
Report Status/Revision:	Final
Revision Date:	2 March 2023
Report Authors:	[redacted]
Technical Reviewers:	
Report Editor:	
Approved By:	
File Name:	J3063-A_A46_Newark_Metal_Detecting_Report_Final

AMS Cultural Heritage Consultancy Limited trading as Archaeological Management Solutions

Company Registration No. 721173

Fahy's Road, Kilrush, Co. Clare. V15 C780

T +353 (0)65 810 3001

www.ams-consultancy.com

Disclaimer

The results, conclusions and recommendations contained within this report are based on information available at the time of its preparation. Whilst every effort has been made to ensure that all relevant data have been collated, the authors and AMS accept no responsibility for omissions and/or inconsistencies that may result from information becoming available subsequent to the report's completion.

© Archaeological Management Solutions 2023

NSAI ENVIRONMENT NSAI Certified HEALTH & SAFETY NSAI Certified QUALITY NSAI Certified

Summary

This report describes the results of a metal detection survey which was carried out over 51.28ha at Newark-upon-Trent along the route of the proposed A46 Newark Bypass, Nottinghamshire, by archaeologists from Archaeological Management Solutions (AMS) and specialist advisors from Archaeology Warwickshire. The scheme extends for approximately 6km, passing the western and northern extents of Newark-on-Trent, between the Farndon and Winthorpe roundabouts. The metal detection survey was undertaken in two phases: Phase 1 was carried out between 12 and 30 September 2022 and comprised fourteen fields, of which three fields were under arable and eleven were in pasture; Phase 2 was carried out between 9 and 16 January 2023 and comprised two fields under arable.

The survey consisted of a sample of the area and was carried out along transects spaced 10m and occasionally 5m apart, with significant finds located using a Real Time Kinetics Differential Global Positioning System (RTK DGPS).

A total of 115 significant metal finds were retrieved from the survey, the earliest of which were identified as: the end of a possible Roman period solid copper alloy bracelet or bangle; and a possible end of a second bracelet which may also be of Roman date. Two other fragmentary copper alloy objects might also be Roman in date, but precise identification is rendered difficult due to their fragmentary and degraded condition. The majority of the objects recovered are well-preserved post-medieval items, with some likely to be medieval in date. Some finds can be associated with the English Civil War and the sieges of Newark between 1642 and 1646; the clearest indication of this is represented by eight lead shot consisting mostly of musket-calibre balls and a single pistol ball. Many of the personal items, such as belt buckles, may also originate from this period.

The results of the survey will help inform the Environmental Impact Assessment (EIA) to be submitted as part of the Development Consent Order (DCO) application for the proposed development. The results will also aid future archaeological trial trenching along the scheme.

The overall significance of the finds assemblage is discussed in the report, followed by recommendations for further analysis to include research, cataloguing, photography and/or illustration of the more archaeologically significant finds, and the compilation of a summary catalogue for the less well-preserved and less diagnostic finds at final report writing stage. Finds deemed unworthy of further study are listed in the relevant materials categories (see Section 3.3.3: Summary of Small Finds from Phase 1 and Section 3.3.6: Summary of Small Finds from Phase 2) and also in Appendix 1: Finds Register which was compiled as part of this assessment, and which should also form part of the site archive and final publication.

Pasture fields (Areas 8–18) may also require further work. Ideally this would involve a more intensive survey with transects only 2m apart, followed by resurvey after a small amount of soil stripping.

Table of Contents

1 Introduction 6
1.1 Project Background 6
1.2 Purpose and Scope of this Assessment 6
1.3 Site Location 7
1.4 Proposed Works 8
2 Methodology 9
2.1 Constraints on Methodology 11
3 Findings 11
3.1 Phase 1 11
3.2 Phase 2 11
3.3 The Small Finds 11
3.3.1 Phase 1 12
3.3.2 The Coins 14
3.3.3 Summary of Small Finds from Phase 1 16
3.3.4 Phase 2 17
3.3.5 The Coins 18
3.3.6 Summary of Small Finds from Phase 2 18
4 Conclusions and Recommendations 20
4.1 Conclusions 20
4.2 Recommendations for Further Work 20
5 Bibliography 22
5.1 References 22
5.2 Online Sources 23
Figures 24
Plates 39
Appendix 1: Finds Register 43

List of Tables

Table 1: Survey Areas 7
Table 2: List of Coins from Phase 1 14
Table 3: List of Coins from Phase 2 18

List of Figures

Figure 1: Site Location 25

Figure 2: Survey Results - Site Overview (Phase 1 and Phase 2) 26
Figure 3: Survey Results (Phase 1) 27
Figure 4: Survey Results (Phase 1) 28
Figure 5: Survey Results — Areas 2 and 3 (Phase 1) 29
Figure 6: Survey Results — Area 7 (Phase 1) 30
Figure 7: Survey Results — Areas 8 and 9 (Phase 1) 31
Figure 8: Survey Results — Areas 10 and 11 (Phase 1) 32
Figure 9: Survey Results — Areas 12, 13 and 16 (Phase 1) 33
Figure 10: Survey Results — Areas 14 and 15 (Phase 1) 34
Figure 11: Survey Results — Area 17 (Phase 1) 35
Figure 12: Survey Results — Area 18 (Phase 1) 36
Figure 13: Survey Results — Area 4 and 6 (Phase 2) 37
Figure 14: Land Available in Area 4 (Phase 2) 38

List of Plates

Plate 1: Selection of finds from metal detection survey 39
Plate 2: Pre-survey strategy discussion in progress 39
Plate 3: Transects being laid out prior to metal detecting 40
Plate 4: Metal detection in progress 40
Plate 5: Excavation of metal detector 'hit' location in progress 41
Plate 6: View of *in-situ* copper alloy coin during excavation 41
Plate 7: View of *in-situ* lead musket ball during excavation 42

Abbreviations and Definitions

Abbreviation	Definition
AMS	Archaeological Management Solutions
CA	Copper Alloy
CIfA	Chartered Institute for Archaeologists
DCO	Development Consent Order
EIA	Environmental Impact Assessment
OSGB36	Ordnance Survey Great Britain 1936 coordinate system
PCF	Project Control Framework
RTK DGPS	Real Time Kinetics Differential Global Positioning System
WSI	Written Scheme of Investigation

Coordinate System

All grid coordinates in this document use the OSGB36 coordinate reference system unless otherwise stated.

1 Introduction

1.1 Project Background

This metal detection survey report has been prepared by AMS on behalf of Skanska Construction UK Ltd on behalf of National Highways Regional Delivery Partnership Framework on lands forming part of the A46 Newark Northern Bypass, Nottinghamshire (Figure 1).

The A46 Newark Northern Bypass scheme is approximately 6km in length, passing the western and northern extents of Newark-on-Trent, Nottinghamshire, between Farndon and Winthorpe roundabouts. The aim of the scheme is to increase capacity and reduce traffic congestion on the A46 in the vicinity of Newark, improve connectivity from Lincolnshire to the national motorway network, and improve route standard consistency for the A46.

The scheme has been subject to a PCF Stage 2 Environmental Assessment Report (EAR) undertaken by Atkins in 2021 (Highways England 2021), which found archaeologically sensitive areas across the route.

1.2 Purpose and Scope of this Assessment

The aims of the metal detection survey, and the methods and standards that were employed, were set out in a Written Scheme of Investigation (WSI) prepared by AMS on behalf of Skanska Construction UK Ltd (Bonsall 2022). This conformed to current best practice and was planned, managed, and undertaken in accordance with the requirements of this Specification and based on the guidance provided by:

- *Standard and Guidance for Archaeological Field Evaluation* (CIfA 2014a);
- *Standard and Guidance for the Collection, Documentation, Conservation, and Research of Archaeological Materials* (CIfA 2014b);
- *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (CIfA 2014c);
- *Code of Conduct: Professional Ethics in Archaeology* (CIfA 2014d); and
- *Management of Archaeological Projects* (Andrews 1991).

The metal detection survey was carried out by archaeologists from AMS and specialist advisors from Archaeology Warwickshire. It was undertaken in two phases: Phase 1 was carried out between 12 and 30 September 2022 and covered fourteen discrete areas along the southern area of the scheme over a combined area of approximately 32.35ha; Phase 2 was carried out between 9 and 16 January 2023 and covered two discrete areas along the southern area of the scheme over a combined area of approximately 18.93ha. The results of the survey will help inform the EIA to be submitted as part of

the DCO application for the proposed development. The results will also aid future archaeological trial trenching along the scheme.

Phase 1 of the metal detection survey was conducted alongside a programme of geophysical survey (Dowling 2022). Phase 2 of the metal detection survey was conducted alongside a field walking survey (Gethin 2023), for which a separate WSI was prepared (McKenna 2022).

The metal detecting was undertaken by a team of archaeological metal detectorists working under the direct supervision of a Field Director.

1.3 Site Location

The metal detection survey was implemented over sixteen neighbouring fields; designated as 'Areas 2–4' and 'Areas 6–18' as numbered in the project specifications (Figure 2–Figure 14; Plate 1–Plate 7). These were located to the west and north of the River Trent in Averham Civil Parish and Newark Civil Parish, along the existing A46 and A617, and covering a combined area of approximately 69.67ha (Table 1; Figure 2). Phase 1 of the metal detection survey was implemented over fourteen neighbouring fields; Areas 2–3 and Areas 7–18, comprising 32.35ha (Figure 3–Figure 12). Phase 2 of the metal detection survey was implemented over two neighbouring fields; Areas 4 and 6 comprising 18.93ha[1] (Figure 13 and Figure 14).

Table 1: Survey Areas

Area	Size (ha.)
2	14.46
3	6.87
4	25.44
6	11.88
7	2.34
8	1.46
9	0.57
10	0.25
11	0.81
12	0.87
13	0.40
14	0.76
15	0.54

[1] A portion of Area 4 proved inaccessible for survey during Phase 2 (See Section 2.1 below for further detail)

Area	Size (ha.)
16	0.67
17	0.47
18	1.79

The underlying bedrock of the locality comprises Mercia Mudstone Group, an early Triassic lithostratigraphic group which is widespread in the English Midlands. Bedrock of this type is of fluvial, lacustrine, and marine origin (British Geological Survey 2022). Within the area of the metal detection survey the bedrock consists of Gunthorpe Member mudstones (parts of Areas 2–4 and Areas 7–18) and Edwalton Member mudstones (parts of Areas 2 and 3 and Area 6). The superficial deposits over all of the areas are alluvium — clay, silt, sand, and gravel — formed from the River Trent, dating to the Quaternary period.

1.4 Proposed Works

The metal detection survey was undertaken as part of a scheme of archaeological works associated with widening the A46 bypass around the western and northern sides of Newark.

The scheme will involve the widening of the A46 to a dual carriageway, with junction improvements between the Farndon and Winthorpe roundabouts. The new A46 mainline would run parallel to the existing road, cross over the A1 and then run slightly north of the existing A46 before tying into Winthorpe roundabout. The Winthorpe roundabout will be enlarged, with signals added to improve traffic flows.

2 Methodology

The metal detection survey was carried out using transects spaced 10m apart, reduced to 5m in areas of high density finds and areas adjacent to two Scheduled Monuments (SM 1017402—a Civil War Sconce and SM 1016048—Civil War Redoubt).

Detectorists surveyed down the centre of the transects, scanning along both sides, which provided full coverage along each transect. Each detectorist was assigned a transect which was systematically detected. When a signal was registered, it was investigated by pinpointing its location to within 5cm. Targets were only retrieved where they lay in the topsoil layer, in order to protect the integrity of any underlying archaeological features. Non-ferrous metal targets were investigated using a small spade or trowel. Discriminating metal detectors are capable of identifying different metal types based on their metallic properties, usually by identifying a number that corresponds to a particular metal(s). In some cases, this can be clearly stated, such as 'ferrous' or 'lead'; in other cases the responses may indicate several different types of response. This survey was discriminated against ferrous metals, allowing for the mapping of non-ferrous metals likely to be associated with the English Civil War. Retrieved finds were flagged, bagged and numbered. It should be noted that it was not the intention to fully metal-detect the entire survey area. The methodology employed constituted a sample of the material/metal type that likely survived in the Survey Areas and these areas should not be regarded as "cleared" of archaeological material.

Each detectorist was provided with standard ziplock finds bags and a number of pin flags. Each significant find recovered was bagged and marked with the finder's initials. Each find bag was then marked with a pin flag at its location in the ground. Once each detectorist had finished their first transect, the finds could begin to be located using an RTK DGPS. At this point the overseeing archaeologist gave each finds bag an individual number which matched a location point on the survey, after which each bag was collected.

No finds or pin flags were left overnight between survey days and the number of any transects left at the end of each day was left to the minimum necessary for the accurate laying out and continuation of the work on the following day. No finds were transported from the site by anyone except for staff members of AMS or designated staff members of specialist advisors from Archaeology Warwickshire.

Metal detecting farmed fields inevitably yields assemblages containing buttons, coins, buckles and various fragments of modern detritus. It was not proposed to discard any objects unless they were clearly modern, such as post-1950s currency, shotgun cartridge ends, drinks cans, and bottle tops. These were initially assessed on site and then kept in large scrap bags for each field covered by the survey to be discarded at a later date after a final check to make certain they contained no significant

objects. This method has previously been used during the battlefield survey at Bosworth and on all other organised surveys carried out by the battlefield specialist team from Archaeology Warwickshire. All other objects were bagged and numbered but may be discarded at a later date after discussions with Matthew Adams (Newark and Sherwood District Archaeologist).

Transects were laid out using 2m cross-sight ranging poles and 100m tapes to create base lines which were used to set up the 10m and occasional 5m transects. This method had been used on numerous metal detecting surveys, such as work on Bosworth battlefield for Leicestershire County Council, work at Battle Abbey for English Heritage, and numerous surveys by the Battlefields Trust (such as Edgehill and Stow-on-the-Wold). The ends of the transects were surveyed in using the RTK DGPS.

The metal detection survey was conducted using high performance discriminating metal detectors such as the Minelab X-Terra 305 or similar. The frequent use of the land for farming purposes, together with its proximity to Newark, meant that the potential for high levels of modern metal scattered throughout the survey area was high. In order to combat this, the survey used the metal detectors discrimination capability to filter out ferrous material, seeking instead to target other metal responses, specifically lead, which might be indicative of conflict remains. Detectorists were also vigilant for ferrous and non-ferrous contaminants indicative of 'green waste', which may or may not have been spread across the survey areas as a fertilizer/soil conditioner (Gerrard *et al*. 2015). Such contaminants may prevent a metal detection assessment. If encountered at an early stage (indicated by a high frequency of metal hits across a given survey area), detectorists would decide if the survey was viable in that area.

The finds were recorded, cleaned, conserved, marked, bagged and boxed in accordance with recording systems, practices and standards outlined in:

- *Preparation of Archaeological Archives: Selection, Retention and Dispersal of Archaeological Collections* (Society of Museum Archaeologists 1993);
- *CIfA's Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (CIfA 2014b/2020);
- *CIfA's Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* CIfA 2014c/2020);
- *First Aid for Finds* (Watkinson & Neal 1998);
- United Kingdom Institute for Conservation guideline documents (1983 and 1990) as appropriate; and
- Any requirements of the local authority or final museum or archive.

Finds were stored in suitable facilities at Archaeology Warwickshire's offices prior to final deposition to archive.

No finds covered by the *Treasure Act* (2003) and *Treasure Order* (2002) were recovered.

2.1 Constraints on Methodology

The total area of Area 4 initially proposed to be surveyed was 25.44ha (Table 1). During Phase 2 of the metal detection survey, an area measuring 18.39ha within Area 4 was deemed unsuitable for survey owing to poor ground conditions or the presence of uncultivated crop, leaving an area measuring 7.05ha that was ultimately metal detected (Figure 13 and Figure 14).

3 Findings

All arable fields except for Area 7 were full of 'green waste', consisting of many fragments of aluminium, often melted, from broken up kitchen units, furniture etc. Over 200 of these were encountered during the survey in Areas 2 and 3 alone. The presence of green waste will probably have masked other, more significant finds, although it still proved possible to recover some recordable items from these fields.

Many of the pasture fields may not have been ploughed for over 100 years and as such, only the finds which remained close to the surface will have been recovered. Metal detector surveys on battlefields have shown that surface recovery rates on pasture fields are poor and that if a shallow depth of soil (e.g. 0.15m) is stripped from the surface of such a field after it has already been detected, then many other finds may be recovered. For example, this was the case during recent work at Waterloo where an initial survey of a relatively small area only found two or three musket balls; however, after stripping almost 100 more were recovered (Sam Wilson, Battlefields Trust Trustee, pers. comm.). Intense military action is less likely at Newark, but the general idea still applies to recovery rates on the pasture.

3.1 Phase 1

A total of 102 finds were flagged, bagged and recorded during Phase 1 of the survey: 22 coins, one token and one button were reviewed by Bryn Gethin; 76 small finds were reviewed by Lynne Bevan.

3.2 Phase 2

A total of fourteen finds were flagged, bagged and recorded during Phase 2 of the survey: all of the finds were reviewed by Lynne Bevan.

3.3 The Small Finds

This assessment was undertaken in line with the assessment procedures as set out in MAP 2 (Andrews/English Heritage 1991) to provide a quantification of the assemblage and a qualitative overview of its potential for further analysis. The finds are discussed and evaluated below according

to material group, with the more diagnostic and potentially significant finds being highlighted for further research. The overall significance of the finds assemblage is discussed, followed by recommendations for further analysis to include research, cataloguing, photography and/or illustration of the more archaeologically significant finds, and the compilation of a summary catalogue for the less well-preserved and less diagnostic finds at final report writing stage. Finds deemed unworthy of further study are listed in the relevant materials categories (see Section 3.3.3: Summary of Small Finds from Phase 1 and Section 3.3.6: Summary of Small Finds from Phase 2) and also in Appendix 1: Finds Register which was compiled as part of this assessment, and which should also form part of the site archive and final publication.

Most of the items were in a good and stable condition and will not require specialist conservation at the present time beyond being stored under controlled conditions. X-rays were not available at the time of assessment.

3.3.1 Phase 1

A total of 76 small finds recovered from Phase 1 of the survey were examined. The breakdown of small finds by materials was as follows: copper alloy (60), lead (fourteen), and flint (two).

3.3.1.1 Copper Alloy

A total of 60 copper alloy objects were examined. These finds were generally very well preserved and stable, with the majority of items being identifiable and, in many instances, datable to some extent. Several objects have the potential for much closer chronological resolution at final report writing stage. Identifiable finds included four buckles, possibly part of a bracelet, a plumb-bob or balance weight, three bullets, sixteen buttons, a nail, a key, eleven decorative fittings of various sorts and nine possible vessel fragments. There were also a number of less diagnostic and complete finds, including modern material, which are summarised in the report (see Section 3.3.3 Summary of Small Finds from Phase 1) and have been listed in Appendix 1: Finds register.

The earliest potential item in the assemblage was part of a solid copper alloy bangle or bracelet (Find No. 99, Area 7) which may date to the Roman period, although further research will be necessary to confirm this. A distinctive barrel key or winding key (Find No. 51, Area 14) with an oval-shaped handle and triangular-sectioned terminal, dates to the post-medieval period. Closer chronological resolution may be possible for this item based on existing artefactual parallels on the Portable Antiquities Scheme database and in published reports.

The majority of the other finds also appear to be predominantly post-medieval in date, though some may date to the medieval period. These include a plumb-bob or balance weight (Find No. 33, Area 2);

four large buckles (Find No. 27, Area 2; Find No. 38, Area 18; Find No. 66, Area 9; and Find No. 87, Area 46), two of which were double-sided; and a small nail with a long shank, possibly from furniture (Find No. 57, Area 13). Nine rim fragments from copper alloy vessels were recovered, the earliest of which may be medieval in date, and others post-medieval in date. Of particular interest in the group was a complete square-shaped rim and shoulder fragment from a small crudely-made vessel (Find No. 9, Area 3), which is similar in shape to the top of a powder flask, though without the elongated nozzle typical of this artefact type. A larger, bulbous rim fragment (Find No. 23, Area 2) may have originated from a cooking vessel of typical medieval design, though it could be later in date. Three straight-edged rim fragments, each with a distinctive oblique slashed linear design (Find No. 16, Area 3; Find No. 35, Area 2 and Find No. 25, Area 2) were recovered from three disparate find-spots, yet all appear to belong to the same vessel. However, these did not join and one was better preserved than the other two. The other four fragments were smaller and had less dating potential, though a potential medieval to post-medieval date is probable for these items (Find No. 11, Area 3; Find No. 22, Area 2; Find No. 24, Area 2; and Find No. 31, Area 2).

Eleven decorative fittings of various kinds were recovered, most of which appear to be of post-medieval date, although some may be earlier. These include an ornate circular pierced terminal (Find No. 6, Area 3) possibly from a handle; a circular terminal with a looped fitting (Find No. 8, Area 3); a mount in the shape of an acanthus motif (Find No. 34, Area 2); a mount with an arrow-shaped terminal (Find No. 21, Area 2); a small decorative strap end (Find No. 39, Area 18); a decorative cutwork mount with a perforated terminal (Find No. 71, Area 8); an elaborated moulded strap end or belt fitting (Find No. 76, Area 8); a large circular mount in the shape of a flower (Find No. 84, Area 8); and a small sexfoil mount with one perforated 'leaf' (Find No. 92, Area 7). Two other smaller plate fragments with cutwork decoration similar to that observed in other fittings in the assemblage (Find No. 7, Area 3 and Find No. 93, Area 7) were less diagnostic but probably also of post-medieval date.

In contrast to the buckles and decorative fittings, the sixteen buttons recovered were poorly preserved, with no visible surviving surface detail. Six of the buttons were obviously of recent date and a post-medieval date is most likely for the others.

Less chronologically diagnostic but probable post-medieval finds included two ring fittings of unknown purpose (Find No. 72, Area 8; and Find No. 75, Area 8); a leaded copper alloy disc, possibly waste (Find No. 96, Area 7); two folded lengths of copper alloy sheet, the first of which was perforated at one end (Find No. 4, Area 3 and Find No. 13, Area 3); and a pierced disc fitting with a central perforation (Find No. 17, Area 2).

Identifiably modern material which is listed in Appendix 1: Finds Register and will not require further attention is as follows: three brass/copper alloy bullets (Find No. 26, Area 2; Find No. 61, Area 9; and Find No. 100, Area 7); a circular, pierced, leaded washer-shaped fitting (Find No. 53, Area 14); a circular piece of binding strip (Find No. 10, Area 3); two thin pieces of sheet (Find No. 46, Area 18 and Find No. 62, Area 9); and two unidentified fragments (Find No. 12, Area 3 and Find No. 20, Area 2).

3.3.1.2 Lead

A total of fourteen items of lead were examined from the Phase 1 survey. These consisted of an oval-shaped weight (Find No. 86, Area 7), eight pieces of lead shot, a lead bullet, and four pieces of molten/waste lead.

The weight and waste lead may be of medieval to post-medieval date and the bullet is obviously much more recent. However, the lead shot, in the form of circular balls of varying size and weight, presumably date to the mid-seventeenth century usage of the area during the Civil War.

Only the weight was sufficiently complete or diagnostic to justify further research beyond a summary listing at publication stage. Therefore, further research, full cataloguing, illustration and/or photography is recommended for this item. Closer dating of the weight may be achieved by further examination and weighing to determine whether its weight corresponds to a known medieval or post-medieval weighing system. The lead shot too will require further investigation in terms of relative sizes and weights.

3.3.1.3 Flint

Two pieces of flint were recovered, one of which was a broken gunflint (Find No. 41, Area 18) and the other was unworked (Find No. 3, Area 3). Further research will be required for the gunflint in order to determine whether it dates to the sieges of Newark and is therefore potentially contemporary with the lead shot or whether it may be later in date.

3.3.2 The Coins

Table 2: List of Coins from Phase 1

Small Find Number	Material	Date	Description
15	Copper alloy	Early 18th century	Half penny
18	Copper alloy	Early 18th century	Half penny
19	Copper alloy	Early 18th century	Half penny

Small Find Number	Material	Date	Description
30	Copper alloy	Early 18th century	Half penny
32	Copper alloy	19th century	Queen Victoria farthing abraded
36	Silver alloy	1942	George VI shilling
37	Silver alloy	1942	George VI six pence
43	Copper alloy	Early 18th century	Half penny
45	Copper alloy	1936–1952	George VI half penny
49	Silver alloy	1919	George V three pence
50	Copper alloy	Early 18th century	Half penny
52	Copper alloy	1923	French 50 centimes
54	Copper alloy	Late 18th – early 19th century	George III half penny
63	Copper alloy	1797	George III two pence
64	Copper alloy	Early 18th century	George II half penny
67	Copper alloy	1902	Edward VII half penny
68	Lead	16–18th century	Disc with two double raised lines, could be a token
70	Lead	N/A	Corroded disc
74	Copper alloy	Early 18th century	Half penny
79	Copper alloy	1861	Queen Victoria farthing
80	Copper alloy	1932	George V half penny
81	Copper alloy	1862	Queen Victoria penny
82	Copper alloy	1860	Queen Victoria penny
97	Copper alloy	1936	George V penny
98	Copper alloy	18–19th century	Heavily corroded button

Small Find Number	Material	Date	Description
101	Copper alloy	Early 18th century	Half penny

3.3.3 Summary of Small Finds from Phase 1

(*denotes modern)

3.3.3.1 Copper Alloy

Bracelet/bangle: Find No. 99 Area 7.

Barrel or winding key: Find No. 51 Area 14.

Plumb-bob or balance weight: Find No. 33 Area 2.

Buckles: Find No. 27 Area 2; Find No. 38 Area 18; Find No. 66 Area 9; and Find No. 87 Area 46.

Nail: Find No. 57 Area 13.

Buttons: Find No. 2 Area 3; Find No. 5 Area 3; Find No. 14 Area 3*; Find No. 29 Area 2; Find No. 40 Area 18*; Find No. 42 Area 18; Find No. 65 Area 9; Find No. 73 Area 8 (large plain); Find No. 77 Area 8 (large plain); Find No. 83* Area 8; Find No. 88 Area 7; Find No. 89 Area 7; Find No. 90 Area 7*; Find No. 91 Area 7; Find No. 94 Area 7*; and Find No. 95 Area 7*.

Vessel fragments: Find No. 9 Area 3; Find No. 11 Area 3; Find No. 16 Area 3; Find No. 22 Area 2; Find No. 23 Area 2; Find No. 24 Area 2; Find No. 25 Area 2, Find No. 31 Area 2; and Find No. 35 Area 2.

Decorative fittings: Find No. 6 Area 3; Find No. 7 Area 3; Find No. 8 Area 3; Find No. 21 Area 2; Find No. 34 Area 2; Find No. 39 Area 18; Find No. 71 Area 8; Find No. 76 Area 8; Find No. 84 Area 8; Find No. 92 Area 7; and Find No. 93 Area 7.

1a. Undiagnostic Post-Medieval Copper Alloy Finds

Ring fittings: Find No. 72 Area 8 and Find No. 75 Area 8.

Leaded copper alloy disc: Find No. 96 Area 7.

Folded fragments of sheet: Find No. 4 Area 3 and Find No. 13 Area 3.

Disc fitting with a central perforation: Find No. 17 Area 2.

1b. Modern Copper Alloy Finds*

Leaded washer-shaped fitting, industrial, 20th century: Find No. 53 Area 14.

Brass/copper alloy bullets: Find No. 26 Area 2; Find No. 61 Area 9; and Find No. 100 Area 7.

Pierced disc fitting: Find No. 17 Area 2.

Binding strip: Find No. 10 Area 3.

Thin folded sheet: Find No. 46 Area 18.

Square-shaped fragment of sheet: Find No. 62 Area 9.

Unidentified fragments: Find No. 12 Area 3 and Find No. 20 Area 2.

3.3.3.2 Lead

Lead shot: Find No. 44 Area 18; Find No. 47 Area 18, Find No. 56 Area 12; Find No. 59 Area 9; Find No. 60 Area 9; Find No. 69 Area 9; Find No. 78 Area 10; and Find No. 85 Area 7.

Lead bullet: Find No. 28 Area 2*.

Lead weight: Find No. 86 Area 7.

Molten/waste lead: Find No. 1 Area 3; Find No. 48 Area 18; Find 55 Area 14; and Find No. 58 Area 9.

3.3.3.3 Flint

Gunflint: Find No. 41 Area 18.

Unworked flint: Find No. 3 Area 3.

3.3.4 Phase 2

All eleven of the small finds recovered from Phase 2 of the survey were examined. The breakdown of small finds by materials was as follows: copper alloy (nine), lead (one), and silver (one).

3.3.4.1 Copper Alloy

The nine copper alloy objects were generally well-preserved, but the most interesting of them were fragmentary which rendered them difficult and in some cases impossible, to identify. One of the potentially earliest objects in the assemblage was a small tapering object with linear decoration (Find No. 106, Area 4), which was possibly the end of a bracelet which was broken at the narrower end and had a slit across the wider end. This object may be of Roman date, although another possibility is that it is part of a broken post-medieval buckle with the slot being part of the hole for a central iron bar. A leaded copper alloy fragment with diagonal decoration and a stepped appearance (Find No. 111, Area 4) which may have come from the rim of a vessel, appears to be nineteenth century in date and is similar to Find No.s 16, 25 and 35 from Phase 1 of the survey. A small irregular-shaped copper alloy object (Find No. 108, Area 4), which might originally have been part of a brooch or fitting, was attached to a lump of burnt vitreous material, suggesting it had been in a fire. Although this object may be of Roman date, further identification and dating is not possible due to its small size and degraded

condition. A post-medieval or modern date is most likely for a small fitting with a cross-shaped section (Find No. 103, Area 6), which may have been part of a toy.

The remaining five copper alloy items were utilitarian buttons of various common types of nineteenth or twentieth-century date. Four of them were complete (Find Nos. 107, 109, 110, and 115, Area 4) and the other had survived as a degraded copper alloy disc (Find No. 114, Area 4).

3.3.4.2 Lead

One bent lead disc was recovered (Find No. 102, Area 6), the surface of which was very degraded and powdery. Though most surface detail had been lost it may have been a seal impression of medieval or later date.

3.3.4.3 Silver Object

One potentially silver object was recovered, the tapering handle of a small spoon (Find No. 105, Area 4) which had retained its original colour, though no hallmark or maker's stamp was visible. The size and shape suggest that it may be the handle from a small salt or mustard spoon of probable nineteenth–twentieth century date.

3.3.5 The Coins

Table 3: List of Coins from Phase 2

Small Find Number	Material	Date	Description
104	Copper alloy	Early 18th century	Half penny
112	Copper alloy	1939	George VI penny
113	Silver alloy	1920	George V shilling

The three coins recovered included a shilling of George V dated to 1920 (Find No. 113, Area 4), which was in an excellent state of preservation. Another coin is a 1939 penny of George VI (Find No. 112, Area 4), and the third coin is a poorly half penny and believed to be of eighteenth-century date (Find No. 104, Area 6).

3.3.6 Summary of Small Finds from Phase 2

(*denotes modern)

3.3.6.1 Copper Alloy

Bracelet: Find No. 106 Area 4.

Buttons: Find No. 107 Area 4*; Find No. 109 Area 4*; Find No. 110 Area 4*; Find No. 114 Area 4; and Find No. 115 Area 4*.

Vessel fragments: Find No. 111 Area 4.

Decorative fittings: Find No. 103 Area 6.

Undiagnostic: Find No. 108 Area 4.

3.3.6.2 Lead

Flat/folded lead disc: Find No. 102 Area 6.

3.3.6.3 Silver

Spoon handle: Find No. 105 Area 4*.

4 Conclusions and Recommendations

4.1 Conclusions

Based on the results of this survey, only limited inferences can be drawn to the military actions involved with the various sieges of Newark during the First English Civil War. The area surveyed was within 'The Island', an area between two branches of the River Trent. This area appears to have been of strategic importance, with control changing hands over the course of the Civil War. While initially under Royalist control, Clampe's map, showing the situation in 1646, marks several earthwork redoubts with labels such as 'an ould work of the Newarkers', demonstrating that by the end of the third siege in 1646, they had clearly lost control and most of this area had been occupied by Scottish forces within the Parliamentarian army.

The bulk of the finds were post-medieval in date and ten finds might potentially be associated with Civil War period weaponry or equipment. Eight of these were lead shot and two were flattened copper alloy rings. These may have formed suspension loops on belts or straps and although uncertainly dated, such items have been found on battlefield sites and one was found on the foundations of the curtain wall of Kenilworth Castle, slighted in the 1650s. The lead shot consisted of seven musket balls and a single pistol ball. Several musket balls and the pistol ball had mould marks, indicating they had not been fired. This generally increases the likelihood that they date from the Civil War period, as opposed to sporting activity when accidental loss is less likely, and pistols were generally a cavalry weapon.

The remainder of the finds are largely later post-medieval coins and buttons of eighteenth-/nineteenth-century date. The assemblage includes a number of significant small finds, both in terms of their quality and state of preservation, such as two possible Roman period bracelet fragments, a barrel key or winding key, a plumb-bob or balance weight**,** four large buckles, several fragments from copper alloy vessels, a number of decorative fittings of various kinds, a lead weight, lead shot and a gunflint (see Appendix 1: Finds Register). A small number of these could be associated with the Civil War period when a battle took place in this location. These objects may have been brought to and used or worn at the site by soldiers who ultimately lost or discarded them. The group is, therefore, potentially representative of more than simply local significance, owing to the nature of the assemblage and the make-up of its constituent parts.

4.2 Recommendations for Further Work

Some categories of finds have more potential than others in terms of further research and chronological resolution: for example, the buckles and decorative fittings are of more interest than

the buttons which are poorly preserved and undiagnostic, with several obviously post-medieval or later in date.

For publication purposes, further research together with full cataloguing is recommended for the most significant and chronologically-diagnostic copper alloy small finds, including all of the identifiable medieval to post-medieval finds. Catalogue entries of individual artefacts will be accompanied by short summary discussions of the material, citing researched parallels (for the medieval and post-medieval objects, in principal catalogues such as Biddle 1990; Crummy 1988; Egan 2005; Egan and Pritchard 1991; Margeson 1993; and Moorhouse 1970).

The following recommendations are based upon research being prioritised upon the more identifiable and diagnostic of the finds and a summary catalogue being prepared for the less diagnostic finds — as outlined in the preceding discussions. Some of the more significant and datable finds will be selected for illustration and/or photography.

Pasture fields (Areas 8–18) may require further work. Ideally this would involve a more intensive survey with transects only 2m apart, followed by resurvey after a small amount of soil stripping.

Results from the arable fields (Areas 2, 3 and 7) were poor, even when taking into account the 'green waste'. Only one musket ball was recovered from Area 7 (Find No. 85) and this was the only field during the survey which did not contain green waste. However, all the surveyed arable fields, except for Area 7, were located quite a long distance from either any earthwork redoubts or any lines of roads which existed during the Civil War and appear to contain little significant associated evidence. Although further intensive survey of these fields may find occasional recordable finds, it seems unlikely that they would add anything particularly significant to the narrative of the area/field.

5 Bibliography

5.1 References

Andrews, G. 1991. *Management of Archaeological Projects: MAP 2*. London: English Heritage.

Biddle, M. (ed). 1990. *Object and Economy in Medieval Winchester: Artefacts from Medieval Winchester*. Winchester Studies Volume 7.2 (two volumes). Oxford: Oxford University Press.

Bonsall, J. 2022. A46 Newark Northern Bypass, Nottinghamshire: Written Scheme of Investigation for Archaeological Metal Detecting. Unpublished WSI by Archaeological Management Solutions for Skanska Construction UK Ltd.

Chartered Institute for Archaeologists (CIfA). 2014a (updated 2020). *Standard and Guidance for Archaeological Field Evaluation*. [online]. Available https://www.archaeologists.net/sites/default/files/CIfAS&GFieldevaluation_1.pdf [Accessed 25 October 2022].

CIfA. 2014b (updated 2020). *Standard and Guidance for the Collection, Documentation, Conservation, and Research of Archaeological Materials*. [online]. Available https://www.archaeologists.net/sites/default/files/CIfAS%26GFinds_2.pdf [Accessed: 25 October 2022].

CIfA. 2014c (updated 2020). *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives*. [online]. Available https://www.archaeologists.net/sites/default/files/CIFAS%26GArchives_4.pdf [Accessed: 25 October 2022].

CIfA. 2014d (updated 2020). *Code of Conduct: Professional Ethics in Archaeology*. [online]. Available https://www.archaeologists.net/sites/default/files/Code%20of%20conduct%20revOct2022.pdf [Accessed: 25 October 2022].

Crummy, N. 1988. *The Post-Roman Small Finds from Excavations in Colchester 1971-85*. Colchester Archaeological Report 5. Colchester Archaeological Trust.

Dowling, G. 2022. Geophysical Survey Report of Lands along the A46 Newark Northern Bypass. Unpublished report prepared by Archaeological Management Solutions for Skanska Construction UK Ltd on behalf of National Highways Regional Delivery Partnership Framework.

Egan, G. 2005. *Material Culture in London in an Age of Transition. Tudor and Stuart Period Finds c.1450–c.1700 from Excavations at Riverside Sites in Southwark*. Museum of London Monograph 19.

Egan, G. and Pritchard, F. 1991. *Medieval Finds from Excavations in London: 3. Dress Accessories c.1150–c.1450.* London: The Stationery Office.

Gethin, B. 2023. Fieldwalking Survey Report of Lands along the A46 Newark Northern Bypass. Unpublished report by Archaeological Management Solutions for Skanska Construction UK Ltd.

Highways England. 2021. Regional Investment Programme A46 Newark Northern Bypass Environmental Assessment Report PCF Stage 2, Volume I, Main Chapters. 28/05/21.

Gerrard, J., Caldwell, L. and Kennedy, A. 2015. 'Green Waste and Archaeological Geophysics'. *Archaeological Prospection*, 22(2), pp.139–142.

Margeson, S. 1993. *Norwich Households: The Medieval and Post-Medieval Finds from Norwich Survey Excavations 1971–1978*. East Anglian Archaeology Report No. 58. The Norwich Survey/Norfolk Museums Service, University of East Anglia.

McKenna, L. 2022. A46 Newark Northern Bypass, Nottinghamshire: Written Scheme of Investigation for Field Walking Survey. Unpublished WSI by Archaeological Management Solutions for Skanska Construction UK Ltd.

Moorhouse, S. 1970. 'Finds from Basing House, Hampshire (c.1540–1645): Part Two'. *Post-Medieval Archaeology* 4, pp.31–91.

Society of Museum Archaeologists. 1993. *Selection, Retention and Dispersal of Archaeological Collections: Guidelines 1993*. Society of Museum Archaeologists.

United Kingdom Institute for Conservation. 1983. *Packaging and Storage of Freshly Excavated Artefacts from Archaeological Sites*. United Kingdom Institute for Conservation, Conservation Guidelines No 2.

United Kingdom Institute for Conservation. 1990. *Guidance for Conservation Practice*. United Kingdom Institute for Conservation.

Watkinson, D. E. and Neal, V. 1998. *First Aid for Finds*. (3rd edition). RESCUE/United Kingdom Institute for Conservation, Archaeology Section and Museum of London.

5.2 Online Sources

British Geological Survey. 2022. Geology of Britain viewer [online]. Available at: https://www.bgs.ac.uk/map-viewers/geology-of-britain-viewer/ [Accessed: 5 May 2022].

Portable Antiquities Database: https://finds.org.uk/database

Figures

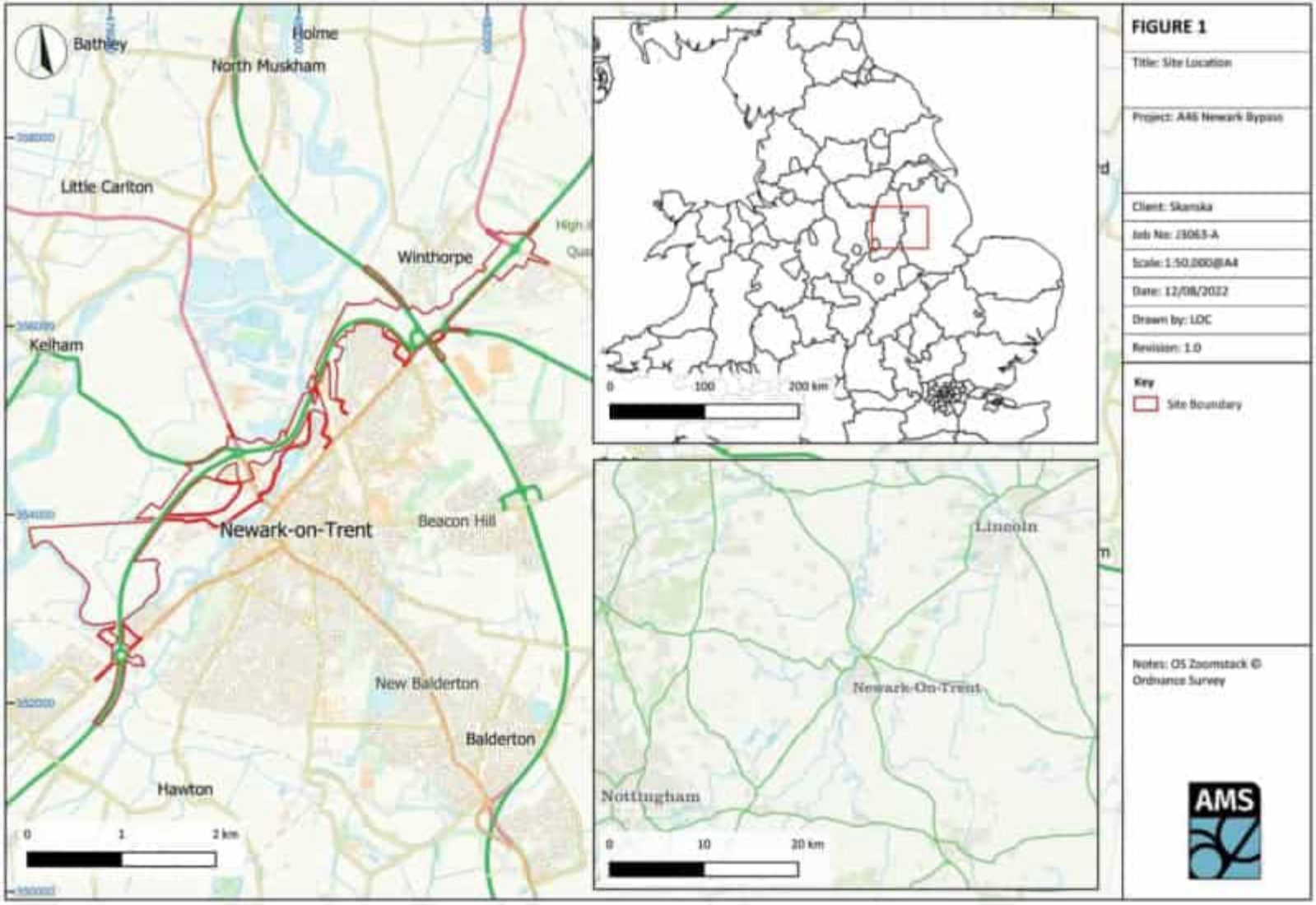


Figure 1: Site Location

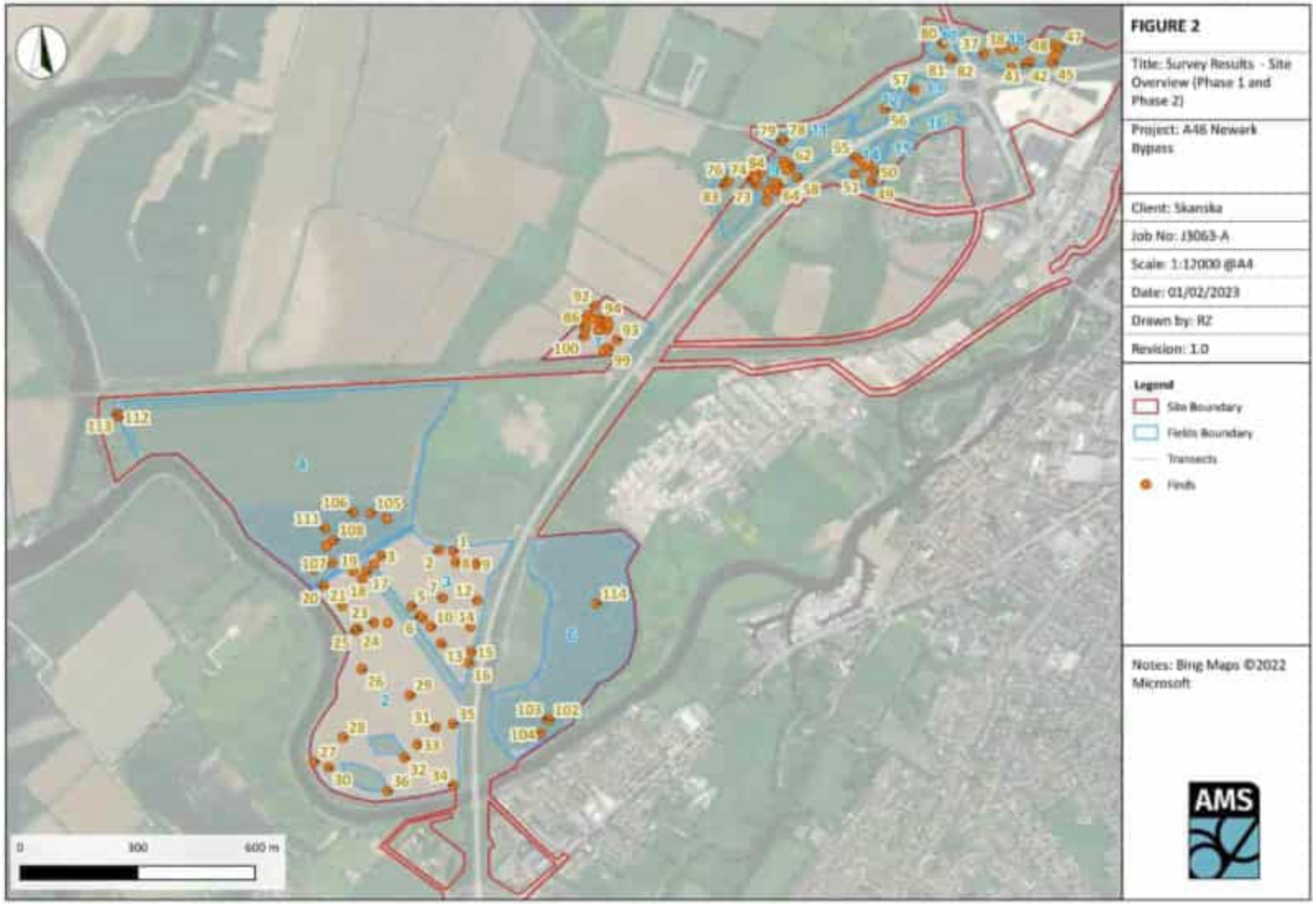


Figure 2: Survey Results - Site Overview (Phase 1 and Phase 2)

Figure 3: Survey Results (Phase 1)

Figure 4: Survey Results (Phase 1)

Figure 5: Survey Results — Areas 2 and 3 (Phase 1)

Figure 6: Survey Results — Area 7 (Phase 1)

Figure 7: Survey Results — Areas 8 and 9 (Phase 1)

Figure 8: Survey Results — Areas 10 and 11 (Phase 1)

Figure 9: Survey Results — Areas 12, 13 and 16 (Phase 1)

Figure 10: Survey Results — Areas 14 and 15 (Phase 1)

Figure 11: Survey Results — Area 17 (Phase 1)

Figure 12: Survey Results — Area 18 (Phase 1)

Figure 13: Survey Results — Area 4 and 6 (Phase 2)

Figure 14: Land Available in Area 4 (Phase 2)

Plates

Plate 1: Selection of finds from metal detection survey

Plate 2: Pre-survey strategy discussion in progress

Plate 3: Transects being laid out prior to metal detecting

Plate 4: Metal detection in progress

Plate 5: Excavation of metal detector 'hit' location in progress

Plate 6: View of *in-situ* copper alloy coin during excavation

Plate 7: View of *in-situ* lead musket ball during excavation

Appendix 1: Finds Register[2]

*CA = Copper alloy

Find No.	Area No.	Material/Description
1	**3**	Lead object - molten/waste lead
2	**3**	CA button. Made from possible 16/17th century token (?)
3	**3**	Piece of flint - unworked
4	**3**	CA sheet fragment, perforated at one end. Post-medieval?
5	**3**	CA button. 18/19th century
6	**3**	Fragment of decorative CA fitting. Ornate circular pierced terminal. 18/19th century (?)
7	**3**	CA small plate fragment with cutwork decoration. Probable post-medieval date
8	**3**	CA decorative fitting - circular terminal with a looped fitting
9	**3**	CA vessel fragment - complete square-shaped rim and shoulder fragment. Early post-med (?)
10	**3**	CA circular piece of binding strip. Modern
11	**3**	CA vessel rim fragment - potential medieval to post-medieval date
12	**3**	Unidentified fragment. Modern
13	**3**	Folded length of CA sheet. Post-medieval?
14	**3**	Tinned copper button. 19th century
15	**3**	CA coin. Early 18th century half penny
16	**3**	CA vessel fragment - straight-edged rim fragment, with ropework decoration. 18/19th century (?). Same vessel as fragments - Find No. 35, Area 2 and Find No. 25, Area 2
17	**2**	CA pierced disc fitting with a central perforation. Post-medieval?
18	**2**	CA coin. Early 18th century half penny
19	**2**	CA coin. Early 18th century half penny
20	**2**	Unidentified fragment of white metal object. Modern
21	**2**	CA decorative fitting - mount with an arrow-shaped terminal. 18/19th century (?)
22	**2**	CA vessel rim fragment - potential medieval to post-medieval date
23	**2**	CA vessel fragment - bulbous rim fragment. Possibly from cooking vessel of medieval date?
24	**2**	CA vessel rim fragment - potential medieval to post-medieval date
25	**2**	CA vessel fragment - straight-edged rim fragment from object with ropework decoration. Same vessel as fragments - Find No. 35, Area 2 and Find No. 16, Area 3
26	**2**	Broken 50 calibre cartridge. WW II - American

[2] Phase 1 Survey: Finds 1–101; Phase 2 Survey: Finds 102–115

Find No.	Area No.	Material/Description
27	**2**	Large CA buckle. 19/20th century
28	**2**	Lead rifle bullet. Later 19th century
29	**2**	CA button. 18/19th century
30	**2**	CA coin. Early 18th century half penny
31	**2**	CA vessel rim fragment - potential medieval to post-medieval date
32	**2**	CA coin. 19th century Queen Victoria farthing abraded
33	**2**	Plumb-bob or balance weight. Medieval (?)
34	**2**	Fragment of white CA decorative fitting. Mount in the shape of an acanthus motif. 17–19th century
35	**2**	Fragment of CA vessel - straight-edged rim fragment, with ropework decoration. 19th century. Same vessel as fragments - Find No. 16, Area 2 and Find No. 25, Area 2
36	**2**	Silver alloy. 1942 George VI shilling
37	**18**	Silver alloy. 1942 George VI six pence
38	**18**	Large CA buckle. 19th century
39	**18**	CA small decorative strap end
40	**18**	White metal button. 18/19th century
41	**18**	Piece of flint - broken gunflint
42	**18**	CA button. 18/19th century
43	**18**	CA coin. Early 18th century half penny
44	**18**	Lead musket ball
45	**18**	CA coin. George VI half penny - 1936–1952
46	**18**	CA thin sheet fragment. Modern
47	**18**	Lead musket ball
48	**18**	Molten/waste lead piece
49	**14**	Silver alloy. 1919 George V three pence. Small perforation for suspension from necklace/bracelet
50	**14**	CA coin. Early 18th century half penny
51	**14**	Barrel key or winding key. Post-medieval
52	**14**	CA coin. 1923 French 50 centimes
53	**14**	Pierced, leaded washer-shaped fitting. Modern/20th century
54	**14**	CA coin. Late 18th/early 19th C George III half penny
55	**14**	Molten/waste lead piece
56	**12**	Lead pistol ball
57	**13**	Small CA nail with long shank. 19th century (?)
58	**9**	Molten/waste lead object
59	**9**	Lead musket ball

Find No.	Area No.	Material/Description
60	**9**	Lead musket ball
61	**9**	0.39/9mm calibre pistol bullet. Copper and lead. 20th century
62	**9**	CA square-shaped thin piece of sheet. Modern
63	**9**	CA coin. George III two pence/ 'cartwheel' penny 1797
64	**9**	CA coin. George II half penny. Early 18th century
65	**9**	CA button. 18th century (?)
66	**9**	Large CA buckle. 18/19th century (?)
67	**9**	CA coin. 1902 Edward VII half penny
68	**9**	Possible lead token. 16–18th century
69	**9**	Lead musket ball
70	**9**	Flat lead corroded disc. Possible token. Medieval/early post-med (?)
71	**8**	CA decorative fitting - cutwork mount with a perforated terminal. 18/19th century (?)
72	**8**	CA suspension loop/ring fitting. Post-medieval?
73	**8**	CA button. Large, plain. 18/19th century
74	**8**	CA coin. Early 18th century half penny
75	**8**	CA suspension loop/ring fitting. Post-medieval?
76	**8**	CA elaborated moulded strap end or belt fitting. 17th century (?)
77	**8**	CA button. Large, plain. 18/19th century
78	**10**	Lead musket ball
79	**10**	CA coin. Farthing. Queen Victoria 1861
80	**17**	CA coin. George V half penny 1932
81	**17**	CA coin. Penny. Queen Victoria 1862
82	**17**	CA coin. 1860 Queen Victoria penny
83	**8**	CA button. 19th century
84	**8**	CA large circular mount in the shape of a flower. 19th century (?)
85	**7**	Lead musket ball
86	**7**	Lead weight. Oval-shaped, potential medieval to post-medieval date
87	**7**	Large CA buckle. 17–19th century (?)
88	**7**	CA button. 18/19th century
89	**7**	CA button. 18/19th century
90	**7**	CA button. 19th century
91	**7**	CA button. 18/19th century
92	**7**	CA small sexfoil mount with one perforated 'leaf'. 17–19th century (?)
93	**7**	CA small plate fragment with cutwork decoration. Probable post-medieval date
94	**7**	CA button. 18/19th century

Find No.	Area No.	Material/Description
95	**7**	CA button. 19th century
96	**7**	Leaded CA disc. Post-medieval?
97	**7**	CA coin. 1936 George V penny
98	**7**	CA button. 18–19th century, heavily corroded
99	**7**	Part of a solid copper alloy bangle or bracelet. Possible Roman date
100	**7**	.303 rifle bullet. 20th century
101	**7**	CA coin. Early 18th century half penny
102	**6**	Flat folded lead disc with decoration visible within fold. Possibly medieval or post-medieval seal impression
103	**6**	CA object. Elongated cruciform shape. Unknown use, probably post-medieval
104	**6**	CA coin. Early 18th century half penny
105	**4**	Silver alloy. Handle of very small spoon. Unclear makers mark of two letters. Probably 19th–20th century
106	**4**	CA fragment of buckle frame with partial hole for central bar. Short transverse lines of ribbed decoration. Probably 17th century
107	**4**	CA button. Traces of gilding. Maker's name on rear (Silvesters Birmingham). 19th century
108	**4**	CA object. Probably a melted lump
109	**4**	CA button. Traces of gilding. 19th century
110	**4**	CA button with integral loop. 18th–19th century
111	**4**	Leaded CA vessel fragment, same type as Finds 16, 25 and 35. 19th century
112	**4**	CA coin. 1939 George VI penny
113	**4**	Silver alloy coin. 1920 George V shilling
114	**4**	CA object. Possibly a token, possibly a button, although no trace of broken loop visible. 17/18th century
115	**4**	CA button with integral loop. 18th–19th century

Appendix F: Geophysical Survey Report of Lands along the A46 Newark Northern Bypass

Geophysical Survey Report of Lands along the A46 Newark Northern Bypass

Archaeological Management Solutions

Prepared for Skanska Construction UK Ltd on behalf of National Highways Regional Delivery Partnership Framework

B [redacted]

5 October 2022

TITLE PAGE

AMS Job No.:	J3063-A
Project Name:	Regional Delivery Partnership A46 Newark Bypass
Grid Reference (OSGB36):	478807, 354376
Report Status/Revision:	0.2
Revision Date:	5 October 2022
Report Author:	[redacted]
Technical Reviewer:	
Report Editor:	
Approved By:	
File Name:	J3063-A_Geophysical_Survey_Report_A46_Newark_Northern_Bypass_v.0.2_221005.docx

Archaeological Management Solutions

Fahy's Road, Kilrush, Co. Clare. V15 C780

T +353 (0)65 810 3001

www.ams-consultancy.com

Disclaimer

The results, conclusions and recommendations contained within this report are based on information available at the time of its preparation. Whilst every effort has been made to ensure that all relevant data have been collated, the author and AMS accept no responsibility for omissions and/or inconsistencies that may result from information becoming available after the report's completion.

© Archaeological Management Solutions 2022

NSAI ENVIRONMENT NSAI Certified HEALTH & SAFETY NSAI Certified QUALITY NSAI Certified

Summary

This report details the results of a geophysical survey along the route of the proposed A46 Newark Bypass, Nottinghamshire. The Scheme extends for approximately 6km, passing the western and northern extents of Newark-on-Trent, between the Farndon and Winthorpe roundabouts. A total of ten areas, encompassing a combined size of approximately 36 ha., were surveyed. Three further areas, totalling some 8.6 ha. in size, were under crop during the present work and could not be investigated; these will be surveyed at a later date.

The investigation, comprising high-resolution magnetic gradiometry, was undertaken by Archaeological Management Solutions (AMS) on behalf of Skanska Construction Ltd in early September 2022. This work resulted in the identification of features of archaeological and potential archaeological interest in at least seven of the areas targeted for investigation. Identified features include evidence for potential settlement and relict field systems in Areas 20, 21, 22 and 30, as well as a range of potential features and structures of possible archaeological interest in Areas 22, 28 and 29. Potential pits, ditches, drains and other tentative features were also mapped by the survey in some of the other areas investigated.

The findings of the geophysical survey provide new information on the layout and extent of archaeological features along the Scheme and will help inform the scope of archaeological works to be undertaken at a future date.

Table of Contents

1 Introduction 6
1.1 Project Background 6
1.2 Site Location 6
1.3 Proposed Works 6
2 Archaeological Background 7
2.1 Previous Assessment 7
2.2 Recorded/Known Archaeology 7
3 Survey Location and Aims 9
4 Survey Methodology and Instrumentation 11
5 Data Management, Processing and Interpretation 12
6 General Considerations and Complicating Factors 13
6.1 Access and Ground Conditions 13
6.2 Modern Interference 13
6.3 Former Land Use 13
6.4 Former Quarries 13
6.5 Perimeter Fence, RAF Winthorpe 14
6.6 Natural Soil Variation 14
7 Survey Results 15
8 Conclusion 25
8.1 Statement of Indemnity 25
References 27
Cartographic Sources 27

List of Tables

Table 1: Survey areas included in this report 9
Table 2: Geophysical survey details 11
Table 3: Areas 20 & 21, geophysical survey details 15
Table 4: Area 22, geophysical survey details 18
Table 5: Areas 23 & 24, geophysical survey details 19
Table 6: Areas 28 & 29, geophysical survey details 21
Table 7: Area 30, geophysical survey details 22
Table 8: Areas 31 & 32, geophysical survey details 24

List of Figures

Figure 1: Site location map 28
Figure 2: Recorded monuments in the vicinity of the survey areas; select monuments indicated 29
Figure 3: The survey areas overlaid on the first-edition six-inch Ordnance Survey Map (1884; surveyed 1883–84) 30
Figure 4: The survey areas overlaid on the first-edition 25-inch Ordnance Survey Map (1892–1914) 31
Figure 5: The survey areas 32
Figure 6: Greyscale image of gradiometry results (Areas 20–24; & 28–32) 33
Figure 7: Areas 20 & 21, greyscale image of gradiometry results 34
Figure 8: Areas 20 & 21, interpretative plan showing principal geophysical anomalies 35
Figure 9: Area 22, greyscale image of gradiometry results 36
Figure 10: Area 22, interpretative plan showing principal geophysical anomalies 37
Figure 11: Areas 23 & 24, greyscale image of gradiometry results 38
Figure 12: Areas 23 & 24, interpretative plan showing principal geophysical anomalies 39
Figure 13: Areas 28 & 29, greyscale image of gradiometry results 40
Figure 14: Areas 28 & 29, interpretative plan showing principal geophysical anomalies 41
Figure 15: Area 30, greyscale image of gradiometry results 42
Figure 16: Area 30, interpretative plan showing principal geophysical anomalies 43
Figure 17: Areas 31 & 32, greyscale image of gradiometry results 44
Figure 18: Areas 31 & 32, interpretative plan showing principal geophysical anomalies 45

List of Plates

Plate 1: Area 20, looking south 46
Plate 2: Area 22, viewed from the east 46
Plate 3: Looking northwest across Area 24 47
Plate 4: Area 30, looking southwest 47
Plate 5: Collapsed structure in Area 21, looking north 48
Plate 6: Access track in Area 21, viewed from the east 48

Abbreviations and Definitions

Abbreviation	Definition
AMS	Archaeological Management Solutions
BNG	British National Grid
EAR	Environment Assessment Report
GIS	Geographical Information System
GPS	Global Positioning System
HER	Historic Environment Record
OS	Ordnance Survey

Coordinate System

All grid coordinates in this report use the British National Grid (OSGB36) coordinate reference system unless otherwise stated.

1 Introduction

1.1 Project Background

This report details the results of an archaeo-geophysical survey conducted for Skanska Construction Ltd on behalf of National Highways Regional Delivery Partnership Framework. The survey was conducted on lands along the A46, as part of the A46 Newark Northern Bypass, Nottinghamshire (hereafter referred to as 'the Scheme'). The Scheme involves the construction of approximately 6km of new road, passing the western and northern extents of Newark-on-Trent, between the Farndon and Winthorpe roundabouts. The Scheme aims to increase capacity and reduce traffic congestion on the A46 in the vicinity of Newark, improve connectivity from Lincolnshire to the national motorway network, and enhance route standard consistency for the A46. The survey is part of a programme of investigations undertaken to inform the Environmental Impact Assessment of the proposed Scheme.

The survey, comprising high-resolution magnetic gradiometry, was undertaken by Ger Dowling (Survey Director) and Tom Delaney (Survey Assistant) over a five-day period in September 2022. The investigation focused on ten areas (designated as 'Areas 20–24' and 'Areas 28–32') and covered a combined size of approximately 36 ha. Three further areas ('Areas 25–27'), totalling some 8.6 ha. in extent, were intended for geophysical investigation but could not be surveyed at the time of the present work as they were under crop; these areas will be surveyed at a later date.

The findings of the geophysical survey provide new information on the layout and extent of archaeological features along the Scheme and will help inform the scope of archaeological works to be undertaken at a future date.

1.2 Site Location

The survey focused on ten neighbouring fields of pasture and tillage located along the proposed A46 Newark Northern Bypass, Newark-on-Trent, Nottinghamshire (Figure 1). Newark-on Trent is in the district of Newark and Sherwood.

1.3 Proposed Works

The Scheme will involve the widening of the A46 to a dual carriageway, with junction improvements between the Farndon and Winthorpe roundabouts. The new A46 mainline would run parallel to the existing road, cross over the A1 and then run slightly north of the existing A46 before tying into Winthorpe roundabout. The Winthorpe roundabout will be enlarged, with signals added to improve traffic flows.

2 Archaeological Background

2.1 Previous Assessment

The cultural heritage of the Scheme was assessed as part of a PCF Stage 2 Environment Assessment Report (EAR) for the proposed development (Highways England 2021). This did not positively identify any archaeology within the survey areas but did note the presence of a possible settlement site within the bounds of Survey Area 20 (see Section 2.2 below), as well as the potential for previously unknown archaeology.

2.2 Recorded/Known Archaeology

As set out in the EAR, the Scheme traverses a rich cultural landscape, one that includes numerous Scheduled Monuments, Listed Buildings, a Registered Park and Garden and Conservation Areas. The region appears to have been the focus of prolonged settlement activity, extending back into early prehistory, with the existing line of the A46, for instance, thought to follow the route of the Fosse Way Roman Road, as it ran between the towns of Exeter and Lincoln. Newark, however, is perhaps best known as an important Royalist stronghold during the English Civil War and was besieged on three separate occasions between 1642 and 1646. Several redoubts and other fortifications from that time survive down to the present day, including one possible example — recorded as 'M3606' in the Historic Environment Record (HER) for Nottinghamshire — reputed to lie along the current route of the A46, a short distance south of Survey Area 21 (see Figure 2). Further information on the archaeology and history of the wider landscape of the Scheme can be found in the EAR (Highways England 2021, pp.105–11).

Only one recorded monument is known from the lands targeted for geophysical survey (Figure 2). The site, which was initially identified on an aerial photograph, is located close to the northern limit of Area 20, next to the A1 motorway, and comprises the cropmark of a possible settlement.[1] The monument is recorded as M3606 in the Historic Environment Record (HER) for Nottinghamshire and is described as a possible rectangular enclosure overlying a linear ditch and surrounded by a series of indistinct features of apparent irregular plan. Other recorded monuments in the vicinity of the Scheme include a high-status Anglo-Saxon female inhumation (M18359) that was discovered during excavations on Winthorpe Road, about 120m south of Area 21, as well as a bleaching house in Winthorpe (M3809), just east of Area 24, and the site of 'Two-Mile House' (M3824), a former coach house, located directly southwest of Area 31, on the Winthorpe roundabout.

[1] https://www.heritagegateway.org.uk/Gateway/Results_Single.aspx?resourceID=1041&uid=MNT14752 [Accessed 5 October 2022]

The survey areas are shown as farmland on both the first-edition six-inch Ordnance Survey (OS) map (1884; surveyed 1883–84) and the first-edition 25-inch OS map (1892–1914) (Figure 3 & Figure 4).

3 Survey Location and Aims

The geophysical investigations, comprising high-resolution magnetic gradiometry, were implemented over ten discrete areas and encompassed a combined size of approximately 36 ha. (Table 1; Figure 5). As noted previously, three additional areas, namely 'Areas 25–27 (*c*.8.6 ha. in total size), that were originally intended for survey could not be investigated at the time of the present work as they were under crop; these areas will be surveyed at a later date.

Table 1: Survey areas included in this report

Area	Size (ha.)
20	7.97
21	7.47
22	4.47
23	2.48
24	1.98
28	1.63
29	3.31
30	3.78
31	1.55
32	1.32

The survey areas comprise fields of tillage and pasture located on the northern outskirts of Newark town, directly north (Areas 20–22), west (Areas 23–30) and east (Areas 31 and 32) of the existing A46 (Plate 1–Plate 4); the Nottingham to Lincoln rail line also lies to the east of Area 20. The local topography is mainly flat, generally lying between 10m and 20m above Ordnance Datum, with the fields separated by tree-lined hedgerows occasionally supplemented in places by wooden paling and post-and-wire fences. The River Trent is located about 160m west of Area 20, while the village of Winthorpe lies a short distance west of Areas 23–30. Areas 31 and 32 were, until recently, part of RAF Winthorpe, a Royal Air Force station situated to the east of Winthorpe village and the existing A46; the airfield is no longer in use and is now the site of Newark Air Museum and Newark Showground. Elsewhere, the surrounding land is mainly used for tillage.

The underlying bedrock of the locality comprises Mercia Mudstone Group, an early Triassic lithostratigraphic group that is widespread in the English Midlands; bedrock of this type is of fluvial, lacustrine and marine origin (Highways England, 2021 pp. 239-257).

The soils are classed as loamy and clayey floodplain soils in Areas 20 and 21; naturally wet, sandy and loams soils in Areas 22–24; and free draining, sandy soils in Areas 25–32 (Highways England, 2021 pp. 239-257).

The geophysical investigation sought to:

- identify any geophysical anomalies of possible archaeological origin within the specified survey areas
- accurately locate these anomalies and present the findings in map form
- describe the anomalies and discuss their potential provenance in a written report
- incorporate all of the above in a report to the Client

4 Survey Methodology and Instrumentation

The survey employed magnetic gradiometry (Table 2). This technique measures variations in the magnetic properties of the soils and is widely used in archaeological geophysical prospection due to its ability to detect and map a broad range of subsurface archaeological remains, including ditches and pits as well as burnt or fired features associated with metalworking and pottery production.

The magnetic survey was conducted using a five-channel fluxgate gradiometer system combined with cm-precision GPS (georeferenced to OSGB 1936/British National Grid and Ordnance Datum). Mounted on a cart and pulled by a quad bike (Suzuki King Quad 500cc), the system records magnetometer and GPS data simultaneously into a single data file. The data capture strategy involved logging readings at 0.05m intervals along transects spaced 0.5m apart, with a maximum traverse width of 2.5m. The sampling strategy produces a high-resolution dataset, giving clarity to any archaeological features detected. The highly accurate positioning of the survey data provides strong confidence when integrating the geophysical results with other datasets such as aerial imagery in GIS, and also ensures repeatability should further investigation of anomalies (e.g. test excavation) be required.

Table 2: Geophysical survey details

Technique	Instrumentation	Sensor spacing	Sample rate	Survey Area	Number of recorded data
Magnetic Gradiometry	Five-channel fluxgate gradiometer array	0.5m	40 Hz	*c*.36 ha.	2,195,219[2]

[2] Area 20 readings 506,009; Area 21 readings 449,437; Area 22 readings 290,147; Area 23 readings 154,015; Area 24 readings 124,063; Area 28 readings 102,489; Area 29 readings 195,225; Area 30 readings 217,827; Area 31 readings 90,719; and Area 32 readings 65,289.

5 Data Management, Processing and Interpretation

Survey data were logged to a laptop computer and archived daily to an external hard drive. The collated data were processed using the following methodology:

- Real-time positioning of magnetometer data based on GPS measurements;
- Processing (Zero Mean Transect) of collated magnetometer data;
- Gridding (nearest neighbour interpolation); and
- Export of georeferenced greyscale images at optimum visual range.

The processed data were imported into open-source GIS software QGIS for final image production (Figure 6–Figure 18). Final geophysical datasets have been formatted as raster data models/GeoTiffs (projected to OSGB 1936, EPSG:27700) to enable subsequent geospatial analysis.

Fieldwork, data processing and reporting adhered to the most up-to-date guidelines for conducting archaeo-geophysical surveys (Schmidt *et al.* 2016). All geophysical raster datasets will be digitally archived to best practice (Niven 2012; Schmidt and Ernenwein 2012).

6 General Considerations and Complicating Factors

6.1 Access and Ground Conditions

The survey areas comprise flat fields of tillage and pasture, which in general were suitable for investigation. There were, however, several free-standing trees in Areas 22 and 23, as well as the remains of a small redbrick building/structure (Plate 5) and a field access track in Area 21 (Plate 6) which had to be avoided by the survey. The latter track is the former location of a small building depicted on both the first-edition six-inch OS map (1884; surveyed 1883–84) and the first-edition 25-inch OS map (1892–1914) (Figure 3 & Figure 4). Low-profile depressions or ruts from agricultural machinery ('tram lines') were also present in Areas 20 and 21. These did not impede the survey but registered in the results as pairs of slender, closely-set, linear and curvilinear negative anomalies.

6.2 Modern Interference

Numerous small-scale ferrous (dipolar) responses are evident in the results from the gradiometry survey. These are a common occurrence in magnetic data and in most cases represent modern metal debris contained within the topsoil; some of the ferrous responses may reflect objects of archaeological interest.

Areas of ferrous disturbance deriving from survey in proximity to post-and-wire fences and metal field gates were recorded in most areas. Passing traffic in Areas 23, 28 and 29–31 was another source of magnetic 'noise'. A buried iron (water) pipe was also mapped by the survey extending northeast–southwest across Areas 20 and 21, while a second iron pipe was detected in the eastern sector of Area 21. A large area of magnetic debris identified around the access track in the latter area likely relates to the building shown at this location on the early OS maps.

6.3 Former Land Use

Traces of former cultivation are evident in the magnetic results from each of the survey areas, registering as faint, multiple, closely spaced, parallel, positive/negative linear anomalies. These are at various orientations and may relate to tillage farming in recent centuries. A number of relict field boundaries depicted on the early OS maps in Areas 21—24 also registered in the survey results. One of these, in Area 22 (labelled '2' on Figure 10), is coextensive with a small stream that flowed roughly northwards to run past Winthorpe village (see Figure 3 & Figure 4).

6.4 Former Quarries

Two possible in-filled quarry pits (labelled '2' and '3' on Figure 14) were recorded in the eastern half of Area 29, directly adjacent to the existing A46. The putative quarries are not depicted on the early OS maps (see Figure 3 & Figure 4).

6.5 Perimeter Fence, RAF Winthorpe

A pair of narrow positive magnetic lineations (labelled '3' on Figure 18) — set about 16m apart and oriented northeast–southwest — mapped by the survey in Area 31 may reflect the presence of buried ceramic (drainage) pipes associated with the former perimeter fence of RAF Winthorpe.[3]

6.6 Natural Soil Variation

Broad amorphous zones of increased dipolar (positive–negative) responses were registered by the survey in Areas 20, 21 and 31. Such responses may reflect small pieces of ferrous debris and/or other magnetic materials (e.g., brick rubble) scattered in topsoils.

Numerous, discrete, amorphous and linear positive responses are also apparent in the dataset from Areas 20 and 21. While the interpretation of these anomalies is tentative, they could have a natural and/or agricultural origin.

[3] Information on the airfield perimeter fence supplied by the landowner of Area 31.

7 Survey Results

Table 3: Areas 20 & 21, geophysical survey details

Area	20 & 21
Site description	Two large, irregular fields of tillage located directly south and north of the existing A1 and A46 respectively. The Nottingham to Lincoln rail line lies just to the west of Area 20. The terrain is mostly flat, though a slight but noticeable rise is visible across the southern sectors of both fields.
BNG (centroid)	480750, 356200
Area surveyed	*c*.7.97 ha. (Area 20) & 7.47 ha. (Area 21)
Figure Numbers	6–8

Anomaly Number	Area	*Form/nature of anomaly*	*Possible sources(s) of anomaly*	*Interpretative discussion*
1	20	Integrated array of slender, linear, curvilinear and circular positive magnetic anomalies	Archaeology	Network of overlapping and interconnected ditches, possibly indicative of ancient settlement. Extends over an area measuring about 140m NW–SE by 65m NE–SW. Located directly S of A1 and corresponds to cropmark monument M3606. May be associated with [4] and [5].
2	20, 21	Integrated array of slender, linear and curvilinear positive anomalies	Archaeology	Rectilinear network of ditches suggestive of former field system/s and/or settlement (*c*.320m E–W by 135m N–S). Occupies slightly higher ground in southern sectors of Areas 20 & 21. Possibly associated with [6] and [7].
3	20, 21	Band of weak magnetic responses	Possible archaeology/ natural	Possible paleochannel and/or artificial watercourse. Located at northern perimeter of [2] and traced for a distance of some 210m. Interpretation is very tentative.
4	20	Positive linear	Possible archaeology/ agricultural	Possible linear ditch (*c*.120m NW–SE). May form part of [1] or represent a later field boundary. Not depicted on historical maps.

5	20	Weak circular, curvilinear and 'pit-type' positive anomalies	Possible archaeology	Possible footprint of several circular structures/buildings (averaging *c*.5m in diameter), as well as other discrete features, comprising potential ditches and possible pits/deposits. Seemingly associated with [1].
6	21	Faint, slender, semi-circular positive	Possible archaeology	Possible western arc of small enclosure/structure, some 10m in diameter (N–S). Tentative feature but may be associated with [2].
7	20, 21	Multiple, discrete, positive linears	Possible archaeology	Possible ditches. May be related to [2].
8	21	Faint, slender, positive lineation	Agricultural	Probable relict field boundary, *c*.50m in length (NE–SW). Marked on the first-edition six-inch Ordnance Survey Map (1884; surveyed 1883–84) and the first-edition 25-inch Ordnance Survey Map (1892–1914).
9	21	Slender, positive linear	Agricultural	Probable relict field boundary, *c*.50m in length (roughly N–S). Recorded on the first-edition six-inch Ordnance Survey Map (1884; surveyed 1883–84) and the first-edition 25-inch Ordnance Survey Map (1892–1914).
	20, 21	Multiple closely spaced, parallel, positive—negative linears	Agricultural	Former cultivation, orientated NE–SW.
	20, 21	Positive trends	Possible archaeology/ agricultural	Possible ditches/drains.
	20,21	Multiple ferrous responses	Modern	Ferrous debris
	21	Numerous zones of increased dipolar (positive—negative) responses	Agricultural/ modern/natural	May reflect concentrations of ferrous debris and other magnetised material in topsoils.

	20, 21	Multiple, amorphous areas of increased response	Possible archaeology/ natural/agricultural	Areas of enhanced magnetic susceptibility that likely represent localised natural variations in (floodplain) soils and/or spreads of surface deposits relating to agricultural activity. Interpretation is cautious and an archaeological origin for some anomalies within this ground cannot be ruled out.
	20, 21	High-intensity, positive–negative linear band	Modern	Buried (water) pipe. Extends NE–SW across the entire width of Areas 20 and 21.
	21	High-intensity, positive–negative linear	Modern	Buried ferrous pipe (c.70m in NE–SW length).
	20, 21	Slender pairs of closely-set, linear and curvilinear negative anomalies	Modern/ agricultural	Rutting from farm machinery ('tram lines').
	20, 21	Areas of magnetic disturbance	Modern	Disturbance from adjacent post-and-wire fences.

Table 4: Area 22, geophysical survey details

Area	22		
Site description	Large, rectangular field of tillage located directly south and north of the existing A1 and A46 respectively. The field is dotted by several isolated trees.		
BNG (centroid)	481100, 356000		
Area surveyed	*c*.4.47 ha.		
Figure Numbers	6, 9, 10		
Anomaly Number	***Form/nature of anomaly***	***Possible sources(s) of anomaly***	***Interpretative discussion***
1	Elongated 'U-shaped' positive linear	Possible archaeology/ modern	Possible flat-bottomed, 'U-shaped' feature, perhaps defined by narrow ditches. Measures about 50m NE–SW by 5m NW–SE. The precise nature and significance of this anomaly are uncertain. Modern origin also conceivable.
2	Slender, irregular positive band	Agricultural	Former (infilled) stream ditch. Recorded as a field boundary on the first-edition six-inch Ordnance Survey Map (1884; surveyed 1883–84) and the first-edition 25-inch Ordnance Survey Map (1892–1914).
3	Faint, slender, positive lineation	Agricultural	Probable relict field boundary, *c*.90m in length (NE–SW). Marked on the early OS maps.
	Positive trends	Possible archaeology/ agricultural	Possible ditches/drains.
	Multiple closely spaced, parallel, positive–negative linears	Agricultural	Former cultivation, orientated NE–SW.
	Multiple ferrous responses	Modern	Ferrous debris
	Areas of magnetic disturbance	Modern	Disturbance from adjacent post-and-wire fences.

Table 5: Areas 23 & 24, geophysical survey details

Area	23 & 24
Site description	Irregular fields of tillage (Area 23) and adjacent pasture of rectangular plan (Area 24). Both fields lie directly adjacent to the existing A46 on the west. Area 24 overlooks Area 23 from the north. The latter area contains a number of freestanding trees.
BNG (centroid)	481400, 356050
Area surveyed	*c.*2.48 ha. (Area 23) & 1.98 ha. (Area 24)
Figure Numbers	6, 11, 12

Anomaly Number	Area	*Form/nature of anomaly*	*Possible sources(s) of anomaly*	*Interpretative discussion*
1	24	Faint array of slender linear, rectilinear and curvilinear anomalies	Possible archaeology	Potential network of 'ditch-type' features, possibly indicative of former enclosures and/or field system/s. Recorded anomalies extend over an area measuring *c.*155m NW–SE by 85m NE–SW.
2	24	Linear band of discrete, enhanced magnetic anomalies and 'ferrous-type' responses	Agricultural	Possible bank of relict field boundary, *c.*150m in length (NW–SE). Defined by series of discrete enhanced magnetic anomalies and 'ferrous-type' responses, perhaps suggestive of ground disturbance associated with a levelling event. Appears to correspond to land division recorded on the first-edition six-inch Ordnance Survey Map (1884; surveyed 1883–84) and the first-edition 25-inch Ordnance Survey Map (1892–1914). Possibly associated with [3].
3	24	Weak, intermittent positive linear	Agricultural	Possible ditch of relict field boundary [2]. Tentative feature.
4	23	Faint negative anomaly	Agricultural	Possible relict field boundary, traced for *c.*35m in length (NE–SW). Marked on the early OS maps.
	24	Positive linears and curvilinear trends	Possible archaeology/ agricultural	Possible ditches/drains.

	23, 24	Multiple closely spaced, parallel, positive–negative linears	Agricultural	Former cultivation, orientated NE–SW, with second NW–SE oriented pattern discernible in Area 24.
	23, 24	Multiple ferrous responses	Modern	Ferrous debris.
	23, 24	Areas of magnetic disturbance	Modern	Disturbance from adjacent post-and-wire fences.

Table 6: Areas 28 & 29, geophysical survey details

Area	28 & 29
Site description	Two rectangular fields of tillage. Both fields lie directly adjacent to the existing A46 on the west.
BNG (centroid)	482100, 356750
Area surveyed	*c.1.63* ha. (Area 28) & 3.31ha. (Area 29)
Figure Numbers	6, 13, 14

Anomaly Number	Area	*Form/nature of anomaly*	*Possible sources(s) of anomaly*	*Interpretative discussion*
1	28, 29	Several 'pit-type' anomalies	Possible archaeology	Possible pits/spreads, some may contain burnt or fired material. Archaeological interpretation is cautious. Modern/ferrous origin also conceivable.
2	29	Irregular zone of weak positive magnetism	?Modern	Possible quarry pit (*c*.70m N–S by 32m E–W). Located about 55m SW of [3]. Not marked on historical maps.
3	29	Subcircular zone of weak positive magnetism	?Modern	Possible quarry pit, about 20m in diameter (N–S). Located about 55m NE of [2]. Not marked on historical maps.
	28, 29	Multiple closely spaced, parallel, positive—negative linears	Agricultural	Former cultivation, orientated NW–SE, with second NE–SW oriented pattern visible in Area 28.
	28, 29	Multiple ferrous responses	Modern	Ferrous debris.
	28, 29	Areas of magnetic disturbance	Modern	Disturbance from adjacent building on S and passing traffic on E.

Table 7: Area 30, geophysical survey details

Area	30		
Site description	Large, rectangular field of pasture located directly west of the existing A46.		
BNG (centroid)	482260, 356950		
Area surveyed	*c*.3.78 ha.		
Figure Numbers	6, 15, 16		
Anomaly Number	***Form/nature of anomaly***	***Possible sources(s) of anomaly***	***Interpretative discussion***
1	Positive magnetic annulus	Archaeology	Possible ring-ditch or circular structure defined by a narrow ditch or slot trench, approx. 10m in overall diameter (N–S). Appears to be breached by a *c*.1.2m-wide entrance gap on W. Possibly associated with [2] and [3] located *c*.60m and 20m to N and S respectively.
2	Faint, discontinuous subcircular anomaly	Possible archaeology	Possible circular enclosure, *c*.20m in N–S diameter. Tentative feature. Lies about 60m N of [1].
3	Weak, discontinuous subcircular anomaly	Possible archaeology	Possible circular enclosure, *c*.13m in N–S diameter. Tentative feature. Lies about 20m S of [1].
4	Positive linear	Possible archaeology/ agricultural	Possible ditch. Extends beyond the limits of the survey area to E and W. May comprise a former field boundary. Significance uncertain.
5	Faint, short positive linear	Possible archaeology/ agricultural	Possible ditch. Extends beyond the limits of the survey area to N. May comprise a former field boundary/field drain
	Positive trends	Possible archaeology/ agricultural	Possible ditches/drains.
	Multiple closely spaced, parallel, positive–negative linears	Agricultural	Former cultivation, orientated NE–SW and NW–SE.
	Multiple ferrous responses	Modern	Ferrous debris

	Weak positive band	?Natural	Possible natural soil variation.
	Areas of magnetic disturbance	Modern	Disturbance from adjacent post-and-wire fences, field gate and passing traffic.

Table 8: Areas 31 & 32, geophysical survey details

Area	31 & 32
Site description	Southwestern quadrant of tillage field (Area 31) and long linear strip of pasture (Area 32). Both fields lie directly east of the existing A46 and once formed part of the grounds of RAF Winthorpe.
BNG (centroid)	482300, 356700
Area surveyed	*c.*1.55 ha. (Area 31) & 1.32 ha. (Area 32)
Figure Numbers	6, 17, 18

Anomaly Number	Area	*Form/nature of anomaly*	*Possible sources(s) of anomaly*	*Interpretative discussion*
1	32	'L-shaped' positive linear	Possible archaeology/ modern	Possible ditch, perhaps corner of rectangular enclosure or field. A modern origin also conceivable.
2	32	Positive linear	Possible archaeology/ modern	Possible ditch and/or continuation of potential perimeter drain [3] mapped in Area 31 to N.
3	31	Pair of narrow positive magnetic lineations	?Modern	Possible ceramic (drainage) pipes associated with the former perimeter fence of RAF Winthorpe. Putative drains set about 16m apart and oriented NE–SW.
	32	Multiple closely spaced, parallel, positive–negative linears	Agricultural	Former cultivation, orientated NW–SE.
	31, 32	Multiple ferrous responses	Modern	Ferrous debris.
	31	Zone of increased dipolar (positive–negative) responses	Agricultural/ modern/natural	Likely concentration of ferrous debris in topsoils.
	31	Areas of magnetic disturbance	Modern	Disturbance from adjacent building on S and passing traffic on E.

8 Conclusion

The geophysical survey along the route of the proposed A46 Newark Bypass Scheme has revealed features of archaeological and potential archaeological interest in at least seven of the areas targeted for investigation. The most striking of these was mapped in Areas 20 and 21 where extensive networks of linear, curvilinear and circular anomalies [20:1, 4–5 and 20–21:2, 6–7] are suggestive of ancient settlements and/or field systems; one of these, namely 20:1, corresponds to a previously recorded cropmark monument (designated M3606 in the Nottinghamshire HER). A possible paleochannel [20–21:3] may run along the northern perimeter of 20–21:2, though this is tentative. Further evidence for former settlement and/or related activity seems to be indicated by a series of linear, rectilinear and curvilinear anomalies [24:1] mapped by the survey in Area 24, with the existence of archaeological structures and features also implied in Area 30 by a 10m-diamater ring-ditch [30:1] and at least two other potential enclosures [30:2 and 30:3]. Moreover, what appears to be flat-bottomed, 'U-shaped' feature [22:1] in Area 22 may have an archaeological origin, though the precise significance of this potential feature is uncertain. Similarly, the significance of the many possible ditches/drains (Areas 20, 21, 24, 30 and 32) and 'pit-type' features (Area 28) are equally uncertain and a natural/ferrous/ agricultural origin for these is possible.

Evidence for agricultural activity is also represented in the dataset. Relict field boundaries recorded on early OS maps were identified in Areas 21, 22, 23 and 24, with traces of former cultivation also detected in many of the target fields. Features of modern origin comprise buried services in Areas 20 and 21, two possible quarry pits in Area 29 and what may be the remains of drains that once extended along the perimeter fence of RAF Winthorpe in Area 31. The impacts of ferrous debris and/or other modern magnetic materials scattered in topsoils is discernible in Areas 20, 21 and 31, while many of the deposits of magnetically enhanced soils registered by the survey in Areas 20 and 21 likely represent natural variations in (floodplain) soils, though an agricultural/archaeological origin for some these anomalies cannot be discounted on present evidence.

8.1 Statement of Indemnity

The geophysical properties of subsurface features must contrast sufficiently with the surrounding soils/background variation and 'noise' to enable them to be detected and mapped using geophysical methods. As such, the clarity and definition of buried features can vary considerably, with some having well-defined signatures while others, lying on the threshold of background noise, are only barely visible, or not visible at all, in geophysical imagery. A lack of geophysical anomalies cannot be taken to imply a lack of archaeological features.

The interpretations presented here are invariably provisional and further work (e.g. test trenching) is required to fully assess the archaeological potential of the site, as well as nature and significance of the anomalies identified by the present investigation.

References

Highways England. 2021. Regional Investment Programme A46 Newark Northern Bypass Environmental Assessment Report PCF Stage 2 Volume I Main Chapters.

Niven, K. 2012. *Raster Images: A Guide to Good Practice***.** Archaeology Data Service/Digital Antiquity, Guides to Good Practice. [Online] Available from: http://guides.archaeologydataservice.ac.uk/g2gp/RasterImg_Toc.

Schmidt, A. and Ernenwein, E. 2012. *Guide to Good Practice: Geophysical Data in Archaeology*. Oxford: Oxbow.

Schmidt, A., Linford, P., Linford, N., David, A., Gaffney, C., Sarris, A., and Fassbinder, J. 2016. *EAC Guidelines for the Use of Geophysics in Archaeology*: *Questions to Ask and Points to Consider*. EAC Guidelines 2. [Online] Available from: https://f64366e3-8f7d-4b63-9edf5000e2bef85b.filesusr.com/ugd/881a59_fdb1636e95f64813a65178895aea87cf.pdf

Cartographic Sources

First-Edition Six-Inch Ordnance Survey Map (1884; surveyed 1883–84)

First-Edition 25-Inch Ordnance Survey Map (1892–1914)

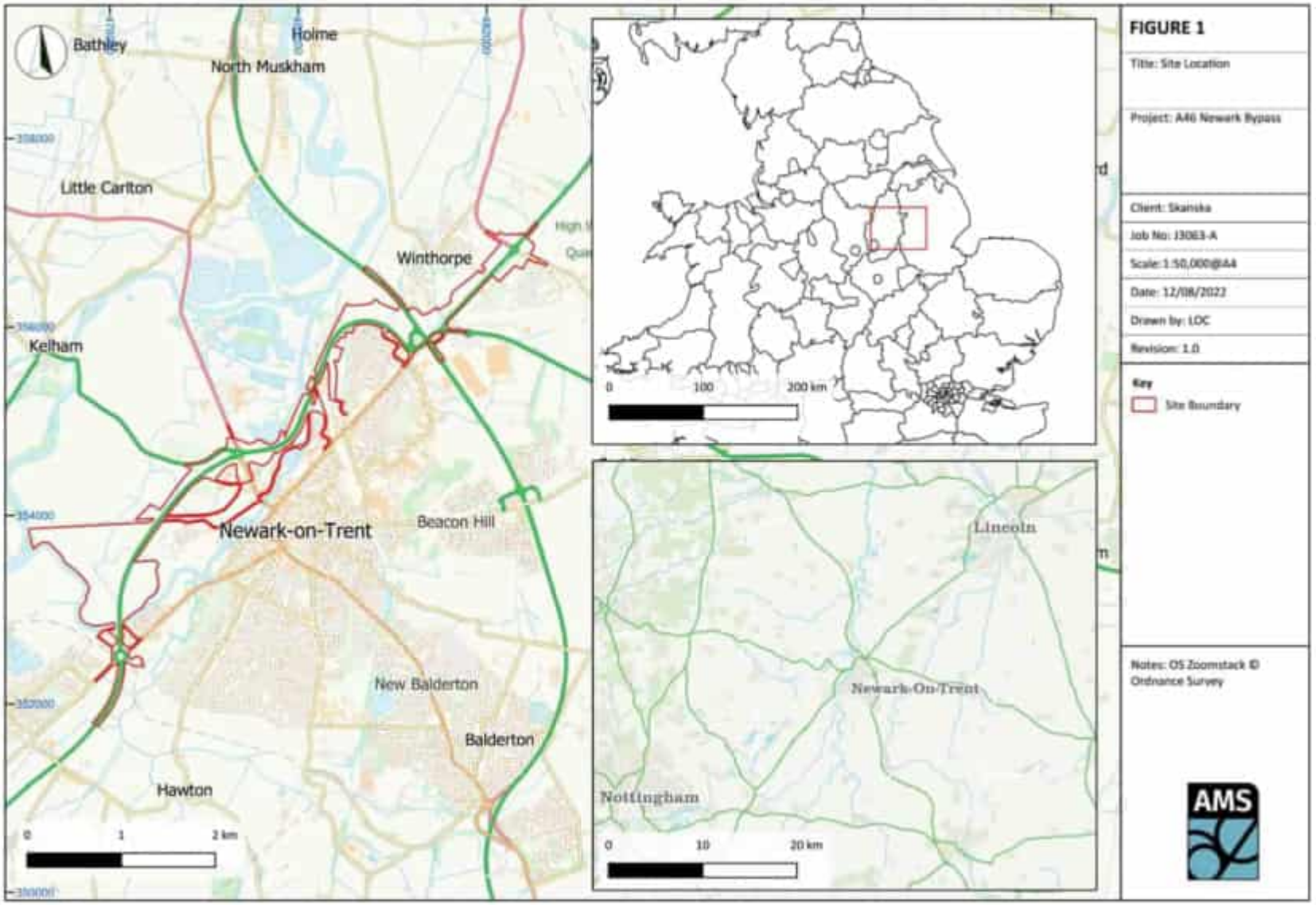


Figure 1: Site location map

Figure 2: Recorded monuments in the vicinity of the survey areas; select monuments indicated

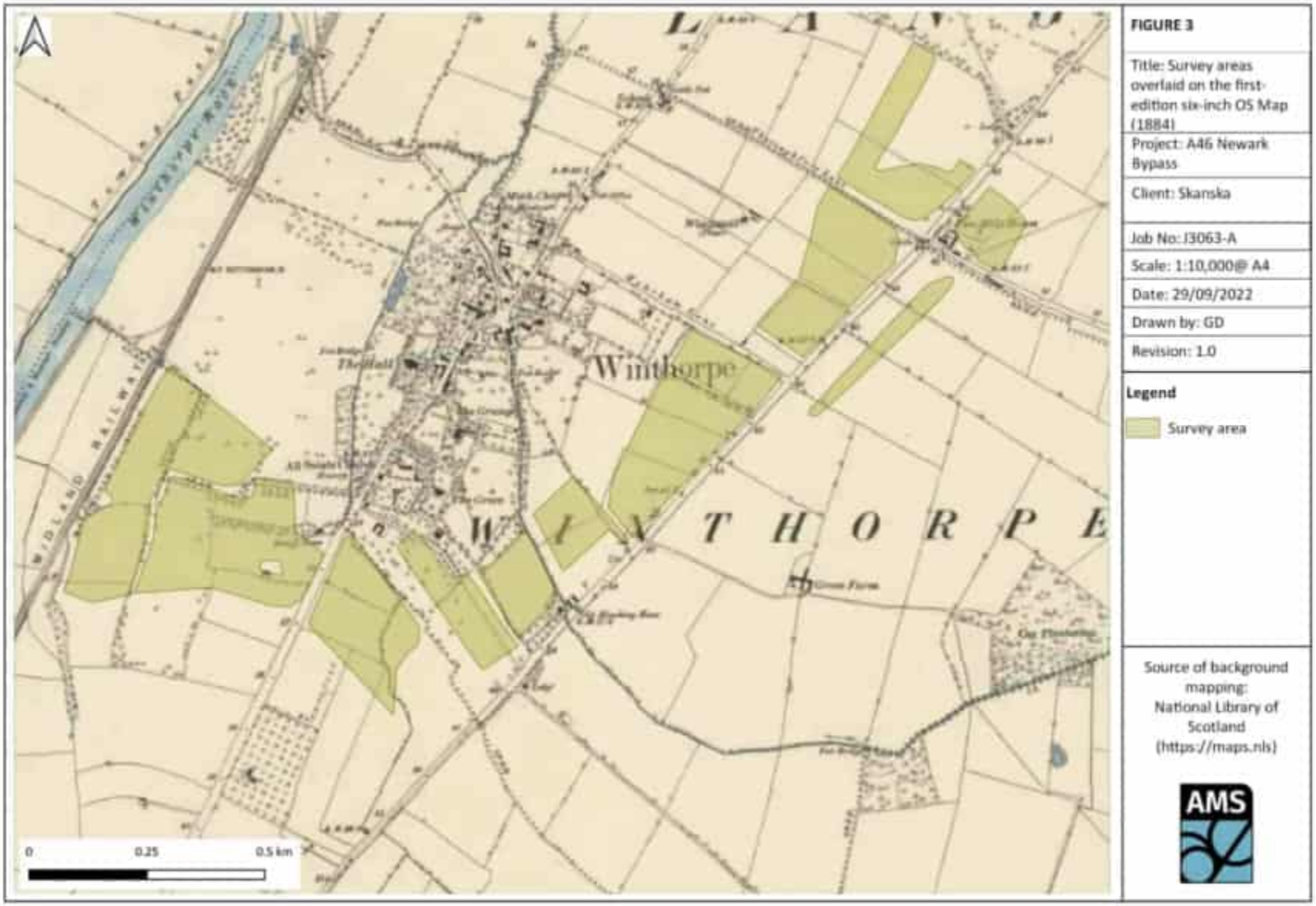


Figure 3: The survey areas overlaid on the first-edition six-inch Ordnance Survey Map (1884; surveyed 1883–84)

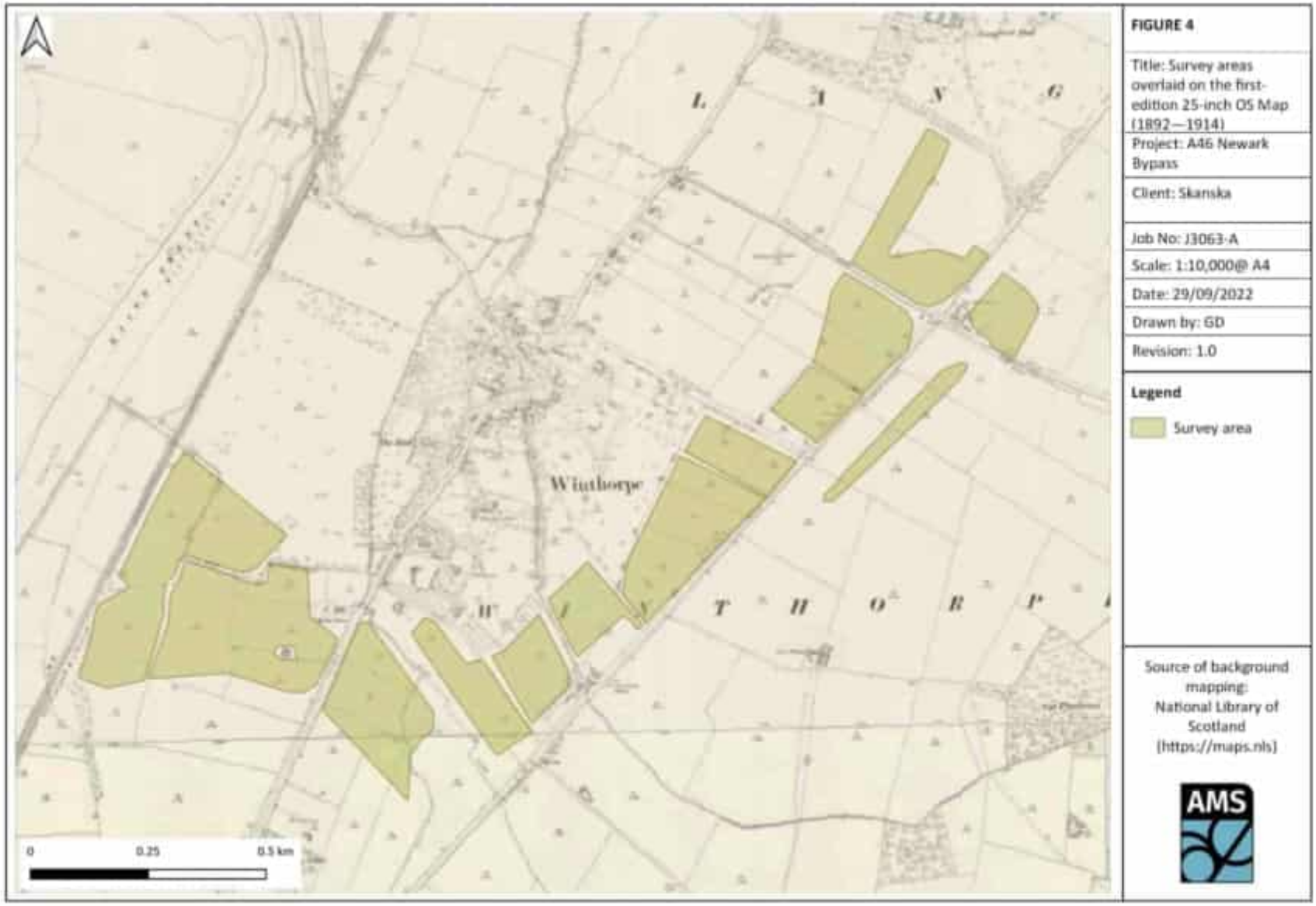


Figure 4: The survey areas overlaid on the first-edition 25-inch Ordnance Survey Map (1892–1914)

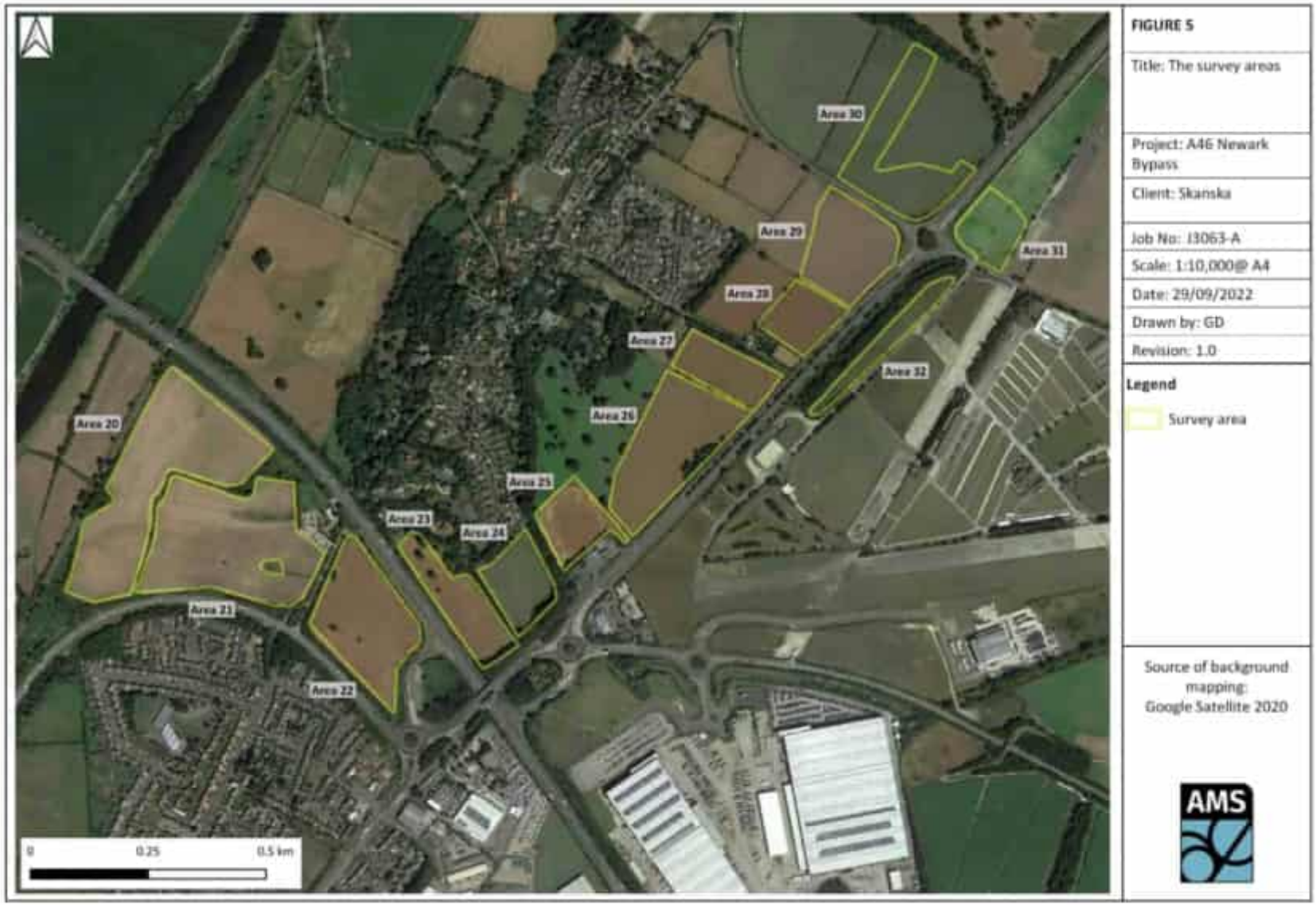


Figure 5: The survey areas

Figure 6: Greyscale image of gradiometry results (Areas 20–24; & 28–32)

Figure 7: Areas 20 & 21, greyscale image of gradiometry results

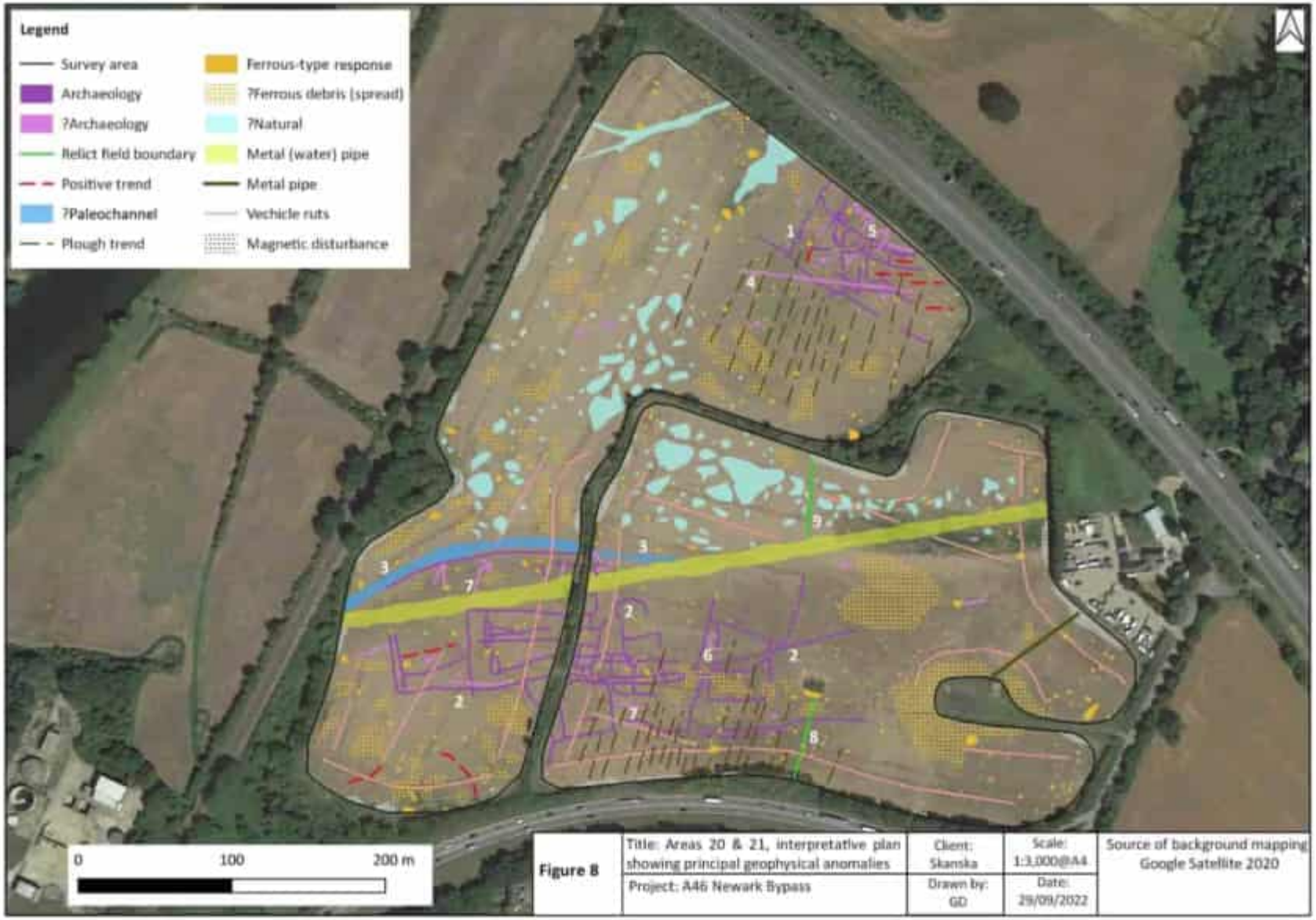


Figure 8: Areas 20 & 21, interpretative plan showing principal geophysical anomalies

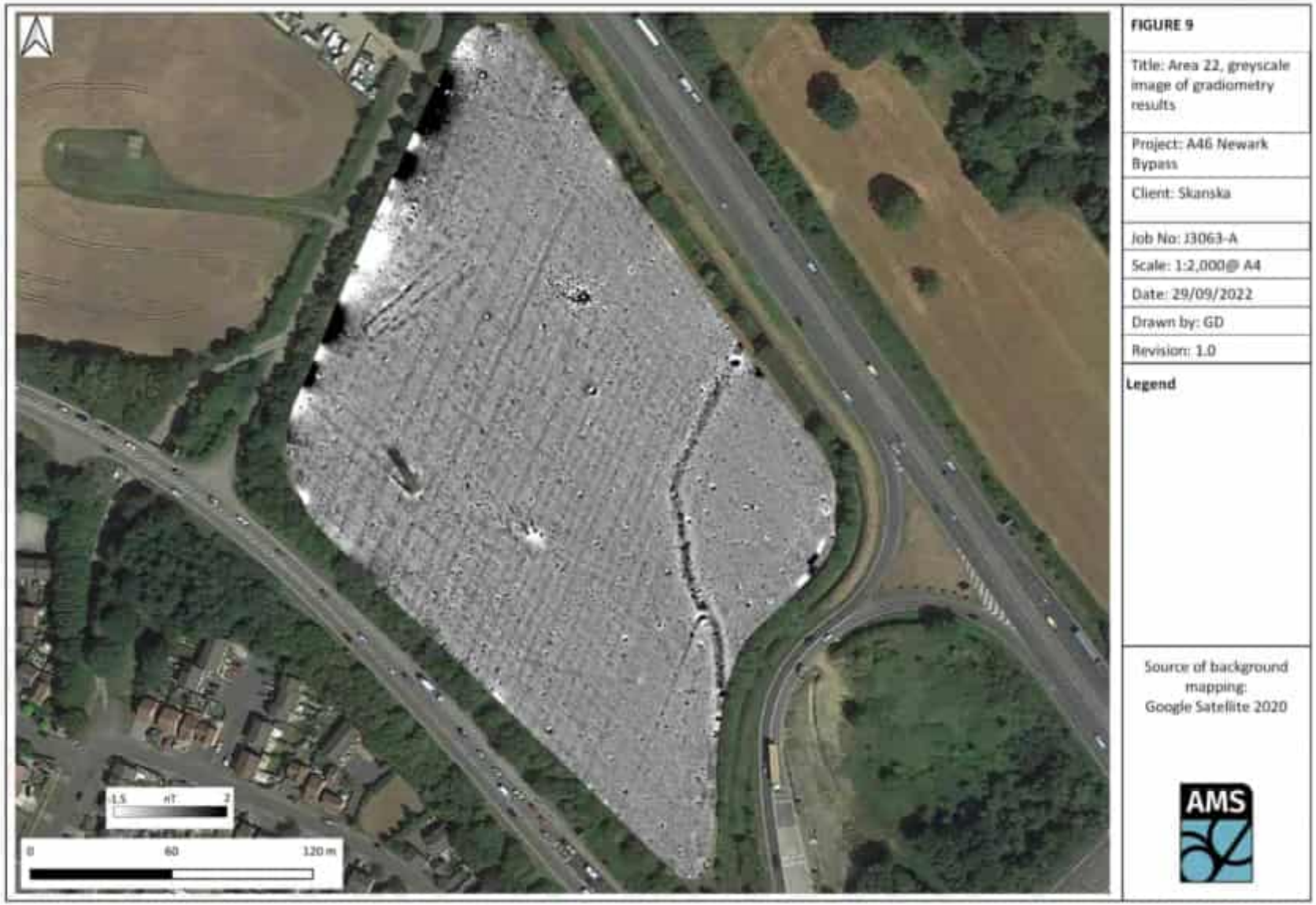


Figure 9: Area 22, greyscale image of gradiometry results

Figure 10: Area 22, interpretative plan showing principal geophysical anomalies

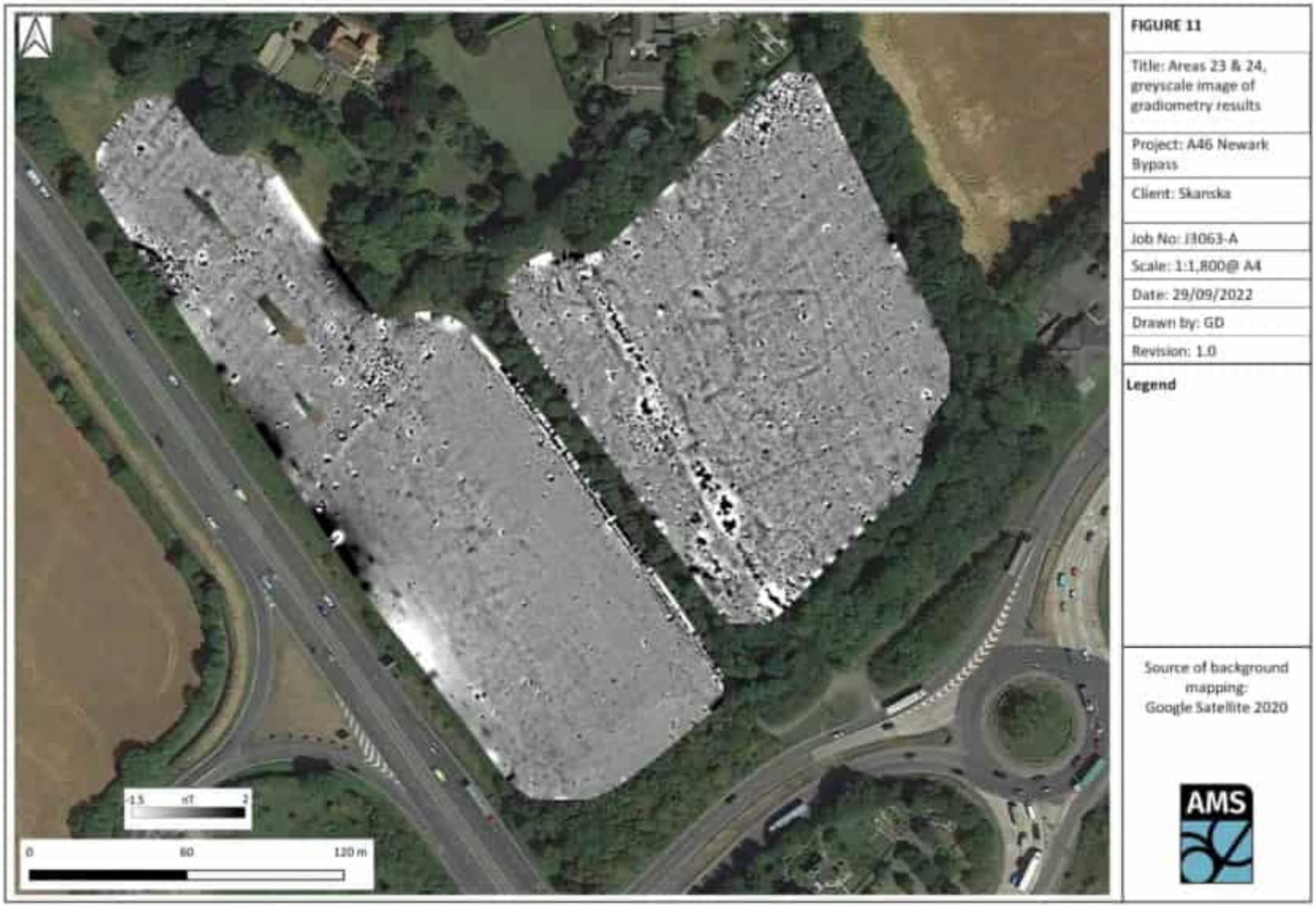


Figure 11: Areas 23 & 24, greyscale image of gradiometry results

Figure 12: Areas 23 & 24, interpretative plan showing principal geophysical anomalies

Figure 13: Areas 28 & 29, greyscale image of gradiometry results

Figure 14: Areas 28 & 29, interpretative plan showing principal geophysical anomalies

Figure 15: Area 30, greyscale image of gradiometry results

Figure 16: Area 30, interpretative plan showing principal geophysical anomalies

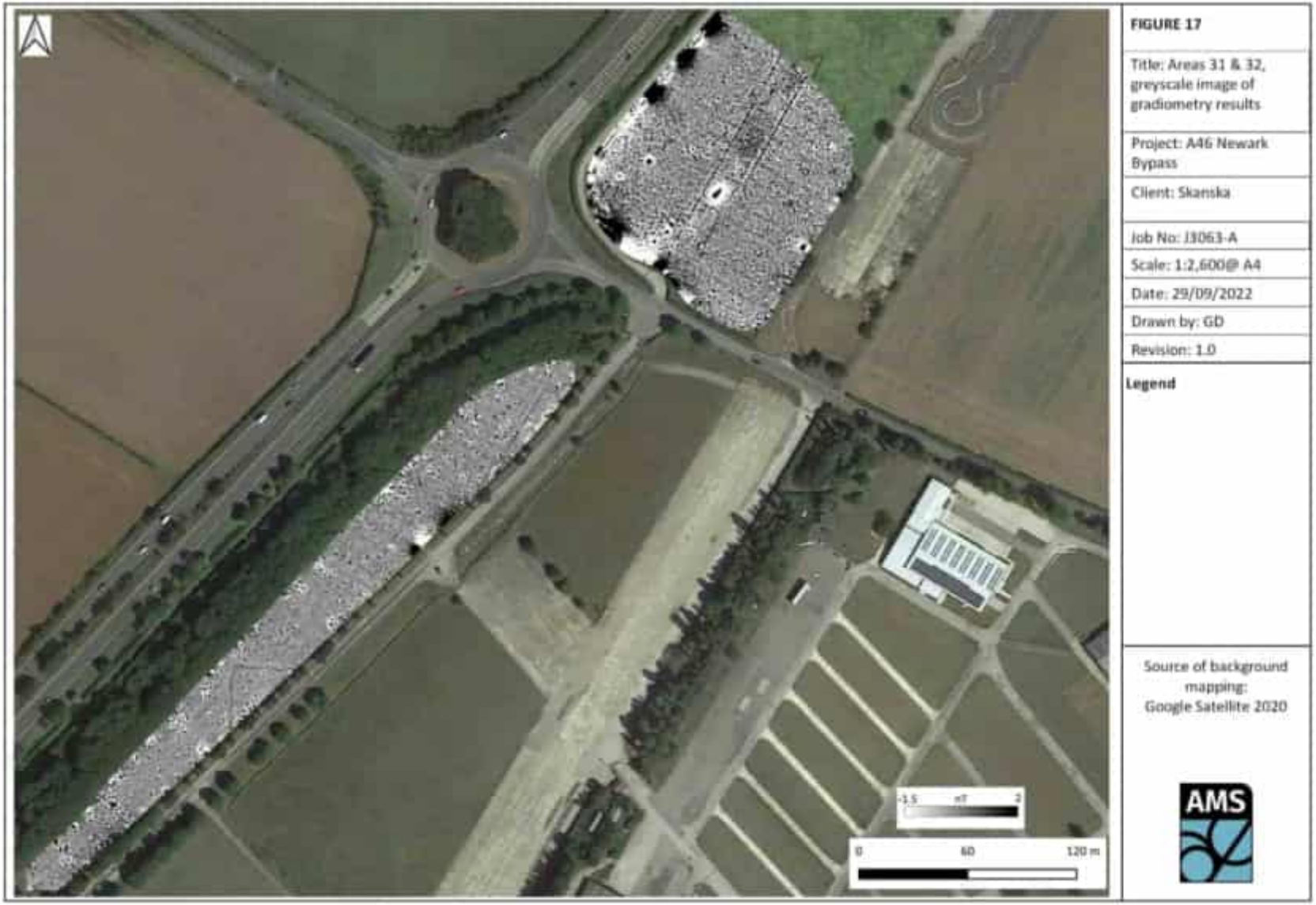


Figure 17: Areas 31 & 32, greyscale image of gradiometry results

Figure 18: Areas 31 & 32, interpretative plan showing principal geophysical anomalies

Plate 1: Area 20, looking south

Plate 2: Area 22, viewed from the east

Plate 3: Looking northwest across Area 24

Plate 4: Area 30, looking southwest

Plate 5: Collapsed structure in Area 21, looking north

Plate 6: Access track in Area 21, viewed from the east

Appendix G: Addendum to Geophysical Survey Report of Lands along the A46 Newark Bypass

Addendum to Geophysical Survey Report of Lands along the A46 Newark Bypass

Prepared for Skanska Construction UK Ltd on behalf of National Highways Regional Delivery Partnership Framework

B [redacted]

March 2023

TITLE PAGE

AMS Job No.:	J3063-A
Project Name:	A46 Newark Bypass
Client Name:	Skanska Construction UK Ltd on behalf of National Highways Regional Delivery Partnership Framework
Land Use:	Tillage and pasture
Geology:	Mercia Mudstone Group
Soils:	Free draining, sandy soils (Areas 25 to 32); and sands and gravels, with limited areas of alluvium (Areas 48 to 51)
Survey Type:	Fluxgate Gradiometry
Instrument:	Five-channel magnetometer
Sample/transverse interval:	0.5m/0.05m
Area surveyed:	*c.*26.33 ha.
Report Status/Revision:	Final
Revision Date:	20 March 2023
Report Author:	[redacted]
Technical Reviewer:	
Report Editor:	
Approved By:	
File Name:	J3063-A Addendum Geophysical Survey Report of Lands along the A46 Newark Bypass_Final.docx

AMS Cultural Heritage Consultancy Limited trading as Archaeological Management Solutions

Fahy's Road, Kilrush, Co. Clare. V15 C780

T +353 (0)65 810 3001

www.ams-consultancy.com

Disclaimer

The results, conclusions and recommendations contained within this report are based on information available at the time of its preparation. Whilst every effort has been made to ensure that all relevant data have been collated, the author and AMS accept no responsibility for omissions and/or inconsistencies that may result from information becoming available subsequent to the report's completion.

© AMS Cultural Heritage Consultancy Limited 2023. The concepts and information contained in this document are the property of AMS Cultural Heritage Consultancy Limited trading as Archaeological Management Solutions (AMS). Use or copying of this document in whole or in part without the written permission of AMS constitutes an infringement of copyright.

Summary

This report details the results of a second phase of geophysical survey along the route of the proposed A46 Newark Bypass, Nottinghamshire. The Scheme involves the construction of approximately 6km of new road, passing the western and northern extents of Newark-on-Trent, between the Farndon and Winthorpe roundabouts, with flood compensation land in the Kelham area, some 2.5km west of Newark, also required. The work focused on three areas at the northern end of the Scheme at Newark (designated as 'Areas 25–27') that were not available for investigation at the time of the initial phase of the survey in 2022. Additional lands at the same location ('Areas 29, 30, 33 & 34'), as well as potential flood compensation areas ('Areas 48, 49 & 51') at Kelham, were also targeted during the present work. The 2023 survey areas covered a combined size of approximately 26.33 ha.

The investigation, comprising high resolution magnetic gradiometry, was undertaken by Archaeological Management Solutions (AMS) on behalf of Skanska Construction Ltd in late February 2023. This work resulted in the identification of features of archaeological and potential archaeological interest in at least three of the areas targeted for investigation. Identified features include series of enclosures and other potential features in Areas 26, 48 and 51, with evidence for past agriculture also identified in many of the target areas.

The findings of the geophysical survey provide new information on the layout and extent of archaeological features along the Scheme and will help inform the scope of archaeological works to be undertaken at a future date.

Table of Contents

1 Introduction 8
1.1 Project Background 8
1.2 Previous Geophysical Investigations 8
1.3 Proposed Development Works 9
2 Archaeological Background 10
2.1 Recorded/Known Archaeology 10
3 Survey Location and Aims 12
3.1 Areas unsuitable for survey 12
4 Survey Methodology and Instrumentation 14
5 Data Management, Processing and Interpretation 15
6 General Considerations and Complicating Factors 16
6.1 Access and Ground Conditions 16
6.2 Modern Interference 16
6.3 Former Land Use 16
6.4 Former quarries 16
7 Survey Results 17
8 Conclusion 27
8.1 Statement of indemnity 28
References 29
Online Sources 29
Cartographic Sources 29
Figures 30
Plates 57

List of Tables

Table 1: Survey areas 12
Table 2: Geophysical survey details 14
Table 3: Areas 25–27, geophysical survey results 17
Table 4: Areas 29 & 33, geophysical survey details 19
Table 5: Areas 30 & 34, geophysical survey details 20
Table 6: Area 48, geophysical survey details 22
Table 7: Area 49, geophysical survey details 24
Table 8: Area 51, geophysical survey details 25

List of Figures

Figure 1: Site location map. 31
Figure 2: 2022 survey areas. 32
Figure 3: Greyscale image of 2022 gradiometry results (Areas 20–24 & 28–32). 33
Figure 4: Recorded monuments in the vicinity of survey areas 20—32; select monuments indicated. 34
Figure 5: Area 26 cropmarks 35
Figure 6: Recorded monuments in the vicinity of survey areas 48-51 (select monuments indicated). 36
Figure 7: The 2023 survey areas at Newark overlaid on the first-edition six-inch OS Map (1884; surveyed 1883-84). 37
Figure 8: The 2023 survey areas at Newark overlaid on the first-edition 25-inch OS Map (1892—1914). 38
Figure 9: The 2023 survey areas at Kelham overlaid on the first-edition six-inch OS Map (1884; surveyed 1883–84). 39
Figure 10: The 2023 survey areas at Kelham overlaid on the first-edition 25-inch OS Map (1892—1914). 40
Figure 11: Survey areas at the northern part of the scheme. 41
Figure 12: Survey areas in the Kelham area. 42
Figure 13: Greyscale image of gradiometry results (Areas 25—27; 29 & 30; 33 & 34). 43
Figure 14: Greyscale image of gradiometry results (Areas 48, 49 & 51). 44
Figure 15: Areas 25—27, greyscale image of gradiometry results. 45
Figure 16: Areas 25—27, interpretative plan showing principal geophysical anomalies. 46
Figure 17: Areas 29 & 33, greyscale image of gradiometry results. 47
Figure 18: Areas 29 & 33, interpretative plan showing geophysical anomalies. 48
Figure 19: Areas 30 & 34, greyscale image of gradiometry results. 49
Figure 20: Areas 30 & 34, interpretative plan showing principal geophysical anomalies. 50
Figure 21: Area 48, greyscale image of gradiometry results. 51
Figure 22: Area 48, interpretative plan showing principal geophysical anomalies. 52
Figure 23: Area 49, greyscale image of gradiometry results. 53
Figure 24: Area 49, interpretative plan showing principal geophysical anomalies. 54
Figure 25: Area 51, greyscale image of gradiometry results. 55
Figure 26: Area 51, interpretative plan showing principal geophysical anomalies. 56

List of Plates

Plate 1: Area 26, looking southeast. 57
Plate 2: Looking northwest along the northern part of Area 29, with Area 33 in the background. 57
Plate 3: Looking northwest across Area 49. 58

Plate 4: Area 51, looking northeast. 58
Plate 5: Area 50, looking southeast. 59
Plate 6: Small area of uneven terrain in Area 51, viewed from the northeast. 59

Abbreviations and Definitions

Abbreviation	Definition
AMS	Archaeological Management Solutions
BGS	British Geological Survey
BNG	British National Grid
EAR	Environmental Assessment Report
HER	Historic Environment Record
OS	Ordnance Survey
UKSO	UK Soil Observatory

Coordinate System

All grid coordinates in this report use the British National Grid (OSGB 1936) coordinate reference system unless otherwise stated.

1 Introduction

1.1 Project Background

This report describes the results of the latest phase of archaeo-geophysical investigations conducted on behalf of Skanska Construction Ltd on lands along the A46 Newark Bypass, Nottinghamshire (hereafter referred to as 'the Scheme') (Figure 1). The Scheme involves the construction of approximately 6km of new road, passing the western and northern extents of Newark-on-Trent, between the Farndon and Winthorpe roundabouts, with flood compensation land in the Kelham area, some 2.5km west of Newark, also required. The project aims to increase capacity and reduce traffic congestion on the A46 in the vicinity of Newark, improve connectivity from Lincolnshire to the national motorway network, and enhance route standard consistency for the A46.

The survey, comprising high resolution magnetic gradiometry, builds on an earlier phase of survey undertaken in September 2022, the results of which were detailed in a comprehensive report (Dowling 2022) submitted to Skanska Mott MacDonald on 5 October 2022. This latest campaign of survey was undertaken by Ger Dowling (Survey Director) and Jose Sailnas (Survey Assistant) over a five-day period in late February 2023. The work focused on three areas at the northern end of the Scheme at Newark (designated as 'Areas 25–27') that were not available for investigation at the time of the 2022 survey. Additional lands at the same location ('Areas 29, 30, 33 & 34'), as well as potential flood compensation areas ('Areas 48, 49 & 51') at Kelham, were also targeted during the present work. The 2023 survey areas covered a combined size of approximately 26.33 ha. Area 50 at Kelham (*c*.1.57 ha. in extent) was originally intended for geophysical investigation but it could not be surveyed owing to dense overgrowth and uneven terrain. Poor ground conditions also meant that a small portion of the adjacent field, Area 51, were avoided by the survey.

The findings of the geophysical survey provide new information on the layout and extent of archaeological and potential archaeological features along the Scheme and will help inform the scope of archaeological works to be undertaken at a future date. The present document should be read in conjunction with the main 2022 survey report (Dowling 2022).

1.2 Previous Geophysical Investigations

The A46 Newark Bypass was the focus of archaeo-geophysical investigations by Archaeological Management Solutions (AMS) in September 2022. This work involved survey of ten separate areas (Areas 20–24 & 28–32), encompassing a combined size of approximately 36 ha. (Figure 2 & Figure 3); three additional areas, namely Areas 25–27 (*c*.8.6 ha. in total size), could not be investigated as they were under crop at the time of the investigation. The 2022 survey revealed features of archaeological and potential archaeological interest in at least seven of the target areas, the most striking of which

were mapped in Areas 20 and 21 where an extensive network of linear, curvilinear and circular anomalies suggest the presence of ancient settlements and/or field systems; one of the latter discoveries corresponds to a recorded cropmark monument designated as 'M3606' in the Historic Environment Record (HER) for Nottinghamshire. Further evidence for former settlement and/or other activity was identified in Areas 24 and 30, with the existence of other potential archaeological structures and features implied in many of the survey areas by the identification of numerous possible ditches/drains and 'pit-type' features. Evidence for past agricultural activity is also represented in the dataset, mainly in the form of relict field boundaries and traces of former cultivation.

1.3 Proposed Development Works

The Scheme aims to remove a traffic bottleneck at Newark, improve the connectivity of Lincolnshire to the national motorway network, and enhance route consistency. It will involve the widening of the A46 to a dual carriageway, with junction improvements between the Farndon and Winthorpe roundabouts. The new A46 mainline would run parallel to the existing road, cross over the A1 and then run slightly north of the existing A46 before tying into Winthorpe roundabout. The Winthorpe roundabout will be enlarged, with signals added to improve traffic flows. As the Scheme is being constructed within the existing flood plain of the River Trent, flood compensation is also required in the Kelham area. Flood compensation generally involves the localised lowering of the ground to provide a connection to the floodplain.

2 Archaeological Background

2.1 Recorded/Known Archaeology

As set out in the Environment Assessment Report (EAR) for the proposed development (Highways England 2021), the Scheme traverses a rich cultural landscape, one that includes Scheduled Monuments, Listed Buildings, a Registered Park and Garden and Conservation Areas. The region appears to have been the focus of prolonged settlement activity, extending back into early prehistory, with the existing line of the A46, for instance, thought to follow the route of the Fosse Way Roman Road, as it ran between the towns of Exeter and Lincoln. The town of Newark, however, is perhaps best known as an important Royalist stronghold during the English Civil War and was besieged on three separate occasions between 1642 and 1646. Several redoubts and other fortifications from that time survive down to the present day, including one possible example — designated as 'M3606' in the Nottinghamshire HER — reputed to lie along the current route of the A46, a short distance south of Survey Area 21 (see Figure 2). Further information on the archaeology and history of the wider landscape of the Scheme can be found in the EAR (*ibid*., 105–11).

Only one recorded monument is known from the lands targeted for geophysical survey along the northern part of the Scheme (Figure 4). The site, which was identified as a cropmark complex on an aerial photograph and designated as 'M3606' in the Nottinghamshire HER,[1] is located close to the northern limit of Area 20, next to the A1 motorway. It may comprise the remains of a settlement and correspond to a series of overlapping linear, curvilinear and circular anomalies mapped by the 2022 geophysical survey in Area 20 (see Figure 3). A network of linear and curvilinear cropmarks is also discernible in Area 25 on Google Earth satellite imagery from June 2022 (Figure 5). The precise nature and significance of the latter cropmarks is unknown.

In the Kelham area, two recorded monuments lie within the fields targeted for survey (Figure 6). These comprise two 'squarish' enclosures (L2958) that were identified as cropmarks on an aerial photograph in Area 48[2] and a well (M3422) in Area 50.[3] Other nearby recorded sites include a well (M3446)[4] and

[1] Https://www.heritagegateway.org.uk/Gateway/Results_Single.aspx?resourceID=1041&uid=MNT14752 [Accessed: 6 March 2023].

[2] Https://www.heritagegateway.org.uk/Gateway/Results_Single.aspx?uid=MNT2937&resourceID=1041 [Accessed: 6 March 2023].

[3] Https://www.heritagegateway.org.uk/Gateway/Results_Single.aspx?uid=MNT14633&resourceID=1041 [Accessed: 6 March 2023].

[4] Https://www.heritagegateway.org.uk/Gateway/Results_Single.aspx?uid=MNT14627&resourceID=1041 [Accessed: 6 March 2023].

the cropmarks of linear ditches and a possible enclosure (L3162)[5] located a short distance northwest and north of Area 49, respectively. A Roman settlement (M8317)[6] and a cropmark complex (L3009)[7] are also found in the immediate hinterland of the Kelham survey areas. The putative Roman settlement, M8317, was surveyed as part of a large-scale geophysical investigation in 2021–2022 in advance of the proposed development of a solar farm (Muller 2022).

The survey areas in Both Newark and Kelham are shown as farmland on both the first-edition six-inch Ordnance Survey (OS) Map (1884; surveyed 1883–84) and the first-edition 25-inch OS Map (1892–1914) (Figure 7–Figure 10).

[5] Https://www.heritagegateway.org.uk/Gateway/Results_Single.aspx?uid=MNT3132&resourceID=1041 [Accessed: 6 March 2023].

[6] Https://www.heritagegateway.org.uk/Gateway/Results_Single.aspx?uid=MNT17089&resourceID=1041 [Accessed: 7 March 2023.

[7] Https://www.heritagegateway.org.uk/Gateway/Results_Single.aspx?uid=MNT2985&resourceID=1041 [Accessed: 7 March 2023.

3 Survey Location and Aims

The 2023 geophysical investigations, comprising high resolution magnetic gradiometry, were focused on ten discrete fields of pasture and tillage and encompassed a combined area approximately 26.33ha. (Table 1; Figure 11 & Figure 12; Plate 1–Plate 4). The target lands comprise three fields (Areas 25–27) at the northern end of the Scheme that were not available for investigation at the time of the 2022 survey. Extensions to previously surveyed areas (Areas 29 & 30), as well as new areas (Areas 33 & 34), at the same location were also surveyed. Potential flood compensation areas (Areas 48, 49 & 51) at Kelham were also targeted.

Table 1: Survey areas

Area	Size (ha.)
25	1.83
26	4.9
27	1.91
29 ext.	0.43
30 ext.	4
33	0.53
34	0.6
48	4.86
49	5.07
51	2.2
TOTAL	**26.33**

The local topography is mainly flat, generally lying between 10 and 20m above Ordnance Datum, with the target fields separated by tree-lined hedgerows supplemented in places by post-and-wire fences. The village of Winthorpe is located a short distance west of Areas 25–27 and the villages of Kelham and Averham lie northeast and southwest of Areas 48, 49 and 51, respectively. The River Trent flows northwards between Newark and Kelham. Elsewhere, the surrounding land is mainly used for tillage.

3.1 Areas unsuitable for survey

Area 50 (*c*.1.57 ha.) at Kelham was assessed for geophysical investigation but proved unsuitable for survey owing to dense overgrown and uneven terrain (Plate 5), while poor (heavily ploughed) ground conditions in two small parts of Area 51 were also avoided by the survey (Plate 6).

The underlying bedrock of the locality comprises Mercia Mudstone Group, an early Triassic lithostratigraphic group that is widespread in the English Midlands. Bedrock of this type is of fluvial, lacustrine and marine origin (BGS 2022). Within the area of the geophysical survey in the Newark area

the superficial deposits consist of Holme Pierrepont sands and gravels (southwest of the A1), a small area with no mapped superficial deposits (immediately northeast of the A1) and Balderton sands and gravels to the Winthorpe Junction. The superficial deposits that underlie most of the survey area at Kelham are Holme Pierrepoint sands and gravels, with limited areas of alluvium that are probably palaeochannel fills. Both sand and gravel geological formations are of fluvial origin, and date to the early to mid-Quaternary.

The soils are classed as free draining, sandy soils in Areas 25 to 34 and loamy soils with naturally high groundwater in the Kelham area (UKSO 2022).

The geophysical investigation sought to:

- Identify any geophysical anomalies of possible archaeological origin within the specified survey areas;
- Accurately locate these anomalies and present the findings in map form;
- Describe the anomalies and discuss their potential provenance in a written report; and
- Incorporate all of the above in a report to the Client and in a Digital Archive (anomaly shapefiles and GeoTiff rasters).

4 Survey Methodology and Instrumentation

The survey employed magnetic gradiometry (Table 2). This technique measures variations in the magnetic properties of the soils and is widely used in archaeological geophysical prospection due to its ability to detect and map a broad range of sub-surface archaeological remains, including ditches and pits as well as burnt or fired features associated with metalworking and pottery production.

The magnetic survey was conducted using a five-channel fluxgate gradiometer system (Foerster 650 sensors) combined with a digitiser, Panasonic FZ-G1 Toughbook and cm-precision GPS: (Trimble TSC3 controller with R12 antenna, georeferenced to OSGB 1936/British National Grid and Ordnance Datum). Mounted on a cart and pulled by a quad bike (Suzuki King Quad 500cc), the system records magnetometer and GPS data simultaneously into a single data file. The data capture strategy involved logging readings every 0.05m intervals along transects spaced 0.5m apart, with a maximum traverse width of 2.5m. The sampling strategy produces a high-resolution dataset, giving clarity to any archaeological features detected. The highly accurate positioning of the survey data provides strong confidence when integrating the geophysical results with other datasets such as aerial imagery in GIS, and also ensures repeatability should further investigation of anomalies (e.g. test excavation) be required.

Table 2: Geophysical survey details

Technique	Instrumentation	Sensor spacing	Sample rate	Survey Area	Number of recorded data
Magnetic Gradiometry	Five-channel fluxgate gradiometer array	0.5m	50 Hz	*c*.26.33 ha.	1,437,531[8]

[8] Area 25 105,339 readings; Area 26 245,687 readings; Area 27 107,243 readings; Area 29 ext. 27,948 readings; Area 30 ext. 222,300 readings; Area 33 34,363 readings; Area 34 33,164 readings; Area 48 256,654 readings; Area 49 273,702 readings; and Area 51 131,131 readings.

5 Data Management, Processing and Interpretation

Survey data was logged to a laptop computer and archived daily to an external hard drive. The collated data was processed using the following methodology:

- Real-time positioning of magnetometer data based on GPS measurements;
- Processing (Zero Mean Transect) of collated magnetometer data;
- Gridding (nearest neighbour interpolation); and
- Export of georeferenced greyscale images at optimum visual range.

The processed data was imported into QGIS for final image production (Figure 13–Figure 26). Final geophysical datasets have been formatted as raster data models/GeoTiffs (projected to OSGB 1936, EPSG:27700) to enable subsequent geospatial analysis. Fieldwork, data processing and reporting adhered to the most up-to-date guidelines for conducting archaeo-geophysical surveys (Schmidt *et al.* 2016). All geophysical raster datasets will be digitally archived to best practice (Neven 2012; Schmidt and Ernenwein 2012).

6 General Considerations and Complicating Factors

6.1 Access and Ground Conditions

The survey areas comprised flat fields of tillage and pasture, all of which proved suitable for investigation. That said, two small areas of heavily disturbed ground in Area 51 (see Plate 5) had to be avoided by the survey.

6.2 Modern Interference

Numerous small-scale ferrous (dipolar) responses are evident in the results from the gradiometry survey. These are a common occurrence in magnetic data and in most cases represent modern metal debris contained within the topsoil; some of the ferrous responses (e.g., in Area 48) may reflect objects of archaeological interest.

Areas of ferrous disturbance deriving from survey in proximity to post-and-wire fences and metal field gates were recorded in most areas. Passing traffic in Areas 26, 27, 29, 30, 33, 48 and 51, a petrol station in Area 25 and parked survey vehicles in Area 51 represented other sources of magnetic interference. A buried iron (water) pipe was mapped by the survey extending northwest—southeast across Area 49, while a wire (electric) fence in the same area was also registered by the survey.

6.3 Former Land Use

Traces of former cultivation are evident in the magnetic results from each of the survey areas, registering as faint, multiple, closely-spaced, parallel, positive/negative linear anomalies. These are at various orientations and likely relate to tillage farming in recent centuries. A number of relict field boundaries depicted on the early historic maps in Areas 25, 49 and 51 also registered in the survey results, as did a number of possible examples in Areas 26, 27 and 30 (see Figure 7–Figure 10).

6.4 Former quarries

Two possible in-filled quarry pits (labelled ‘2’ and ‘3’ on Figure 14) were recorded in the eastern half of Area 29, directly adjacent to the existing A46. A third possible example (labelled ‘7’ on Figure 20) was mapped in Area 30. The putative quarries are not depicted on early historic maps (see Figure 7–Figure 10).

7 Survey Results

Table 3: Areas 25–27, geophysical survey results

Area	25–27
Site description	Three large, flat fields of tillage located directly N of A46 and S of Winthorpe village. Area 25 lies immediately N of a petrol station, with a small copse of trees located roughly midway along the southern boundary of Area 26.
BNG (centroid)	481750, 356370
Area surveyed	*c*.1.83 ha. (Area 25), 4.9 (Area 26) & 1.91 ha. (Area 27)
Figure Numbers	13, 15 & 16

Anomaly Number	Area	*Form/nature of anomaly*	*Possible sources(s) of anomaly*	*Interpretative discussion*
1	26	Weak positive curvilinear	Possible archaeology	Possible ditch, mapped for about 100m in overall length (NW–SE). May be associated with [2] and [3] and correspond to cropmark recorded on aerial imagery from 2022 (see Figure 5).
2	26	Band of weak, sinuous, positive response	Possible archaeology	Possible curving 'ditch-type' feature. Traced for some 105m NE–SW. Could relate to [1] and [3] and comprise part of cropmark complex recorded on aerial imagery from 2022 (see Figure 5).
3	26	Faint, forked, positive linear	Possible archaeology	Possible intersecting ditches, mapped for *c*.60m in overall length (E–W). May be associated with [1] and [2] and correspond to cropmark recorded on aerial imagery from 2022 (see Figure 5).
4	26, 27	Several 'pit-type' anomalies	Possible archaeology/ modern/natural	Possible pits/spreads, some may contain burnt or fired material. Archaeological interpretation is cautious. Modern/natural origin also conceivable.
5	25	Weak positive linear	Agricultural	Relict field boundary, *c*.140m in length (NE–SW). Marked on both the first-edition six-inch OS Map (1884; surveyed 1883–84) and the first-edition 25-inch OS Map (1892–1914).

	25–27	Narrow positive linears	Possible archaeology/ agricultural	Possible linear ditches. May represent segments of former field boundaries. Not depicted on historical maps.
	25–27	Positive trends	Possible archaeology/ agricultural	Possible ditches/drains.
	25–27	Multiple, closely spaced, parallel, positive linears	Agricultural	Former cultivation, mainly orientated NW–SE.
	25–27	Multiple 'ferrous-type' responses	Modern	May reflect ferrous debris and other magnetised material (e.g., fired brick) in topsoils.
	26	Sinuous band of weak magnetic responses	Natural	Possible natural soil variation or paleochannel. Interpretation is cautious.
	25–27	Areas of magnetic disturbance	Modern	Disturbance from adjacent petrol station, post-and-wire fences and passing traffic.

Table 4: Areas 29 & 33, geophysical survey details

Area	29 & 33			
Site description	Two rectangular fields of tillage. Both fields lie directly S of the A1133 road, with the A46 immediately E of Area 29.			
BNG (centroid)	482100, 356850			
Area surveyed	*c*.4.01 ha. (Area 29) & 0.53 ha. (Area 33)			
Figure Numbers	13, 17 & 18			
Anomaly Number	**Area**	***Form/nature of anomaly***	***Possible sources(s) of anomaly***	***Interpretative discussion***
1	29	Several 'pit-type' anomalies	Possible archaeology	Possible pits/spreads, some may contain burnt or fired material. Archaeological interpretation is tentative. Modern/ferrous origin also conceivable.
2	29	Irregular zone of weak positive magnetism	?Modern	Possible quarry pit (*c*.70m N–S by 32m E–W). Located about 55m SW of [3]. Not marked on historical maps.
3	29	Sub-circular zone of weak positive magnetism	?Modern	Possible quarry pit, about 20m in diameter (N–S). Located about 55m NE of [2]. Not marked on historical maps.
	29	Positive trend	Possible archaeology/ agricultural	Possible ditch/drain.
	29, 33	Multiple, closely spaced, parallel, positive–negative linears	Agricultural	Former cultivation, orientated NW–SE
	28, 33	Multiple ferrous responses	Modern	Ferrous debris.
	29, 33	Areas of magnetic disturbance	Modern	Disturbance from wire fence and passing traffic.
	29, 33	Weak, amorphous areas of magnetic variation	Natural/agricultural	Likely reflects localised natural variations in soils and disturbance from recent land use. ***Not marked on* Figure 18**

Table 5: Areas 30 & 34, geophysical survey details

Area	30 & 34
Site description	Two large, rectangular fields of pasture located directly N of the A1133 road and W of the A46.
BNG (centroid)	482300, 357060
Area surveyed	*c*.7.7 ha. (Area 30) & 0.6 ha. (Area 34)
Figure Numbers	13, 19 & 20

Anomaly Number	*Form/nature of anomaly*	*Possible sources(s) of anomaly*	*Interpretative discussion*
1	Positive magnetic annulus	Archaeology	Possible ring-ditch or circular structure seemingly defined by a narrow ditch or slot trench, approx. 10m in overall diameter (N–S). Appears to be breached by a *c*.1.2m-wide entrance gap on W. Possibly associated with [2] and [3] located *c*.60m and 20m to N and S, respectively.
2	Faint, discontinuous sub-circular anomaly	Possible archaeology	Possible circular enclosure, *c*.20m in N–S diameter. Tentative feature. Lies about 60m N of [1].
3	Weak, discontinuous sub-circular anomaly	Possible archaeology	Possible circular enclosure, *c*.13m in N–S diameter. Speculative interpretation. Lies about 20m S of [1].
4	Positive linear	Possible archaeology/ agricultural	Possible former field boundary, traced for about 200m in length (NW–SE). Adjoins with [5] and [6]. Not marked on historical maps. Antiquity uncertain.
5	Positive linear	Possible archaeology/ agricultural	Possible former field boundary, traced for about 195m in length (N–S). Adjoins with [4] and [6] on N. Not marked on historical maps. Antiquity uncertain.
6	Positive rectilinear anomaly	Possible archaeology/ agricultural	Possible former small enclosure/paddock, measuring *c*.39m N–S by 28m E–W. Potential entrance gap on NE. Adjoins with [4] and [6]. Not marked on historical maps. Antiquity uncertain.

7	Amorphous area of weak positive magnetism	?Modern	Possible quarry pit (*c.*75m NE–SW by 30m NW–SE). Not marked on historical maps.
	Positive trend	Possible archaeology/ agricultural	Possible ditch/drain.
	Multiple, closely spaced, parallel, positive—negative linears	Agricultural	Former cultivation, orientated NE–SW and NW–SE.
	Multiple ferrous responses	Modern	Ferrous debris and other magnetised material (e.g., fired brick) in topsoils.
	Weak positive band	Natural	Possible natural soil variation.
	Areas of magnetic disturbance	Modern	Disturbance from adjacent post-and-wire fences, field gate and passing traffic.
	Weak, amorphous areas of magnetic variation	Natural/agricultural	Likely reflects localised natural variations in soils and disturbance from recent land use. ***Not marked on* Figure 20**

Table 6: Area 48, geophysical survey details

Area	48
Site description	Ovaloid field of tillage located directly adjacent to A617 road on W. Western boundary of survey area marked by linear drain and stand of mature oak trees flanked by a narrow strip of uncultivated (grassed-covered) ground.
BNG (centroid)	486860, 355260
Area surveyed	*c.*4.86 ha.
Figure Numbers	14, 21 & 22

Anomaly Number	*Form/nature of anomaly*	*Possible sources(s) of anomaly*	*Interpretative discussion*
1	Integrated array of slender, rectilinear and curvilinear positive magnetic anomalies	Archaeology	Network of interconnected ditches, seemingly indicative of an ancient, NE–SW/oriented, field/enclosure system. Recorded anomalies cover an area about 70m NE–SW by 45m NW–SE; extends beyond eastern boundary of survey area and full extent is unknown. Likely corresponds to cropmark monument L2958 and be associated with several 'pit-type' anomalies mapped in its vicinity. Lies about 75m to E of [2].
2	'C-shaped' positive anomaly	Possible archaeology	Possible partial footprint of rectilinear enclosure, approx. 40m in length (NE—SW) by 26m in width (NW–SE). Several 'pit-type' anomalies and a slender positive linear mapped in immediate vicinity of [2] may represent associated features. Located about 75m to W of [1].
3	Small rectangular positive anomaly	Possible archaeology	Possible small trench (*c.*11m in length by 2.2m in width). Tentative feature.
	Multiple 'pit-type' responses	Possible archaeology/ agricultural/ natural	Possible pits/deposits. May also reflect magnetised soils displaced by cultivation and/or localised natural soil variations.
	Positive trends	Possible archaeology/ agricultural	Possible ditches/drains.

	Multiple, closely spaced, positive linears	Agricultural	Former cultivation, orientated NE–SW. ***Modern, NW–SE/oriented cultivation pattern also discernible in dataset but not marked on*** **Figure 22**
	Multiple ferrous responses	Modern	Ferrous debris and other magnetised material (e.g., fired brick) in topsoils. Some responses may reflect objects of archaeological interest, especially in vicinity of [1] and [2].
	Zones of dipolar (positive–negative) responses	Agricultural/ modern/natural	May reflect concentrations of ferrous debris and other magnetised material in topsoils.
	Faint, slender positive curvilinear	Agricultural	Boundary of tilled land.
	Areas of magnetic disturbance	Modern	Disturbance from adjacent post-and-wire fences and passing traffic.
	Weak, amorphous areas of magnetic variation, with discrete 'pit-type' responses	Natural/agricultural	Likely reflects localised natural variations in soils and disturbance from recent land use ***Not marked on*** **Figure 22**

Table 7: Area 49, geophysical survey details

Area	49		
Site description	Large rectangular field of pasture sub-divided N to S by a post-and-wire fence. Located directly W of pond and surrounded in places by water troughs for cattle. A617 road runs next to site on S, with modern farm track to N.		
BNG (centroid)	476290, 354800		
Area surveyed	*c.*5.07 ha.		
Figure Numbers	14, 23 & 24		
Anomaly Number	***Form/nature of anomaly***	***Possible sources(s) of anomaly***	***Interpretative discussion***
	Negative linears	Agricultural	Relict field boundaries. Marked on both the first-edition six-inch OS Map (1884; surveyed 1883–84) and the first-edition 25-inch OS Map (1892–1914).
	High-intensity, positive–negative band	Modern	Buried (water) pipe. Extends NW from neighbouring pond to run along northern site boundary.
	Positive trend	Possible archaeology/ agricultural	Possible ditch/drain.
	Multiple, closely spaced, parallel, positive–negative linears	Agricultural	Former cultivation, orientated NW–SE, E–W and N–S.
	Multiple ferrous responses	Modern	Ferrous debris and other magnetised material (e.g., fired brick) in topsoils.
	Slender linear band of magnetic disturbance	Agricultural/ modern	Modern wire (electric) fence
	Areas of magnetic disturbance	Modern	Disturbance from adjacent post-and-wire fences and water troughs.

Table 8: Area 51, geophysical survey details

Area	51		
Site description	Eastern portion large tillage field located immediately W of A617 road. Heavily ploughed in places.		
BNG (centroid)	476720, 354900		
Area surveyed	*c.*2.2 ha.		
Figure Numbers	14, 25 & 26		
Anomaly Number	***Form/nature of anomaly***	***Possible sources(s) of anomaly***	***Interpretative discussion***
1	Strong positive curvilinear	Possible archaeology/ natural	Possible artificial feature, such as a ditch/drainage channel or levelled bank, associated with natural (e.g., water deposition) and/or anthropogenically introduced/influenced magnetised soils and burnt materials. Possibility that anomaly reflects a band of natural, floodplain, sediments (?palaeochannel infill) also conceivable.
2	Weak, slender positive curvilinear	Possible archaeology	Possible narrow ditch/drain. Tentative feature.
3	Mass anomalies of enhanced magnetism	?Natural/possible archaeology	Possible natural deposits rich in magnetic iron compounds (e.g., iron pan). However, an anthrophonic origin, whether archaeological or modern (e.g., agricultural), cannot be ruled out.
4	Narrow positive linear	Agricultural	Relict field boundary. Marked on both the first-edition six-inch OS Map (1884; surveyed 1883–84) and the first-edition 25-inch OS Map (1892–1914). Concentration of ferrous responses along its line suggest the former presence of wire fencing.
5	Slender negative linear	Possible agricultural	Possible ditch/drain.
	Positive trend	Possible archaeology/ agricultural	Possible ditch/drain.

	Slender positive–negative lineation	Possible agricultural	Possible field drain.
	Multiple, closely spaced, parallel, positive–negative linears	Agricultural	Former cultivation, orientated NW–SE. Only apparent in the southern half of the area.
	Multiple ferrous responses	Modern	Ferrous debris.
	Areas of magnetic disturbance	Modern	Disturbance from adjacent post-and-wire fences and water troughs.

8 Conclusion

In building on the 2022 geophysical survey, this latest phase of investigation has yielded additional evidence for archaeological and potential archaeological features along the route of the proposed A46 Newark Bypass Scheme. The most obvious features of interest were identified in the Kelham area, where the survey revealed a series of small, conjoined enclosures (48:1) in Area 48 that may correspond to a previously recorded cropmark monument (designated L2958 in the Nottinghamshire HER) and reflect ancient land division and/or settlement. The partial outline of what appears to be a rectilinear enclosure (48:2) was mapped about 75m to the west and could conceivably represent an associated feature, though this is uncertain. Moreover, while potential evidence for archaeological activity (51:1–3) was mapped by the investigation in the neighbouring field to the south (Area 51), further work is required to establish the precise nature and significance of the recorded anomalies. Nearer to Newark, in Area 26, the survey also revealed several linear and curvilinear anomalies [26:1–3] that may have an archaeological origin and relate to cropmarks recorded in this field on an aerial photograph from June 2022 (see Figure 5). The precise significance of the many possible ditches/drains (Areas 25–27, 29, 30, 48, 49 and 51) and 'pit-type' features (Areas 28, 48 and 51) are uncertain and a natural/ferrous/agricultural origin for these is possible. No new archaeological features can be clearly discerned in the survey results from the additional lands investigated in Areas 29 and 30.

Evidence for agricultural activity is also represented in the dataset. Relict field boundaries recorded on early historical maps were identified in Areas 25, 49 and 51, with possible examples also found in Areas 25–27 and 30. The antiquity of the latter features is unknown. Traces of former cultivation is plentiful and occur in all the target fields. Features of modern and possible modern origin mapped by the survey comprise buried services and a wire fence in Area 49, a potential field drain in Area 51 and what may be three infilled quarry pits in Areas 29 and 30.

8.1 Statement of indemnity

The geophysical properties of subsurface features must contrast sufficiently with the surrounding soils/background variation and 'noise' to enable them to be detected and mapped using geophysical methods. As such, the clarity and definition of buried features can vary considerably, with some having well-defined signatures while others, lying on the threshold of background noise, are only barely visible, or not visible at all, in geophysical imagery. A lack of geophysical anomalies cannot be taken to imply a lack of archaeological features.

The interpretations presented here are invariably provisional and further work (e.g. test trenching) is required to fully assess the archaeological potential of the site, as well as nature and significance of the anomalies identified by the present investigation.

References

Dowling, G. 2022. Geophysical Survey Report of Lands along the A46 Newark Northern Bypass. Unpublished report prepared by Archaeological Management Solutions for Skanska Construction Ltd.

Highways England. 2021. Regional Investment Programme A46 Newark Northern Bypass Environmental Assessment Report PCF Stage 2 Volume I Main Chapters.

Muller, J. 2022. Geophysical survey: Land to the west of Kelham, Nottinghamshire. Report No. 2092. Unpublished report prepared by Archaeology England for Sirius Planning Ltd.

Nevin, K. 2012. *Raster Images: A Guide to Good Practice***.** Archaeology Data Service/Digital Antiquity, Guides to Good Practice. [Online] [accessed on 28 April 2022]. Available from: http://guides.archaeologydataservice.ac.uk/g2gp/RasterImg_Toc

Schmidt, A. and Ernenwein, E. 2012. *Guide to Good Practice: Geophysical Data in Archaeology*. Oxford: Oxbow.

Schmidt A., Linford P., Linford N., David A., Gaffney C., Sarris A., and Fassbinder J. 2016. *EAC Guidelines for the Use of Geophysics in Archaeology*: *Questions to Ask and Points to Consider*. EAC Guidelines 2. [Online] Available from:

https://f64366e3-8f7d-4b63-9edf 5000e2bef85b.filesusr.com/ugd/881a59_fdb1636e95f64813a65178895aea87cf.pdf

Online Sources

British Geological Survey (BGS). 2022. Geology of Britain viewer [Online]. [Accessed 28 April 2022] Available from: https://www.bgs.ac.uk/map-viewers/geology-of-britain-viewer/.

UK Soil Observatory (UKSO). 2022. The soils of England and Wales [Online]. [Accessed 28 April 2022]. Available from: https://www.bgs.ac.uk/map-viewers/geology-of-britain-viewer/.

Cartographic Sources

First-Edition Six-Inch OS Map (1884; surveyed 1883–84)

First-Edition 25-Inch OS Map (1892–1914)

Figures

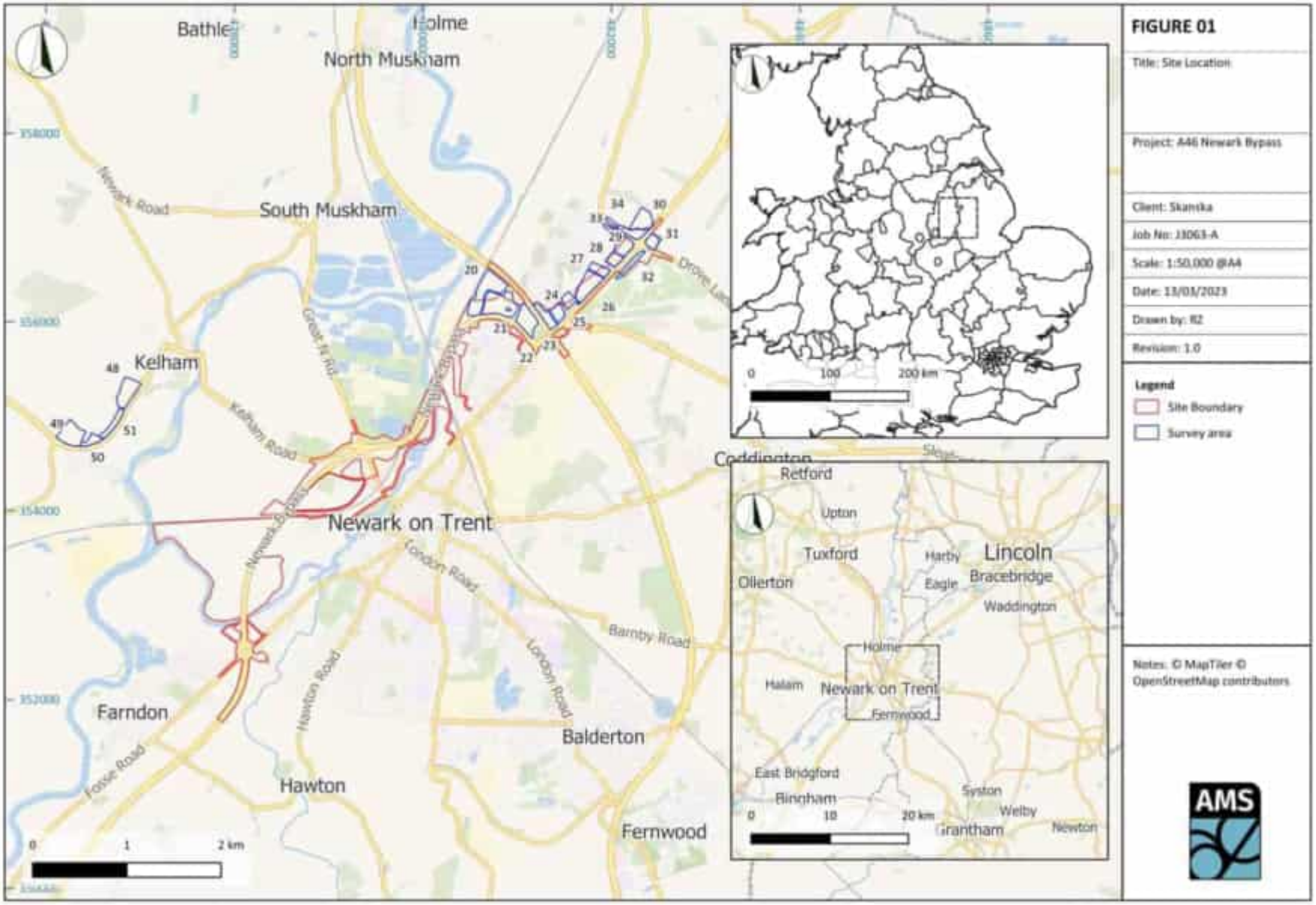


Figure 1: Site location map.

Figure 2: 2022 survey areas.

Figure 3: Greyscale image of 2022 gradiometry results (Areas 20–24 & 28–32).

Figure 4: Recorded monuments in the vicinity of survey areas 20—32; select monuments indicated.

Figure 5: Area 26 cropmarks

Figure 6: Recorded monuments in the vicinity of survey areas 48-51 (select monuments indicated).

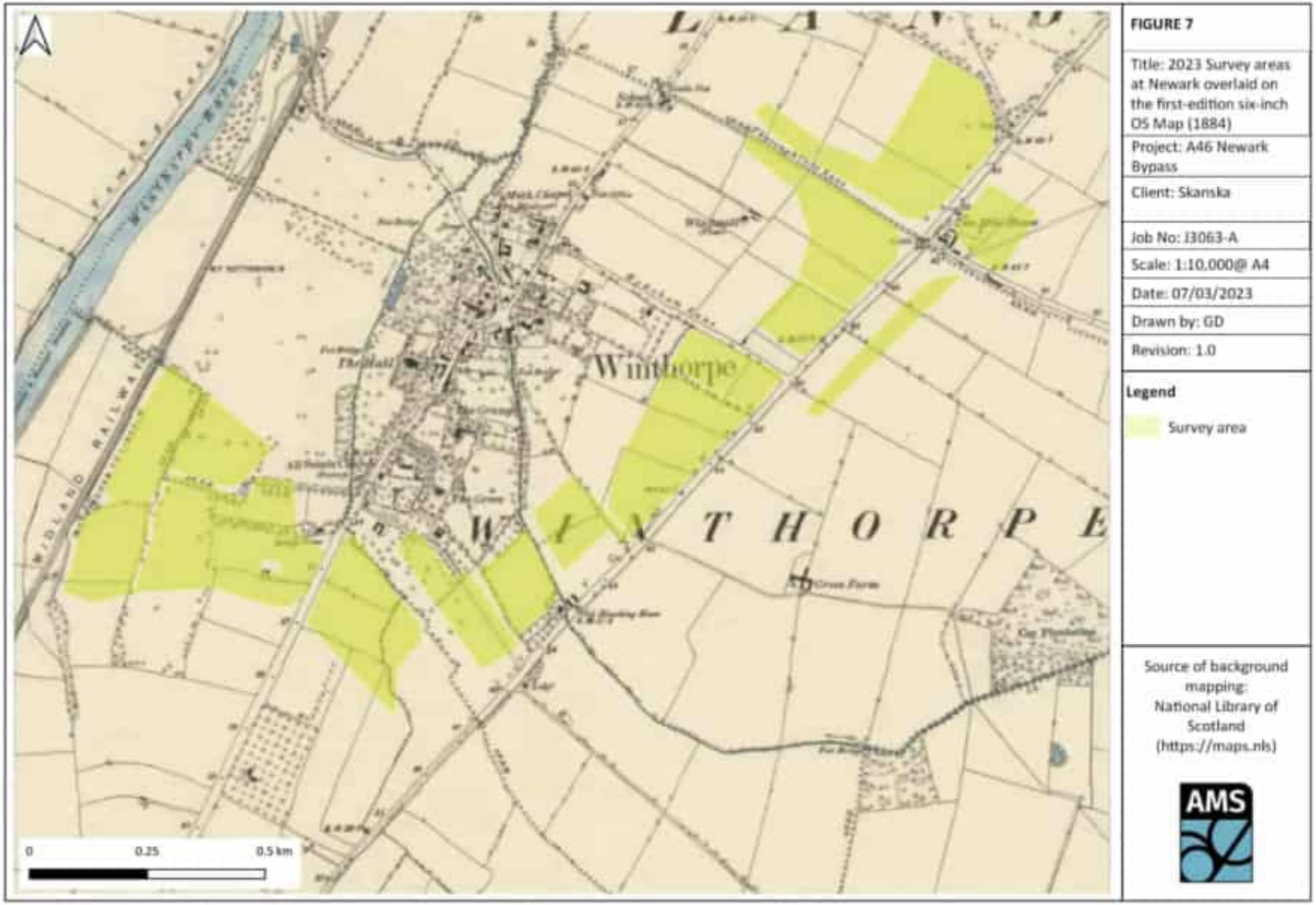


Figure 7: The 2023 survey areas at Newark overlaid on the first-edition six-inch OS Map (1884; surveyed 1883-84).

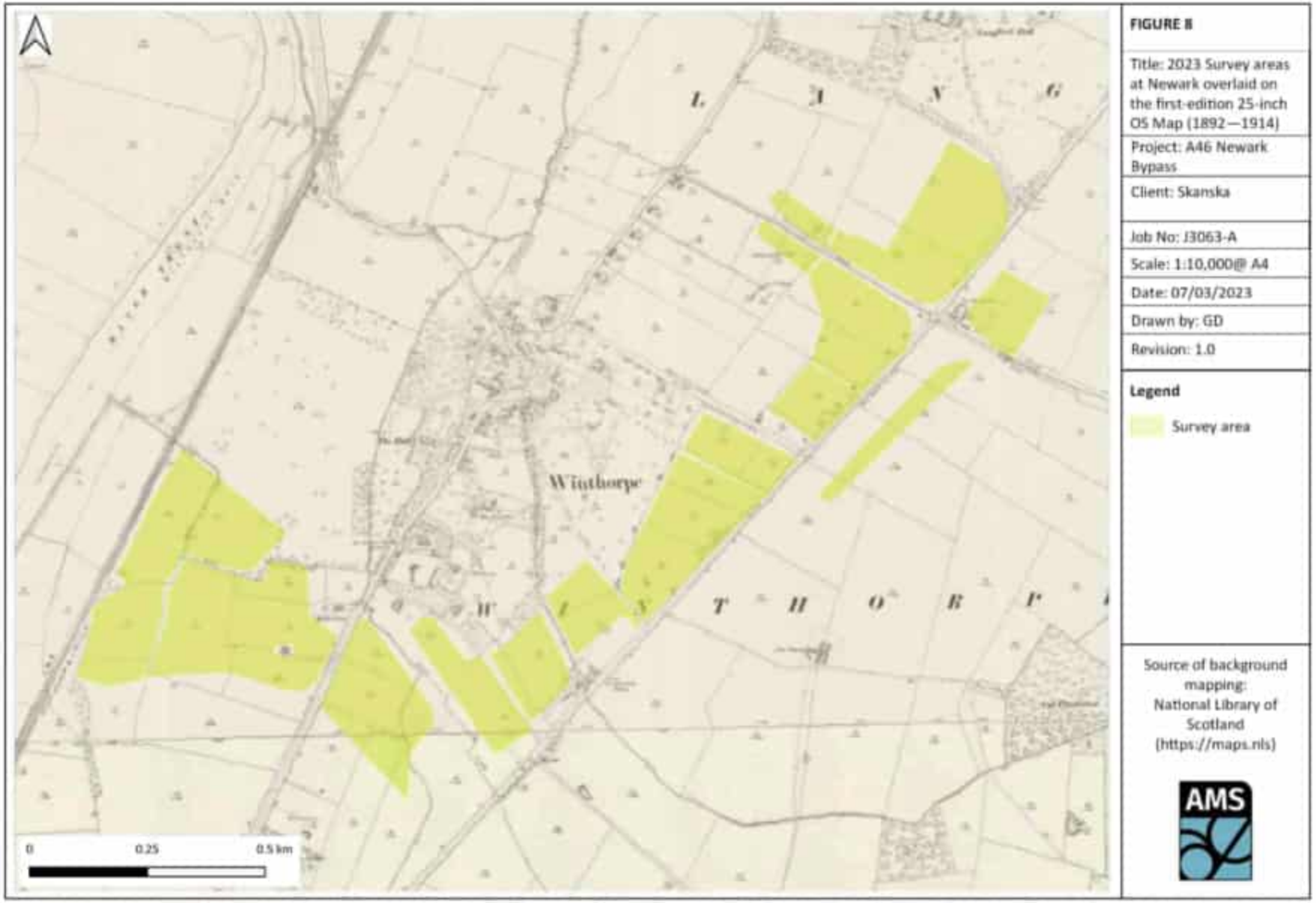


Figure 8: The 2023 survey areas at Newark overlaid on the first-edition 25-inch OS Map (1892—1914).

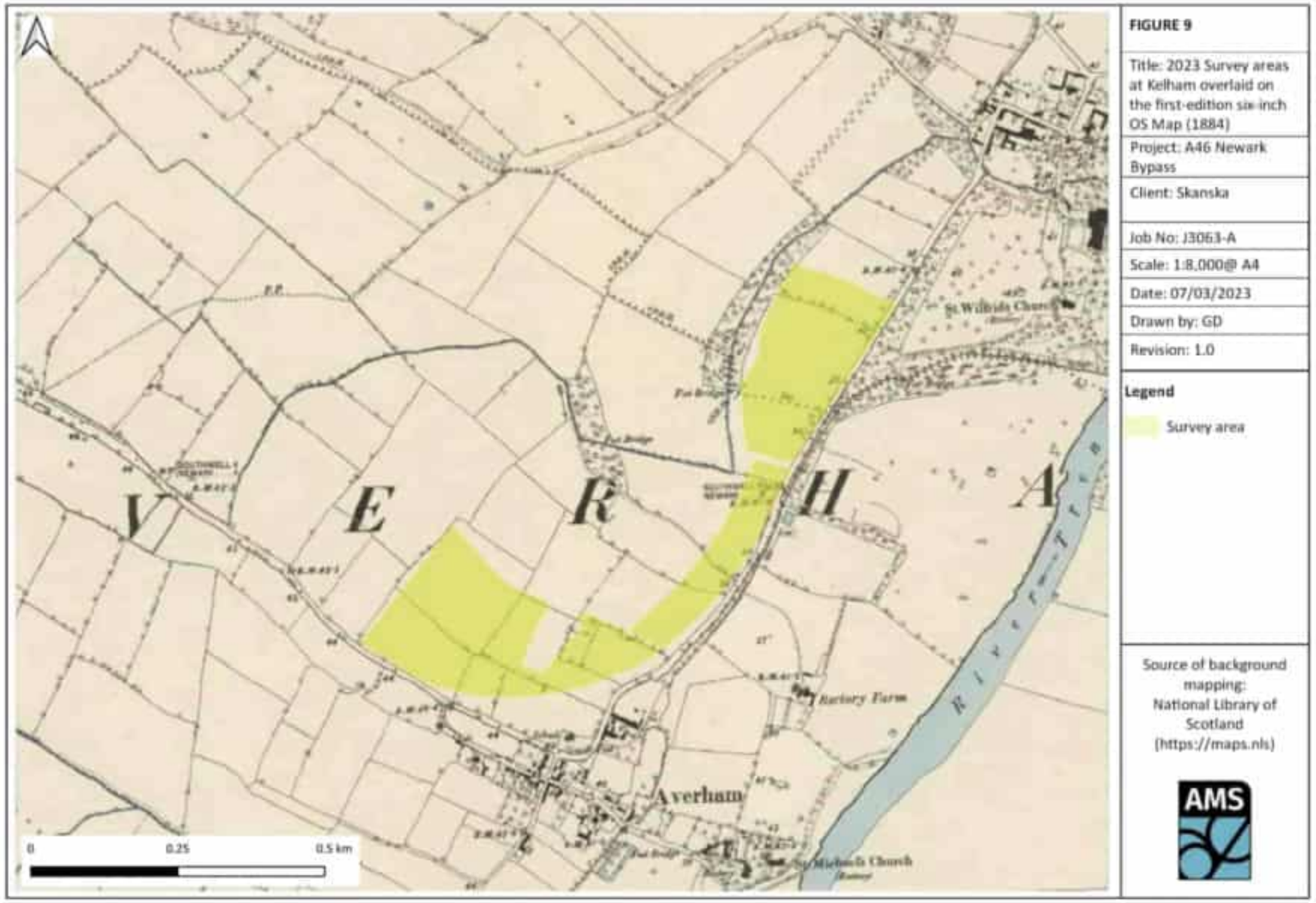


Figure 9: The 2023 survey areas at Kelham overlaid on the first-edition six-inch OS Map (1884; surveyed 1883–84).

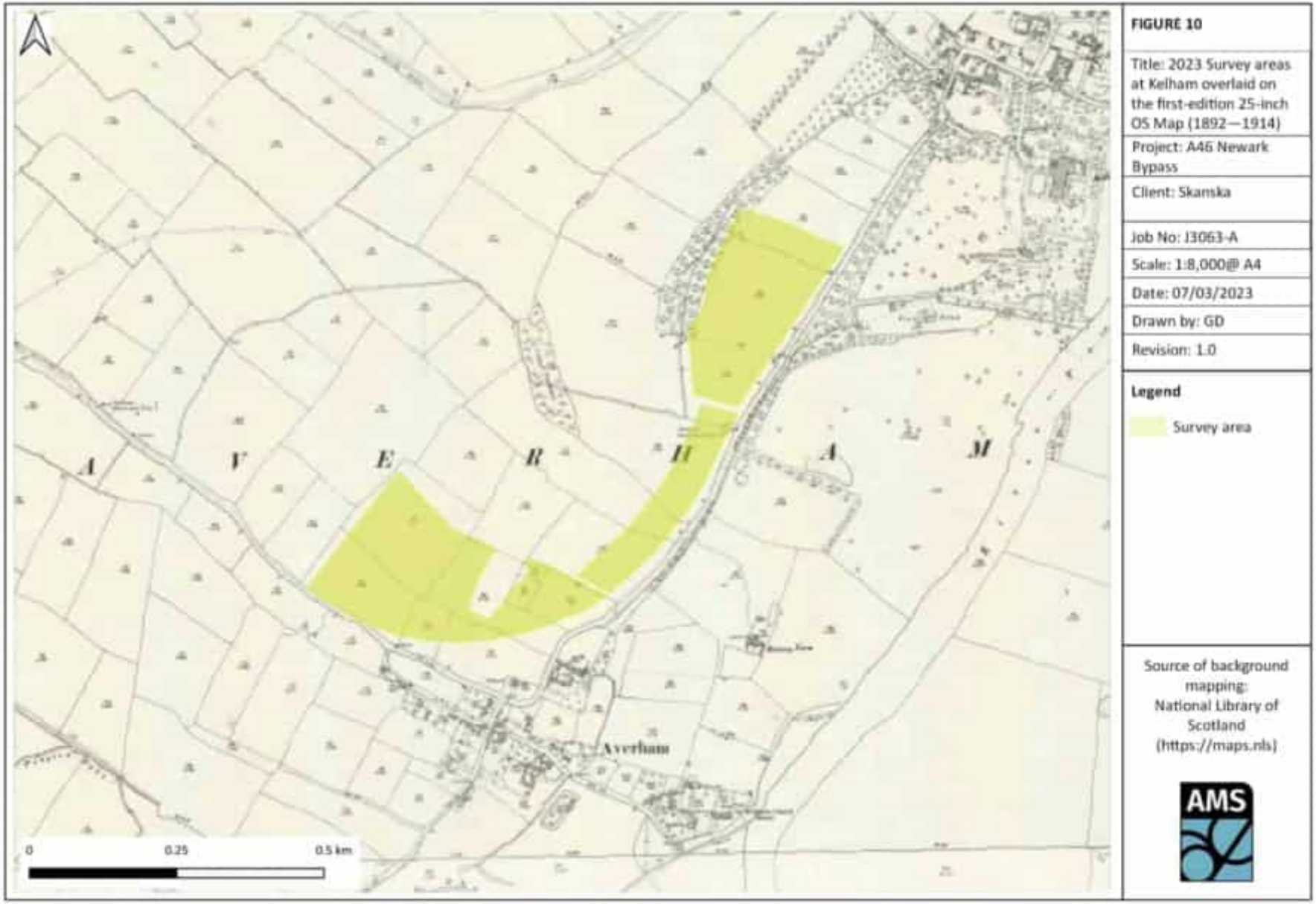


Figure 10: The 2023 survey areas at Kelham overlaid on the first-edition 25-inch OS Map (1892—1914).

Figure 11: Survey areas at the northern part of the scheme.

Figure 12: Survey areas in the Kelham area

Figure 13: Greyscale image of gradiometry results (Areas 25—27; 29 & 30; 33 & 34).

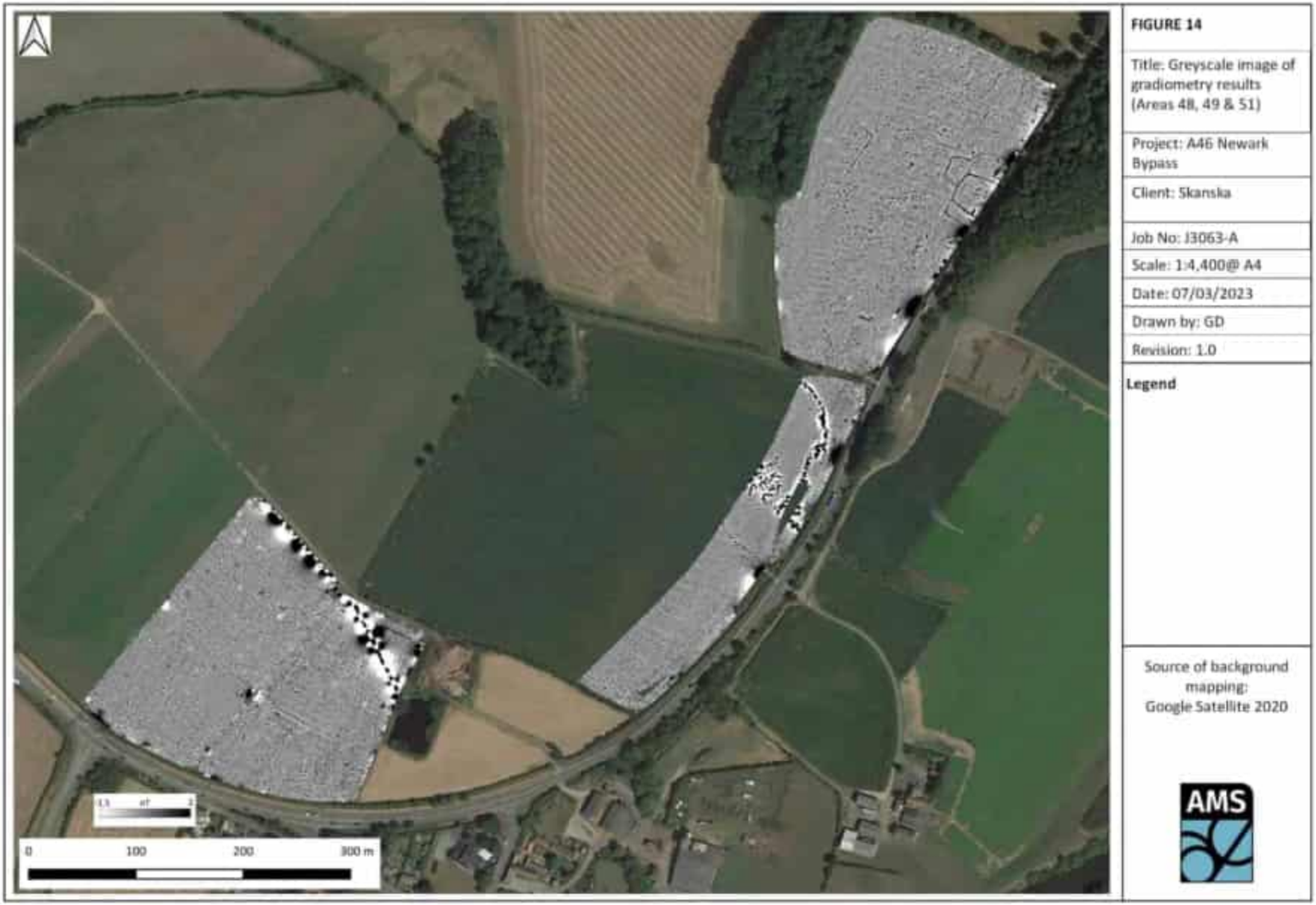


Figure 14: Greyscale image of gradiometry results (Areas 48, 49 & 51).

Figure 15: Areas 25—27, greyscale image of gradiometry results.

Figure 16: Areas 25—27, interpretative plan showing principal geophysical anomalies.

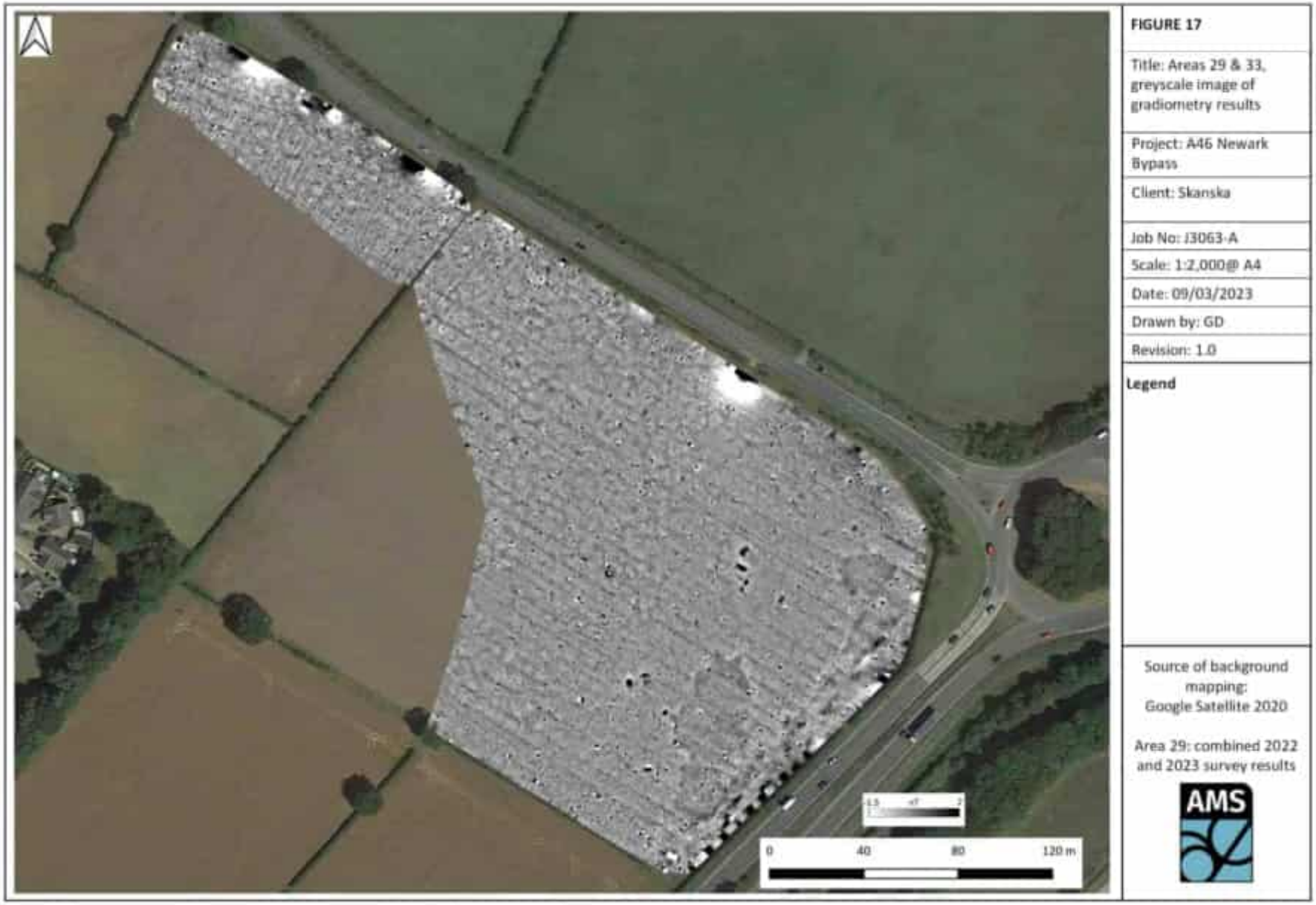


Figure 17: Areas 29 & 33, greyscale image of gradiometry results.

Figure 18: Areas 29 & 33, interpretative plan showing geophysical anomalies.

Figure 19: Areas 30 & 34, greyscale image of gradiometry results.

Figure 20: Areas 30 & 34, interpretative plan showing principal geophysical anomalies.

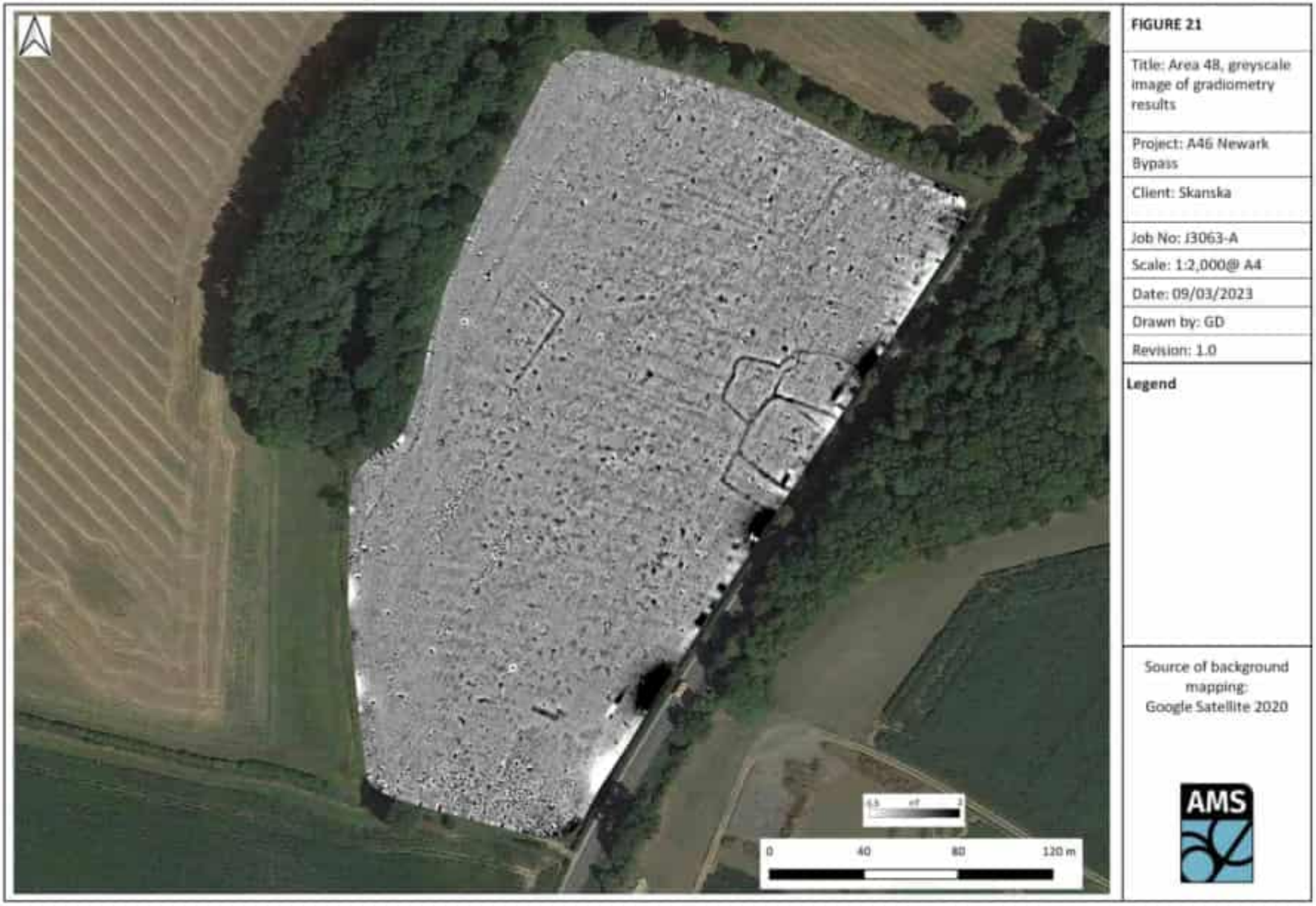


Figure 21: Area 48, greyscale image of gradiometry results.

Figure 22: Area 48, interpretative plan showing principal geophysical anomalies.

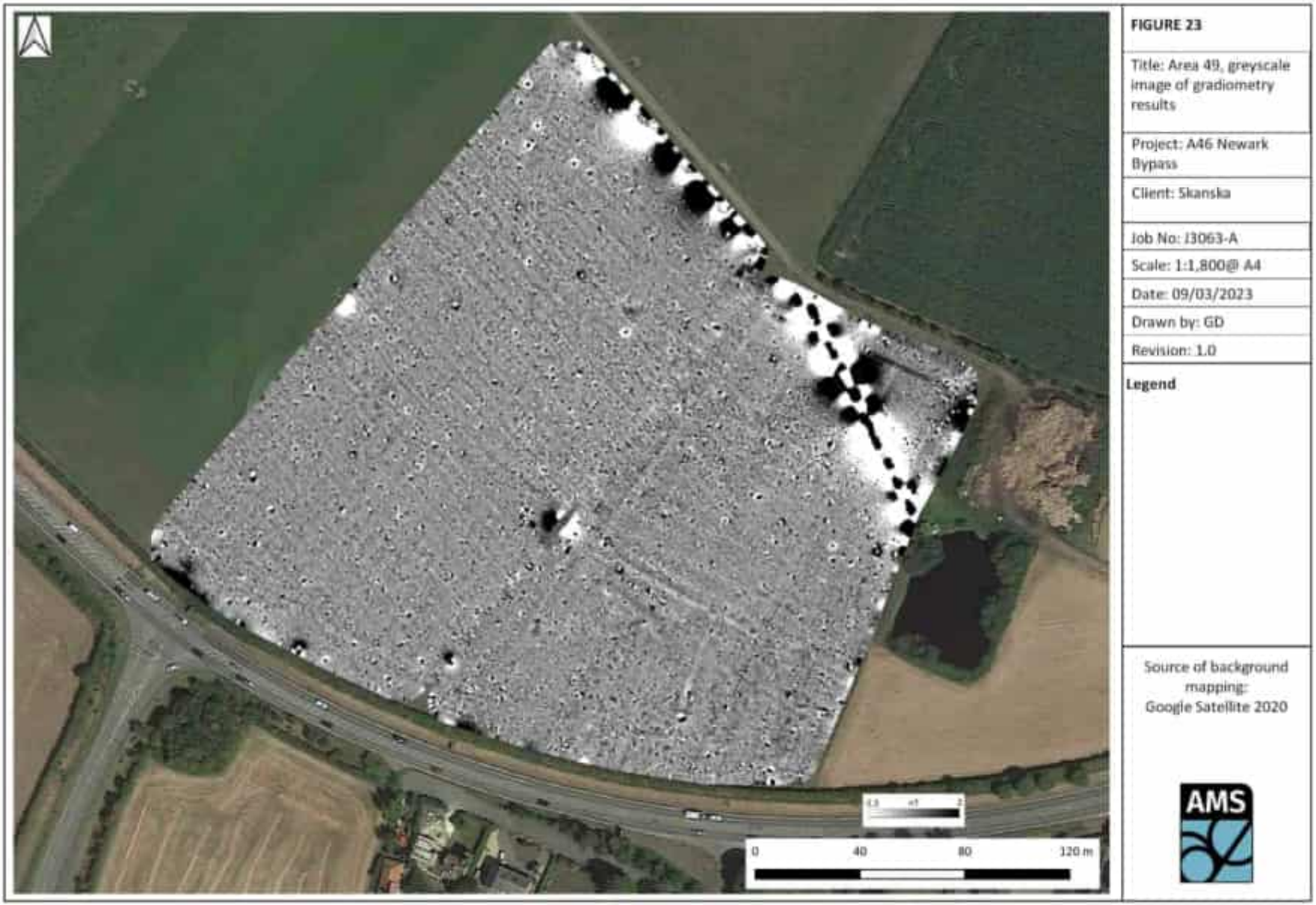


Figure 23: Area 49, greyscale image of gradiometry results.

Figure 24: Area 49, interpretative plan showing principal geophysical anomalies.

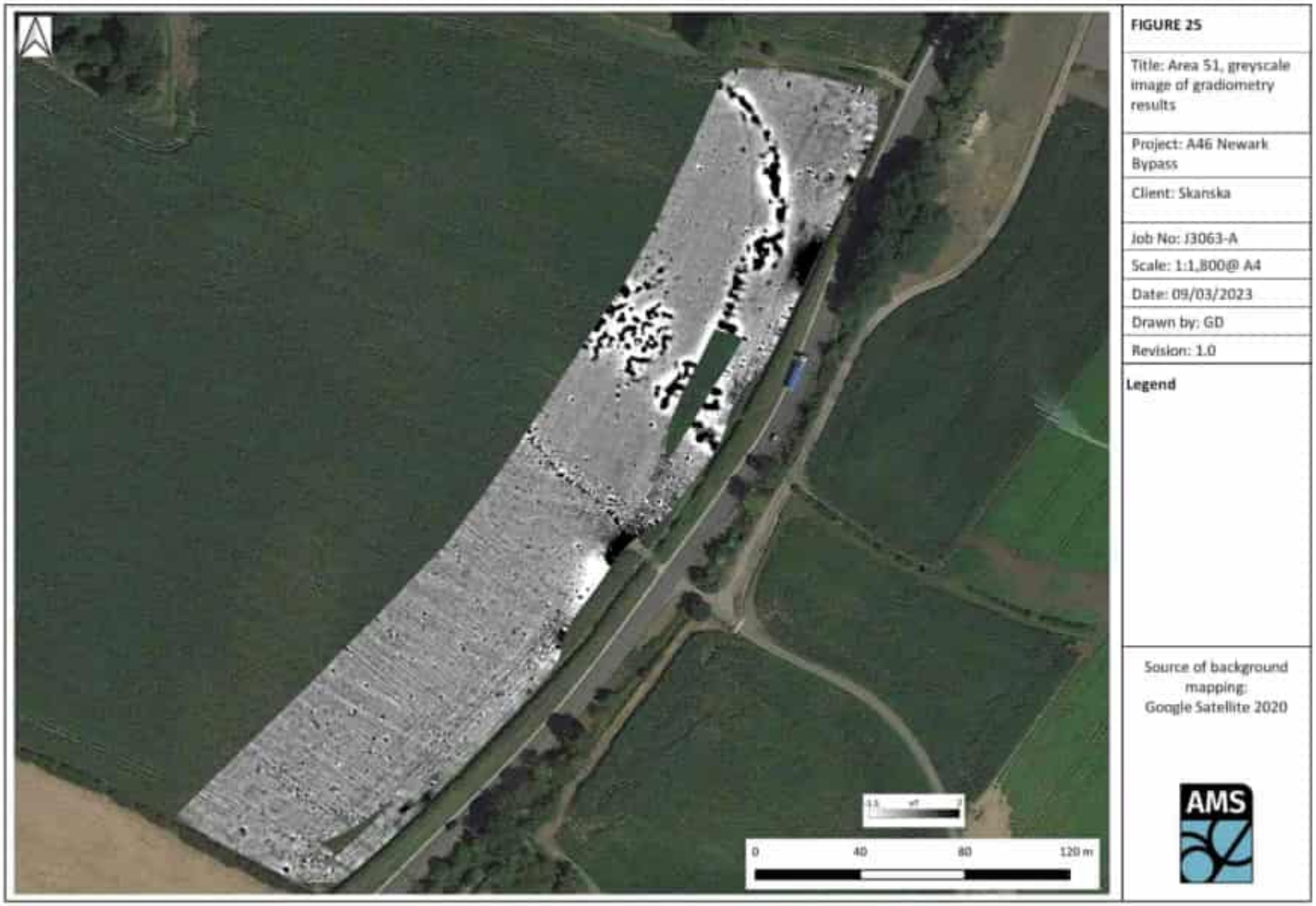


Figure 25: Area 51, greyscale image of gradiometry results.

Figure 26: Area 51, interpretative plan showing principal geophysical anomalies.

Plates

Plate 1: Area 26, looking southeast.

Plate 2: Looking northwest along the northern part of Area 29, with Area 33 in the background.

Plate 3: Looking northwest across Area 49.

Plate 4: Area 51, looking northeast.

Plate 5: Area 50, looking southeast.

Plate 6: Small area of uneven terrain in Area 51, viewed from the northeast.

Appendix H: Archaeological and geoarchaeological monitoring of Ground Investigations

A46 Newark North Bypass, Nottinghamshire.

Archaeological and geoarchaeological monitoring of Ground Investigations

York Archaeology 2022

A46 Newark North Bypass
Newark, Nottinghamshire

Archaeological and Geoarchaeological Monitoring of Ground Investigations

York Archaeology – Nottingham
Unit 1 Holly Lane, Chilwell, Nottingham NG9 4AB
Phone: +44 (0)115 8967400
yaenquiries@yorkat.co.uk www.yorkarchaeology.co.uk

KEY PROJECT INFORMATION

Project Name	A46 Newark North Bypass, Newark
TPA Project Code	NNB
Report status	Draft Report
Type of Project	Archaeological and Geoarchaeological Monitoring of Ground Investigations
Client	Tetra Tech
Planning Reference	-
OASIS ID	yorkarch3-508482
NGR	48229 35682 to 47809 35251
Authors	[redacted]
Illustrations	
Editor	
Report Number and Date	YA/2021/009 03/02/22
Version and Filename	V1r3 / NNB_Newark_Bypass_Report_v3

Copyright Declaration:

York Archaeology give permission for the material presented within this report to be used by the archives/repository with which it is deposited, in perpetuity, although York Archaeology retains the right to be identified as the author of all project documentation and reports, as specified in the Copyright, Designs and Patents Act 1988 (chapter IV, section 79). The permission will allow the repository to reproduce material, including for use by third parties, with the copyright owner suitably acknowledged.

Disclaimer:

This Report has been prepared solely for the person/party which commissioned it and for the specifically titled project or named part thereof referred to in the Report. The Report should not be relied upon or used for any other project by the commissioning person/party without first obtaining independent verification as to its suitability for such other project, and obtaining the prior written approval of York Archaeological Trust for Excavation and Research Limited ("YAT") (trading as York Archaeology). YAT accepts no responsibility or liability for the consequences of this Report being relied upon or used for any purpose other than the purpose for which it was specifically commissioned. Nobody is entitled to rely upon this Report other than the person/party which commissioned it. YAT accepts no responsibility or liability for any use of or reliance upon this Report by anybody other than the commissioning person/party.

© York Archaeological Trust for Excavation and Research Limited. Registered Office: 47 Aldwark, York YO1 7BX. A Company Limited by Guarantee. Registered in England No. 1430801. A Registered Charity in England & Wales (No. 09060) and Scotland (No. SC*042846)*

Abstract

This report presents the results of an archaeological and geoarchaeological assessment carried out by York Archaeology (the new trading name for Trent and Peak Archaeology) from March to July 2021. York Archaeology were commissioned by TetraTech to undertake archaeological and geoarchaeological monitoring of ground investigations ahead of the first stage of proposed improvements to the A46 Newark Bypass (NGR 48229 35682 to 47809 35251).

Modelling of the site has provided an overview of the depositional sequence, which is primarily dominated by sands and gravels, blanketed by oxidised silt-clay alluvium in the Trent floodplain area. The geoarchaeologial assessment recorded waterlogged organic deposits in seven boreholes. These samples were characterised by a predominantly well humified

sequence of silts and clays. In addition, several locations where waterlogged organic deposits were encountered were recorded but remain unsampled. The sediments are preserved in low lying consistently waterlogged conditions, predominantly within palaeochannels identified on the LiDAR imagery. The organic deposits are suitable for radiocarbon dating and have the potential of preserving palaeoenvironmental remains. At this stage, no palaeoenvironmental analysis or radiocarbon dating has been carried out. These analyses are recommended as they would enable the development of a wider understanding of the archaeological history and the evolution of the floodplain area.

Potential adverse impacts on the archaeological and palaeoenvironmental record are outlined. The majority will impact the 5.00km stretch of the route on the floodplain of the River Trent. The details of potential adverse impacts to the underlying deposits are at present not forthcoming but the range and scope of the impacts appears to be substantial. One of the main concerns is the loss of waterlogged conditions, which over time will result in the degradation and potential loss of any palaeoenvironmental and archaeological material. The proposed works should aim to mitigate any future degradation or loss of such material.

Contents

1. INTRODUCTION 1
   1.1. Site Background 1
   1.2. Geology and Topography 1
   1.3. Planning Background 2
   1.4. Scope of Report 4
2. GEOARCHAEOLOGICAL BACKGROUND 4
   2.1. Pleistocene and Holocene 4
   2.2. Archaeological context 5
3. PROJECT AIMS AND OBJECTIVES 8
4. GEOARCHAEOLOGICAL METHODOLOGY 9
   4.1 Fieldwork Methodology 9
   4.2 Fieldwork constraints 10
   4.3 Deposit model constraints 11
   4.4 Archive 11
5. RESULTS 12
   5.1. Lithology 12
   5.2 Deposit modelling 18
6. PALAEOENVIRONMETAL SAMPLES 20
   6.1 Summary 20
7. DISCUSSION AND CONCLUSIONS 22
   7.1 Overview of lithological sequence 22
   7.2 Deposit survival and existing impacts 22
   7.3 Discussion of deposits 24
   7.4 Potential impact on deposits 26
   7.5 Consideration of research aims 28
   7.6 Conclusions and recommendations 29
8. BIBLIOGRAPHY 32

Appendix 1 Troels-Smith 36

Appendix 2 Borehole Logs 37

TABLES

Table 1: Quantification of site paper /digital archive

Table 2: Quantification of artefact and environmental samples

Table 3: Farndon roundabout to Nottingham to Lincoln Line west (BH24-WS17).

Table 4: Farndon roundabout to Nottingham to Lincoln Line west (BH24-WS17). Locations of organic samples which were retained.

Table 5: Nottingham to Lincoln Line west to the former Newark Cattle Market roundabout (BH05-WS29)

Table 6: Nottingham to Lincoln Line west to the former Newark Cattle Market roundabout (BH05-WS29)

Table 8: Crankley Point to A1133/A46 roundabout (BH62-WS72).

Table 9: Grab samples of material taken during GI monitoring

Table 10: Recommended samples for radiocarbon age determination assessment

FIGURES

Figure 1: Site Location

Figure 2: Site Plan Showing Ground Investigation Locations

Figure 3 - Processed LIDAR Data and GI Locations Across The Newark 'Island' Floodplain Showing Transects A-B, C-D, and E-F

Figure 4 - Mapped BGS Deposits Which Interact With The Proposed Scheme Route

Figure 5 - BGS Mapped Superficial Deposits and GI Locations Across The Newark 'Island' Floodplain Showing Transects A-B, C-D, and E-F

Figure 6 - GI Locations Across The Newark 'Island' Floodplain Showing Transects A-B, C-D, and E-F

Figure 7 - Floodplain Transect A-B Showing Modelled Sand and Gravel Surface. Indicative GL is 2018 1m DSM Lidar

Figure 8 - Floodplain Transect C-D Showing Modelled Sand and Gravel Surface. Indicative GL is 2018 1m DSM Lidar

Figure 9 - Floodplain Transect E-F Showing Modelled Sand and Gravel Surface. Indicative GL is 2018 1m DSM Lidar

Figure 10 - GI Locations Across The Newark 'Island' Floodplain Showing a) Modelled Sand

and Gravel Surface and; b) Modelled Mudstone Bedrock Surface
Figure 11 - Location of Retained Organic Samples and Organic Deposit Locations Where Samples Were Unable To Be Obtained
Figure 12 - Proposed Modifications and Additions to Structural Elements of the A46 Bypass Outlined for Option 2 Modified

PLATES

Plate 1: BH03 1.00-4.00m BGL (Sampled 1.84-2.00m BGL)
Plate 2: BH03a 1.20-3.00m BGL (Sampled 1.45-1.55m BGL).
Plate 3: BH26: 1.20-4.00m BGL
Plate 4: BH26: 4.00-7.00m BGL
Plate 5: BH27 4.00-7.00m BGL (Sampled 5.60-5.75m BGL)
Plate 6: BH28 6.00-8.00m BGL
Plate 7: BH30 14.00-16.00m BGL (Sampled 14.10-14.20m BGL)
Plate 8: BH33 8.00-10.00m BGL (Sampled: 8.50-9.00m BGL)
Plate 9: BH35 6.00-8.00m BGL (Sampled 7.70-7.85m BGL)
Plate 10: BH46 4.50-6.50m BGL
Plate 11: BH47 1.20-5.00m BGL
Plate 12: BH51 1.20-3.00m BGL (Sampled 1.35-1.45m BGL)
Plate 13: WS13 1.20-2.00m BGL (Sampled 1.80-2.00m BGL)
Plate 14: WS15 2.00-3.00m BGL (Sampled 2.65-2.75m BGL)
Plate 15: WS23 2.45-3.00m BGL (Sampled 2.60-2.70m BGL)
Plate 16: WS28: 2.00-3.00m BGL (Sampled 2.90-3.00m BGL)
Plate 17: Window Sample 54 2.00-3.00m BGL
Plate 18: Window Sample 54 3.00-4.00m BGL

1. INTRODUCTION

1.1. Site Background

1.1.1 York Archaeology (the new trading name for Trent and Peak Archaeology) were commissioned by TetraTech to undertake archaeological and geoarchaeological monitoring of ground investigations from March to July 2021 ahead of the first stage of proposed improvements to the A46 Newark Bypass (NGR 48229 35682 to 47809 35251; Figure 1).

1.1.2 This document represents the findings of the archaeological and geoarchaeological monitoring of ground investigations. It outlines the principal aims and objectives of the work, the detailed methodology by which the works were carried out, and the results and interpretations of the boreholes, window samples, and trial pits which were monitored with the deposits recorded.

1.1.3 This document has also been produced in accordance with the guidelines laid out in the Management of Research Projects in the Historic Environment: The MoRPHE Project Managers Guide (Historic England, 2015b) and the Chartered Institute for Archaeologists (CIfA) Standard and Guidance for an Archaeological Field Evaluation (CIfA, 2014b) and Code of Conduct (CIfA, 2014a).

1.2. Geology and Topography

1.2.1. The site of ground investigation runs parallel to the A46 Newark Bypass along a c. 6.50km stretch of the carriageway, from Farndon roundabout (NGR 47809 35251) northwards towards the A1133 roundabout north-east of Winthorpe (NGR 48229 35682; Figure 2).

1.2.2. The proposed scheme follows the route of the A46 Newark-On-Trent Relief Road, which opened in 1990. The road bypasses the town of Newark-On-Trent located to the east, south-east, and south. The present road is located on an embankment with several crossing bridges, between elevations of c. 13.00-22.00m OD, raised above the floodplain of the River Trent sited locally at between c.11.30-10.00m OD with depressions below these elevations occurring across the floodplain.

1.2.3. The floodplain forms part of the Newark ‘island’, the island between the two arms of the Trent. The navigable southern arm of the Trent flows from Averham (NGR 47709 353624) downstream, following southern edge of the Trent valley floodplain with a second, unnavigable northern arm following the northern limit of the floodplain, before merging again at Crankley Point (NGR 48022 35631; Figure 3)

1.2.4. From the Farndon roundabout the route crosses the southern, navigable arm of the river Trent, followed by the Nottingham to Lincoln Line, to the roundabout where the former Newark cattle market was located (c. 2.70km; NGR 47936 35466). The route continues north-westwards for a further 2.70km, crossing the Nottingham to Lincoln Line and the southern-arm of the River Trent again before crossing the East

Coast Main Line, and reaching the A1/A46 Winthorpe Interchange roundabout, which the scheme proposes to bypass to the north. From here the scheme re-joins the A46 to the roundabout with the A1133.

1.2.5. The BGS map the underlying bedrock geology of the site as comprising of three sedimentary units which formed during the Triassic period (Figure 4). From south to north these units comrprise: Edwalton Mudstone Member (228-237mya), Gunthorpe Mudstone Member (237-247mya), and Mercia Mudstone Group (201-252mya). The only mapped outcrops of this basement geology across the site occur where the route climbs out of the floodplain near Crankley Point (NGR 48051 35600) in addition to smaller outcrops c.800m of this location.

1.2.6. Underlying large areas of modern Newark and Winthorpe are Pleistocene sands and gravels of the Balderton Sand and Gravel Member (up to 3mya; BGS, 2021). These are located along a c.1.20km stretch of the route between the eastern side of the A1 and the roundabout with the A1133 north-west of Winthorpe.

1.2.7. Approximately 5.00km of the overall c.6.50km proposed scheme is located on the floodplain of the river Trent (Figure 5). Superficial deposits of Pleistocene age include the Holme Pierrepoint Sand and Gravel Member (HPSG), historically known as 'Floodplain Terrace' in the Middle Trent, formed from glacial outwash of Upper Devensian age (MIS 2; 30-25ka BP; Bridgland et al., 2014: 179). Mapped locations of these deposits occur on the edges of the floodplain at both Farndon and Crankley Point. Smaller 'islands' of HPSG are mapped locally within the floodplain itself, with none indicated to be within the proposed development area of the scheme.

1.2.8. Whilst unmapped within the scheme area and within the Newark 'island' floodplain in general, extensive evidence of reworking of the HPSG has been shown throughout the Middle and Lower Trent Valley (Bridgland et al., 2014). It has been demonstrated definitively, at several locations downstream of Newark (Lower Trent), that the Pleistocene HPSG has been extensively fluvially reworked during the Holocene largely by lateral meander migration. The BGS map this unit as Hemington Sand and Gravel, an inset terrace, which is lithologically indistinguishable from the HPSG (Bridgland et al., 2014). The main characteristics of this mapped unit are the presence of artefactual (post-glacial archaeology) and/or ecofactual (bog-oaks, peat-infilled channels and so on) remains datable to the Holocene, in addition to the absence of periglacial features (e.g. ice wedge casts, cryoturbation and so on). Examples of this unit and associated artefacts and ecofacts have been observed at the Langford (Garton et al., 1997) and Cromwell (Keyworth, 2018) quarries, located immediately downstream of Newark.

1.2.9. The BGS map the deposits of finer-grained silt, clay, and sand, which blanket the sands and gravels, as Holocene alluvium.

1.3. Planning Background

1.3.1. The Preferred Route (Option 2 Modified) was announced on 24th February 2022 by

National Highways which outlines the proposed development / route of the scheme (National Highways, 2022). This will include:

- Widening the A46 to a dual carriageway to provide two lanes in each direction between the Farndon and Winthorpe junctions
- A new bridge over the A1 to the north of the existing bridge
- A flyover junction at Cattle Market with the A46 elevated to pass over the roundabout
- Traffic lights to Farndon junction to improve traffic flows during peak hours
- A five-arm roundabout at Winthorpe roundabout with traffic lights to connect the new A46 link

1.3.2. Further surveys and assessments to aid the development of the design are currently being outlined. At the time of writing the scheme is at the end of Stage 2 (option selection) with preliminary design (Stage 3) yet to be announced. There is currently no Development Consent Order (DCO) and consequently the ground investigation works may be at the pre-planning stage. Of the publicly available information a '*General Arrangement Option 2 Modified For Notification of Development*' drawing (HE551478-ATK-HGN-OP2_A46Z-DR-CH-000009; dated 17/06/21) shows the proposed locations of various construction elements as well as indicative and assumed boundaries of development. No additional details (i.e. sections, plans, etc) are forthcoming at this stage of the scheme.

1.3.3. Developments of this nature, and their impact upon the historic environment, are addressed by the revised 2019 National Planning Policy Framework (NPPF), published by the Ministry of Housing, Communities and Local Government (MHCLG), and the NPPF Planning Practice Guide Conserving and Enhancing the Historic Environment (DCLG 2014). This supersedes the 2012 National Planning Policy Framework (NPPF).

1.3.4. Section 16 of NPPF, paragraph 187 states:

Local planning authorities should maintain or have access to a historic environment record. This should contain up-to-date evidence about the historic environment in their area and be used to:

a) assess the significance of heritage assets and the contribution they make to their environment; and
b) predict the likelihood that currently unidentified heritage assets, particularly sites of historic and archaeological interest, will be discovered in the future.

1.3.5. In addition, paragraph 189, states that:

In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the

proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

1.4. Scope of Report

1.4.1. This report presents the results of ground investigations monitoring, carried out from March-July 2021. The report also outlines the geoarchaeological potential of the deposits observed and the samples retained. Recommendations are made for palaeoenvironmental assessment and radiocarbon dating of the retained samples. The fieldwork was carried out by Ioan Huw Espley and Andy Douthwaite (YA Project Officers), and the report undertaken by Richard Lowther and Tom Keyworth (YA Geoarchaeology Project Officers). The project was managed by Kristina Krawiec (YA Head of Geoarchaeology). Illustrations were by Tom Keyworth.

2. GEOARCHAEOLOGICAL BACKGROUND

2.1. Pleistocene and Holocene

2.1.1. The BGS records islands of intact Pleistocene Holme Pierrepont Sand and Gravel (30-25ka BP) within the Trent floodplain across Farndon, Newark Island, and instances of the Great North Road. Fluvial reworking of this unit during the Holocene is attributed a separate name, known as the Hemington Member Sand and Gravel (Bridgland et al., 2014) which may form the majority of the superficial deposits around the A46 Bypass. This coarse unit is overlain by fine-grained alluvial sands, silts, and clays representing deposition from overbank flood events. Islands of mapped HPSG, raised above the lower lying floodplain, have the potential to be focal sites for human activity.

2.1.2. The site encompasses an area between the Middle and Lower Trent (Bridgland et al., 2014), considered as being highly mobile during the Holocene characterised by lateral migration and/or avulsion (Brown et al., 2013). This has left a series of incised palaeochannels and ridge and swale features across the landscape which are visible on Lidar imagery. The palaeochannels of the Trent have been subject to several phases of mapping using both aerial photographic and Lidar interpretation (Malone and Stein, 2015; 2017). Several palaeochannels have been identified from processed Liadar imagery which interact with the proposed route of the scheme (Figures 3 and 5). Identifying the extent and internal character of palaeochannels is of great importance given that they often act as foci for human activity both when active and when abandoned, in addition to preserving material which has the potential to preserve palaeoenvironmental proxy evidence in addition to possible waterlogged archaeological remains.

2.1.3. A watercourse referred to as the Old Trent Dyke is located within the main part of the floodplain on the southern half of the scheme. This modern drain represents a fossilised modified relic palaeochannel related to the River Trent. The former course of the Old Trent Dyke, appearing on cartographic sources since the 16th century, with historical references from the mid-12th century, is thought to have been partially inactive since at least the early 17th century (Salisbury, 1983). The exact age and history of the palaeochannel is not currently known. The Old Trent Dyke also forms part of a historical land boundary belonging to the parishes of Southwell, Farndon, East Stoke, and Newark, as well as the division between the hundreds of Thurgarton, Newark, and Newark Borough. This indicates that the landscape feature may date to an earlier i.e. Early Medieval (c. AD 410-1066) period. The 'island' of land belonging to East Stoke parish, which formed between the Newark branch of the Trent and the Old Trent Dyke, is referred to as the 'Toney' located on the elevated 'island' of HPSG (Rogers, 1974).

2.1.4. The proposed improvement works cross the Old Trent Dyke in two locations. In addition, the location of numerous other palaeochannels, often initiative of lateral meander migration (ridge and swale), have been mapped using lidar imagery.

2.1.5. Nearby investigations at Langford, downstream from Newark, have demonstrated substantial reworking during the Neolithic-Bronze Age as evidenced by the presence of dated bog oaks (c.2100 BC), human skulls and Bronze Age artefacts (Garton et al., 1997). Extensive reworking was also attributed nearby at Cromwell from the later middle Neolithic to the Roman period (Keyworth, 2018). Extensive reworking during the Holocene increases the potential of masking of former land surfaces which may preserve archaeological features and artefacts, highlighting the need to monitor material from not only within the mineralised alluvial unit, but also within the sand and gravel.

2.1.6. Empirical evidence from elsewhere within the Trent Valley suggests that alluviation accelerated from later prehistory onwards. Accelerated phases during the Romano-British, medieval and post-medieval periods were in response to both climatic and anthropogenic drivers (Knight and Howard, 2004). The process of alluviation also has the potential to bury archaeological remains on the floodplain, and potentially make their features invisible to many traditional methods of geoprospection such as aerial photography and fieldwalking.

2.2. Archaeological context

2.2.1. *Palaeolithic (650,000BC – 10,000BC)*
The Farndon Fields Late Upper Palaeolithic (13,000-9,500 BC) site lies just south-west of Newark, adjacent to the confluence of the river Devon to the Trent. Multiple phases of investigation have unearthed over 300 struck items scattered over 15 hectares (Garton and Jacobi, 2009). This includes evidence of in-situ Late Upper Palaeolithic worked flints, attributed to the Creswellian culture, the British derivative of the European Final Magdalenian culture (c. 12,600–12,250 BC; Grant

and Harding, 2014), and the Federmesser type (12,000-11,000 BC). The finds indicate the presence of human activity throughout the Windermere Interstadial (12,700-10,700 BC) on wetland margins and elevated gravel terraces adjacent to river channels (Grant and Harding, 2014). The Farndon Fields site is of national and international significance.

Mesolithic (10,000BC – 4,000BC), Neolithic (4,000BC – 2,400BC) and Bronze Age (2,400 – 700BC)

2.2.2. A trial trench evaluation carried out by Trent & Peak Archaeology (2018) at Cromwell Quarry, located downstream of, Newark recorded evidence of human activity dating from the Mesolithic to the Bronze Age, including a fields system. A series of boreholes, conducted as part of this evaluation, identified Mesolithic to Bronze-Age in-channel sedimentation at three locations (Collins, 2018).

2.2.3. Long-term aggregate extraction at Langford Quarry has also produced artefacts dating to the Neolithic or Bronze Age; a radiocarbon date of 2100 BC was obtained from one piece of bone. Finds include four human skulls, bones from cattle, sheep, deer, auroch, and dogs, along with lithics and several felled logs (Wilson, 1996; Garton et al., 1997). These items were recorded within a log-jam which also recorded several large bog oaks of Neolithic date. A phase of watching briefs for gravel extraction carried out by Trent & Peak Archaeology from 2016-2019 (Krawiec, 2019) recovered further human and animal remains, without age determination, which are thought to be of similar age and an extension to those recovered by Garton et al. (1997).

Iron Age (700BC – AD 43)

2.2.4. A Scheduled Ancient Monument consisting of a series of barrows at North Muskham represent an Iron Age funerary monument (Joseph, 1953). A number of earthworks and cropmarks are recorded, representing up to ten sub-rectangular ditch enclosures. This type of Iron Age barrow is rare outside of eastern Yorkshire (Nottinghamshire County Council, 2019), with only one example excavated in the Trent valley (Aston-on-Trent; May, 1970). Trial trenching by Trent and Peak Archaeology in 2018 also recorded Iron Age occupation comprising ditches and a probable enclosure (Collins, 2018).

2.2.5. A vessel believed to date from either the Iron Age or early Romano-British period was located during gravel extraction to the north of the active Cromwell quarry during the 1990s. This vessel had a wooden base covered with copper alloy sheeting and a handle of the same construction (Nottinghamshire County Council, 2019).

2.2.6. The Newark Torc discovered on the outskirts of Newark, is a piece of Iron Age jewellery made from an alloy gold, silver, and copper and is speculated to represent a burial offering. The fine artistry and technological skill of the metalwork closely resembles that of another torc found in Sedgeford, north Norfolk (Machling and Williamson, 2018). The Newark Torc is now on display in the National Civil War Museum.

Romano-British Period (AD43 – AD410)

2.2.7. The Roman settlement of *Crococalana*, lying along the Fosse Way Roman road, is located to the north-east of the study area around Brough, and has designated Scheduled Ancient Monument status.

2.2.8. Fosse Way, one of the principal highways of the Roman province linking Exeter and Lincoln, passes close by Newark. Small finds of Roman pottery, a kiln, and evidence of manuring of fields clearly indicates an in-situ Romano-British settlement adjacent to Fosse Way (Kinsley, 1993).

2.2.9. Excavations at Langford Quarry on the east side of the Trent recorded extensive Roman settlement evidence with arable cultivation and livestock husbandry demonstrated (Groake 2018). Extensive remains of Iron Age/Romano-British settlement are also present at Besthorpe, characterised as a small village with arable cultivation at its core (Thompson and Nevell, 2018).

2.2.10. Romano-British influence is also present a short distance downstream at Cromwell, with the Cromwell Villa designated as a Scheduled Ancient Monument. This was identified from a series of cropmarks which represent a double-ditched quadrangle enclosure surrounding a T-shaped building (Nottinghamshire County Council, 2019).

2.2.11. Romano-British deposits were also recovered from a site in Farndon. The excavation contained burnt material, horse and cattle bones, numerous pottery sherds, metallic items, worked stones, tegulae, and a single coin. The pottery style was attributed to the mid-late 4th century, with the coin representing the reign of Valentinian (364-375AD; Coyne, 2010)

Early Medieval Period (AD410 – AD1066) and *Medieval Period (AD1067 – AD1539)*

2.2.12. An early Anglo-Saxon pagan cemetery excavated in Newark consisted of 400 burials. It was found to have been in use between the 5th-7th centuries and is one of the largest of its kind in England (Kinsley, 1994).

2.2.13. Evidence of Newark as a defended settlement stretches back to the late Anglo-Saxon period, then described as a burh (a fortified site; Kinsley, 1994). The name of Newark was first reliably recorded within the Domesday Book in 1086, its literal meaning being ‘new work (fort)’ (Ekwall, 1960; 339). By this time, Newark was an established urban centre, with a central local government and had begun the inception of striking of coins (Kinsley, 1994). By 1225-1231, a survey showed that the town had spread beyond its defences, with the suburbs of the ‘New Borough’ subject to a separate administration (Kinsley, 1994).

Post-Medieval Period (AD1540 – AD1799)

2.2.14. Newark was a of great strategic importance during the English Civil War (1642-1651) due to the need to control access to the Great North Road and Fosse Way (Kinsley, 1994). It was a significant Royalist centre and was notably besieged on three occasions. By the third occasion, the towns defences were reinforced with the

construction of two major forts just outside the town, called the Queen's and King's Sconce, before Newark Castle succumbed under the King's instruction in 1646 (Bennett, 2009). Manuscripts of Newark sieges survive today, including two well-known plans by Clampe, detailing the area of the town and its surrounding features, including the then contemporary channels of the Trent.

2.2.15. Five post-medieval Scheduled Ancient Monuments are located nearby to the study site, listed below:

- A Civil War Redoubt, located 200m west of the Newark rail crossing near the centre of the study area;
- A Civil War Redoubt, located 75m north of the route, just north-east of Cattle Market roundabout;
- A Civil War Redoubt, located 155m north of the route, just to the south of Kelham Road;
- A moated site, located 240m north of the route, adjacent to Kelham Road on south-west side; and,
- A Civil War Sconce/Earthwork located 150m south-east of the route adjacent to Riverside Park and railway crossing

19th Century (AD1800 – AD1899), and the Modern Period (AD1900 – Present)

2.2.16. Newark's growth in this period centred on its proximity to the major communication routes of the Fosse Way, Great North Road, and the navigability of the Trent through the construction of various locks. It became a substantial inland port for the wool trade and numerous inns and hostels were developed to sustain the numerous travellers passing through the town. The construction of two railway lines, Great Northern Railway (1846) and Midland Railway (1852) expanded the town's influence and stimulated economic growth (Nicholson, 2012). Henry Stevens Survey of the River Trent (1820) map demonstrates the development of Newark onto Newark Island, an area of floodplain between the two channels of the Trent that bifurcates just north of Farndon (south-west of Newark).

2.2.17. Late nineteenth century industry around Newark focused on brewing, engineering, milling, tanning, and textiles. The main industries around Newark over the last century included clothing, agricultural machinery and furniture. To the north-west along the Great North Road lies a British Sugar factory which has run a mill for processing sugar-beet since 1921 (British Sugar, 2021).

3. PROJECT AIMS AND OBJECTIVES

3.1.1 The aims of the project are as follows:

- To identify the presence of any archaeological or palaeoenvironmental remains which may be affected by any intrusive aspects of the development;
- To ensure preservation by record of any archaeological or palaeoenvironmental remains encountered during the monitoring of ground investigations
- To recover any archaeological artefacts and ecofacts revealed during ground

investigations
- To prepare a report on the findings of the monitoring of ground investigations;

3.1.2 The following objectives were conducted to meet the aims:

- The production of a lithological record of deposits during the monitoring of ground investigations;
- The recovery of organic waterlogged samples for palaeoenvironmental assessment and/or dating;
- The creation of a deposit model for the site based on the results of ground investigations;
- The production of a report that summarises the results of the fieldwork and recommendations for assessment;
- Recommendations for further work.

3.1.3 The fieldwork takes place within and may help contribute to the goals of the regional frameworks set out in the East Midlands Historic Environment Research Framework (EMHERF) (Knight, et al. 2012).

MESOLITHIC (9500-4000 cal. BC)
2.6.2 How can we maximise the potential of palaeochannels, upland and/or coastal peats and other organically rich deposits as sources of data on Early Holocene landscapes and changes in subsistence strategies.
NEOLITHIC AND EARLY TO MIDDLE BRONZE AGE (c.4000-c.1150 cal BC)
3.4.2: Can we identify locations with a high potential for elucidating variations in arable, pasture and woodland cover between ecological zones (e.g. palaeochannels; upland peats)?
3.7.3: How significant were river-crossing or confluence zones as foci for monument complexes?
LATE BRONZE AGE AND IRON AGE (c.1150 cal BD- 43 AD)
4.7.1: What roles may wet and other natural locations have performed and how might these have changed over time?
ROMANO-BRITISH (AD 43-c. 410)
5.7.2: How were roads, rivers and artificial waterways integrated?
EARLY MEDIEVAL (c. AD 410-1066)
6.3.3: What roles may rivers have played as corrdors for the movement of goods and people, and how might these have varied over time
6.3.4: To what extent may rivers such as the Trent or Witham have served as major political and social boundaries during the Anglo-Saxon period?

4. GEOARCHAEOLOGICAL METHODOLOGY

4.1 Fieldwork Methodology

4.1.1 All works were undertaken in accordance with the WSI (York Archaeology, 2021), as approved by the County Archaeologist and to standards defined by CIfA Guidelines (2014c).

4.1.2 The original design of the works comprised the archaeological monitoring of 22 boreholes, 72 window samples, 18 machine pits, and 30 hand test pits, modified slightly on-site due to fieldwork constraints (see Figure 2). All groundworks were located using GNSS, with the borehole and window sample rigs operated by qualified staff from TetraTech. Boreholes were drilled by dynamic sampling rigs, recovering cores in 1.50m liners, window sample cores were recovered in 1m sections, with material from test pits being recorded on site during excavation. Additional material from both boreholes and window samples was also split-off site with attending archaeologists. The holes were backfilled with the arisings and topped up with bentonite where required.

4.1.3 The deposits were recorded using the Troels-Smith (1955) system of sediment classification (Appendix 1). The scheme breaks down a sediment sample into four main components and allows the inclusion of extra components that are also present, but that are not dominant. Key physical properties of the sediment layers are darkness (Da), stratification (St), elasticity (El), dryness of the sediment (Sicc) and the sharpness of the upper sediment boundary (UB). A summary of the sedimentary and physical properties classified by Troels-Smith (1955) and a stratigraphic breakdown of the deposits was recorded on proforma log sheets (Appendix 2). The logs are supplemented by digital photography.

4.1.4 Where possible, given the constraints of GI monitoring with regards to sampling (see below 3.2), samples of organic waterlogged deposits were retained for further visual assessment and recommendations for additional work. The sampling followed procedures set out within the Historic England Guidance for Environmental Archaeology (Historic England, 2011) and Geoarchaeology (Historic England 2015a). Should specialist palaeoenvironmental assessment be undertaken, suitable samples would be submitted for radiocarbon dating and any waterlogged wood identified with reference to Schweingruber (1990) and Schoch et al. (2004). The consideration of preservation within the deposits was made with specific reference to Historic England guidance document for Preserving Archaeological Remains (2016).

4.2 Fieldwork constraints

4.2.1 The primary purpose of the works was ground investigation. The engineers recording the sediment characteristics focused on the engineering characteristics of the material observed. This ultimately led to the production of a factual report outlining the results of the ground investigations and tests carried out on the samples retained by Tetra Tech (Tetra Tech, 2021). The locations of the ground investigations themselves reflect the proposed route / scope of the scheme i.e. widening of A46, flyover junction near the former cattle market, slip roads, bridges over roads, watercourses, and trainlines, and so on. As a result, the locations of the ground investigations are not optimised for gaining maximal archaeological / palaeoenvironmental information, with the distribution of the locations heavily reflecting the linear nature of the scheme. This consequently means that any interpretations drawn from the archaeological/geoarchaeological observations

made during ground investigations should consider the spatial and design limitations outlined above.

4.2.2 Additionally, the material recovered from the ground investigations by Tetra Tech was to be primarily utilised for engineering/environmental testing purposes and not for palaeoenvironmental assessment. Consequently, relatively small quantities of suitable material were recovered for geoarchaeological purposes and do not reflect the extent of deposits likely to be encountered across the scheme, but at the locations of the ground investigations only.

4.3 Deposit model constraints

4.3.1 The modelled deposits utilise the data derived from the GI locations. Given the linear aspect of the scheme and the reasons for the location of the GI i.e. largely related to the proposed improvement works, the distribution of points reflects this. In addition, as the locations are un-targeted from a geoarchaeological / palaeoenvironmental perspective the landforms and/or deposits identified are not necessarily reflective or indicative of the entirety of such features across the scheme.

4.3.2 The deposit models do not make use of the numerous boreholes which are not available / confidential on the BGS relating to the original phase of ground investigations relating to the current A46 Bypass. The integration of the original data would go towards generating a more complete deposit model of the site.

4.4 Archive

4.4.1. The site archive is currently held at the offices of York Archaeology (Nottingham) and may be deposited at Newark Museum in due course if required. The contents of the archive are tabulated below (Table 1).

Borehole/test pit sheets	Excel spreadsheets and scanned geoarchaeology proforma sheets
Section sheets	-
Plans sheets	-
Colour photographs	-
B&W photos	-
Digital photos	235
Sample register	Excel spreadsheet and scanned record
Drawing register	-
Watching brief forms	Digitised excel spreadsheet
Trench Record forms	-

Table 1: Quantification of site paper /digital archive.

Bulk finds (quantity e.g. 1 bag, 1 box, 0.5 box 0.5 of a box)	-
Registered finds (number of)	-

Flots and environmental remains from bulk samples	-
Palaeoenvironmental specialists sample samples (e.g. columns, prepared slides)	-
Waterlogged wood	-
Wet sieved environmental remains from bulk samples	-
Waterlogged grab samples from ground investigations	12 bags

Table 2: Quantification of artefact and environmental samples.

5. RESULTS

5.1. Lithology

Summary

5.1.1. The area of investigation broadly follows a c. 6.5km stretch of the A46 Newark Bypass. For ease of description, the works along the carriageway were split into the four sections described below. These sections run from south to north, from the southernmost boreholes completed at Farndon roundabout, to the northern end of the works at the A46/A1133 roundabout (Figure 6). The full descriptions of the deposits recorded can be found in Appendix 2.

Farndon roundabout to Nottingham to Lincoln Line (BH24-WS17; Figure 7; A-B)

5.1.2. Several locations (BH54, 24 and TP01) were cited on the BGS mapped HPSG which encountered mudstone bedrock and overlying sand and gravel, followed by sand to the ground surface level. BH01, located on the edge of the terrace, recorded mudstone overlain by sand and gravel.

5.1.3. To the north of the southern arm of the River Trent, into the floodplain of Newark 'island,' the majority of boreholes reached the mudstone bedrock. Nearly all the boreholes and window samples, encountered the top of the sand and gravel sequence (Table 3). The majority of locations recorded coarse to fine-grained mineralised alluvial deposits overlying the sand and gravel. There were several exceptions to this, as in BH03, BH03a, BH27, BH51, TP04, TP05, WS13 and WS15 where organic deposits, consisting of waterlogged organic clays, silts and sands, were recorded (Table 4). The deposits are related to various palaeochannel landforms, principally the palaeochannel associated with the Old Trent Dyke. Extensive deposits of made ground were recorded in boreholes located on the A46 embankment.

BH ID	Easting	Northing	Elevation (m OD)	Total Depth (m BGL)	Mudstone (m BGL)	Mudstone (m OD)	Sand and Gravel (m BGL)	Sand and Gravel (m OD)
BH01	478088.91	352816.46	13.84	25.00	5.20	8.64	1.70	12.14
BH02	478083.73	352877.19	11.09	25.00	3.90	7.19	3.40	7.69
BH03	*478260.28*	*353627.87*	*10.47*	*4.00*	-	-	*3.00*	*7.47*
BH03a	478244.85	353614.11	10.34	25.00	5.70	4.64	2.00	8.34
BH24	478102.00	352727.10	16.42	6.00	-	-	-	-
BH25	478100.80	353076.00	16.07	12.00	10.90	5.17	7.10	8.97
BH26	478123.80	353219.30	14.09	10.00	7.30	6.79	4.00	10.09
BH27	478159.40	353356.90	12.91	11.00	7.40	5.51	6.30	6.61
BH28	478202.40	353464.80	14.90	10.00	8.30	6.60	7.20	7.70
BH29	478314.40	353663.40	15.68	14.00	-	-	9.00	6.68
BH30	478398.60	353789.40	17.43	16.00	14.20	3.23	11.60	5.83
BH51	478103.48	353255.52	10.68	7.30	6.00	4.68	1.65	9.03
BH54	478067.15	352732.82	10.78	6.45	4.50	6.28	2.00	8.78
TP01	478072.95	352755.13	11.07	3.00	-	-	-	-
TP02	478066.70	352987.84	10.80	2.20	-	-	-	-
TP03	478089.80	353168.50	10.46	1.75	-	-	-	-
TP04	478160.33	353427.97	10.35	2.50	-	-	-	-
TP05	478240.70	353597.51	10.30	2.80	-	-	2.30	8.00
WS04	478066.09	352929.45	10.99	5.00	-	-	3.60	7.39
WS06	478063.74	353091.12	10.91	5.00	-	-	3.10	7.81
WS08	478099.77	353219.67	10.59	5.00	-	-	2.60	7.99
WS10	478137.46	353363.66	10.74	3.00	-	-	1.30	9.44
WS12	478185.62	353472.95	10.17	3.00	-	-	1.50	8.67
WS13	478206.40	353536.02	10.16	3.00	-	-	2.00	8.16
WS15	478291.30	353674.56	10.78	3.00	-	-	1.90	8.88
WS17	478374.82	353806.56	10.52	4.00	-	-	2.60	7.92

Table 3: Farndon roundabout to Nottingham to Lincoln Line west (BH24-WS17). Locations in red show where samples were retained.

GI ID	Depth of Sample (m BGL)	Reduced Elevation (m OD)	Sampled Deposit	Possible Landform and/or Deposit	Location
BH 03	1.84-2.00	8.63-8.47	Organic clay deposit	Old Trent Dyke palaeochannel (c.f BH03a /TP05)	Floodplain
BH 03A	1.45-1.55	8.89-8.79	Waterlogged deposit with preserved organics	Old Trent Dyke palaeochannel (c.f BH03 /TP05)	Floodplain
BH 27	5.60-5.75	7.31-7.16	Organic laminated clay	Ridge and Swale palaeochannels	Under Embankment
BH 51	1.35-1.45	9.33-9.23	Organic matter within sand clay	Ridge and Swale palaeochannels	Floodplain
TP 05	1.60-2.10	8.70-8.20	Organic laminated	Old Trent Dyke palaeochannel (c.f BH03 /BH03a)	Floodplain
WS 13	1.80-1.90	8.36-8.26	Organic clay deposit	Cut-off palaeochannel associated with Old Trent Dyke	Floodplain
WS 15	2.65-2.75	8.13-8.03	Organic clay deposit	Cut-off palaeochannel associated with Old Trent Dyke / basal organic alluvium?	Floodplain

Table 4: Farndon roundabout to Nottingham to Lincoln Line west (BH24-WS17). Locations of organic samples which were retained.

Nottingham to Lincoln Line to the former Newark Cattle Market roundabout (BH05-WS29; Figure 8; C-D)

5.1.4. Northwards of the Nottingham to Lincoln Line, west crossing mudstone bedrock, which remains intact, is overlain by sands and gravels, followed by fine-grained oxidised alluvial silts, clays and sands and capped with topsoil or made ground in the locations of the embankment (Table 5). Several units of organic deposits (Table 6) associated with the palaeochannel of the Old Trent Dyke (WS23 and BH33) and a LiDAR mapped palaeochannel (WS28) were also encountered. However, overall there appeared to be fewer organic deposits compared to the area to the south of the rail crossing.

BH ID	Easting	Northing	Elevation (m OD)	Total Depth (m BGL)	Mudstone (m BGL)	Mudstone (m OD)	Sand and Gravel (m BGL)	Sand and Gravel (m OD)
BH05	478519.07	353966.19	8.93	25.00	7.50	1.43	3.60	5.33
BH30	478398.60	353789.40	17.43	16.00	14.20	3.23	11.60	5.83
BH31	478577.40	354030.20	17.70	12.00	-	-	-	-
BH33	478764.74	354253.28	14.84	12.00	-	-	9.10	5.74
BH34	478864.30	354347.76	13.86	12.50	11.00	2.86	7.10	6.76
BH35	479080.80	354516.90	12.75	10.00	-	-	6.60	6.15
BH36	478997.37	354453.25	13.58	10.00	-	-	4.90	8.68
BH37	479116.42	354530.84	13.99	10.00	-	-	5.00	8.99
BH52	478788.53	354314.15	10.43	7.65	6.00	4.43	1.90	8.53
BH53	479025.17	354498.73	10.78	7.70	7.20	3.58	2.60	8.18
BH55	478548.70	354044.20	10.19	10.00	7.50	2.69	1.90	8.29
BH56	478654.00	354170.60	10.09	9.00	6.50	3.59	2.00	8.09

BH ID	Easting	Northing	Elevation (m OD)	Total Depth (m BGL)	Mudstone (m BGL)	Mudstone (m OD)	Sand and Gravel (m BGL)	Sand and Gravel (m OD)
TP08	478594.38	354098.91	9.98	1.50	-	-	-	-
TP09	478803.78	354340.38	10.34	2.00	-	-	-	-
TP10	479028.98	354499.07	9.95	2.70	-	-	-	-
TP11	479181.24	354527.75	10.32	2.50	-	-	-	-
WS23	478751.03	354270.85	10.19	4.00	-	-	2.70	7.49
WS25	478855.74	354368.03	10.22	4.00	-	-	2.80	7.42
WS26	479103.27	354488.64	10.15	4.00	-	-	1.20	8.95
WS28	479072.55	354538.91	9.97	5.00	-	-	3.70	6.27
WS29	479225.14	354557.79	10.08	3.00	-	-	1.80	8.28
WS31	479179.40	354594.72	9.91	5.00	-	-	1.50	8.41

Table 5: Nottingham to Lincoln Line west to the former Newark Cattle Market roundabout (BH05-WS29). Locations in red show where samples were retained.

GI ID	Depth of Sample (m BGL)	Reduced Elevation (m OD)	Sampled Deposit	Possible Landform and/or Deposit	Location
BH 33	8.50-9.00	6.34-5.84	Organic rich material	Old Trent Dyke palaeochannel (c.f WS23)	Under Embankment
BH 35	7.70-7.85	5.05-4.90	Preserved organic material	Within sand and gravel sequence	Under Embankment
WS 23	2.60-2.70	7.59-7.49	Organic clay deposit	Old Trent Dyke palaeochannel (c.f BH33)	Floodplain
WS 28	2.90-3.00	7.07-6.97	Organic clay deposit	Palaeochannel (c.f BH35)	Floodplain

Table 6: Nottingham to Lincoln Line west to the former Newark Cattle Market roundabout (BH05-WS29). Locations of organic samples which were retained.

***Former Newark Cattle Market roundabout to Crankley Point* (TP15 to BH47; Figure 9; E-F)**

5.1.5. The base of most boreholes comprised of both strong and partially weathered Mercia Mudstone overlain by sand and gravel which was recorded in boreholes and window samples (Table 7). The thickness of the sand and gravel varied, with some locations entirely truncating the overlying deposits into the sand and gravel (BH13 and BH43). The majority of locations have deposits of finer-grained mineralised alluvial blanketing the sand and gravel. Thin waterlogged deposits were also observed immediately overlying the sand and gravel in some locations (e.g BH11) representing organic alluvium. Made ground deposits relating to the embankment fill capped the sequence in most areas whilst intact floodplain deposits were sealed by topsoil.

5.1.6. Several locations at the northern limit of the floodplain (WS54, BH46 and 47) recorded laminated organic silt clays / sands sediments with visible plant

macrofossil remains / woody remains. It is probable that these deposits are indicative of a palaeochannel sequence, likely related to a former course of the Trent. No samples were recovered from this location due to geotechnical constraints.

BH ID	Easting	Northing	Elevation (m OD)	Total Depth (m BGL)	Mudstone (m BGL)	Mudstone (m OD)	Sand and Gravel (m BGL)	Sand and Gravel (m OD)
BH06	479445.92	354636.69	10.19	25.00	10.30	-0.11	3.50	6.69
BH07	479797.41	354801.44	6.17	25.00	6.10	0.07	3.45	2.72
BH08	479853.68	354777.56	19.13	35.00	-	-	-	-
BH09	480086.86	355203.77	8.94	25.00	5.20	3.74	3.40	5.54
BH10	480097.16	355246.00	9.10	25.00	4.10	5.00	2.30	6.80
BH11	480140.46	355388.35	6.85	25.00	7.50	-0.65	4.50	2.35
BH12	480185.70	355463.65	10.30	25.00	7.50	2.80	3.00	7.30
BH13	480209.30	355495.50	14.02	27.50	-	-	-	-
BH14	480264.83	355710.56	9.55	25.00	4.50	5.05	1.60	7.95
BH38	479598.00	354697.60	14.53	12.00	-	-	7.10	7.43
BH42	480036.01	355055.85	22.40	12.00	-	-	-	-
BH43	480252.60	355602.10	14.77	16.00	13.00	1.77	11.10	3.67
BH44	480311.10	355750.20	11.55	6.00	10.60	0.95	4.85	6.70
BH45a	480354.10	355851.10	12.01	12.00	10.60	1.41	8.10	3.91
BH46	480409.75	355844.54	12.31	7.50	-	-	6.65	5.66
BH47	480469.03	355989.70	13.00	10.00	4.60	8.40	4.60	8.40
BH49	480409.92	355909.50	11.87	10.00	2.70	9.17	2.70	9.17
BH57	479479.50	354639.18	10.09	10.00	9.00	1.09	2.00	8.09
BH58	479583.70	354646.72	9.82	9.00	8.20	1.62	2.00	7.82
BH59	479464.50	354700.80	9.67	8.00	7.50	2.17	3.50	6.17
BH60	479580.60	354715.70	9.58	8.00	7.50	2.08	1.50	8.08
BH61	479351.50	354770.10	9.19	8.00	-	-	-	-
TP13	479436.60	354607.10	10.19	1.20	-	-	-	-
TP15	479335.38	354583.81	9.57	1.20	-	-	-	-
TP18	479330.71	354701.47	10.27	0.20	-	-	-	-
TP20	479412.77	354710.46	9.92	1.20	-	-	-	-
TP27	480366.59	355923.85	8.69	3.20	-	-	-	-
WS46	480219.07	355615.05	10.16	6.00	-	-	2.50	7.66
WS48	480276.63	355760.93	9.08	5.00	-	-	2.80	6.28
WS50a	480344.40	355877.84	5.18	5.00	-	-	3.00	2.18
WS54	480403.42	355962.01	8.46	5.00	-	-	4.80	3.66

Table 7: Former Newark Cattle Market roundabout to Crankley Point (TP15 to BH47). Locations in red show where samples were retained.

Crankley Point to A1133/A46 roundabout (BH62-WS72).

5.1.7. This section (BH62-WS72) represents the most northerly of the GI works undertaken on the Newark Bypass. The section lies adjacent to floodplain of the Trent on BGS mapped Mercia Mudstone bedrock, which was only encountered between BH62 on the edge of the floodplain to TP31 immediately east of the A1 (Table 8). Sand and gravel (HPSG) was recorded overlying the mudstone in several locations, whilst in others there was a sequence of deposits interpreted as mineralised coarse-grained sands and clays. No organic remains were recorded from this or the following sections of the route.

5.1.8. The remaining GI locations northwards along the route from TP31 did not encounter bedrock. The deposits here are interpreted as Pleistocene Balderton Sand and Gravel Member comprising dense reddish brown slightly gravelly fine to coarse sand, and gravel of fine to coarse sub-rounded to rounded flint and limestone. This sequence was immediately overlain by topsoil.

BH ID	Easting	Northing	Elevation (m OD)	Total Depth (m)	Mudstone (m BGL)	Mudstone (m OD)	Sand and Gravel (m BGL)	Sand and Gravel (m OD)
BH15	481268.14	356042.74	9.76	29.50	3.72	6.04	2.30	7.46
BH16	480969.62	356076.08	10.88	25.00	2.30	8.58	1.20	9.68
BH17	481188.40	356047.01	10.01	25.00	3.60	6.41	2.20	7.81
BH18	480874.00	356066.44	10.01	25.00	1.10	8.91	-	-
BH19	481574.43	356121.19	15.19	12.00	2.20	12.99	1.70	13.49
BH21	482235.26	356807.64	18.70	9.00	-	-	0.60	18.10
BH22	482286.03	356894.78	18.76	10.50	-	-	-	-
BH48	480961.80	355976.50	11.12	10.00	3.50	7.62	2.70	8.42
BH50	480777.20	356057.10	12.89	10.00	3.00	9.89	-	-
BH62	480484.40	356065.40	14.96	1.50	1.00	13.96	-	-
BH63	480930.40	356057.90	10.86	3.50	2.10	8.76	0.30	10.56
BH64	480591.60	356073.60	12.22	3.00	-	-	0.50	11.72
BH65	480783.20	356113.10	10.74	3.00	1.40	9.34	0.80	9.94
BH66	480618.00	356121.90	11.49	3.00	-	-	0.50	10.99
BH67	481265.24	356048.03	9.67	30.40	1.30	8.37	0.30	9.37
BH68	481187.58	356047.52	6.01	30.00	3.00	3.01	-	-
TP25	481106.27	355864.40	10.54	1.20	-	-	0.30	10.24
TP31	481346.95	356078.42	15.28	2.00	0.30	14.98	-	-
TP32	480724.24	356090.76	11.11	2.70	1.00	10.11	0.60	10.51
TP33	480540.50	356095.14	12.88	1.50	0.35	12.53	0.00	12.88
TP34	481663.40	356129.95	17.06	1.20	-	-	0.25	16.81
TP35	481523.80	356134.94	14.52	1.20	-	-	0.50	14.02
TP36	481502.43	356172.83	14.38	1.20	-	-	0.50	13.88

BH ID	Easting	Northing	Elevation (m OD)	Total Depth (m)	Mudstone (m BGL)	Mudstone (m OD)	Sand and Gravel (m BGL)	Sand and Gravel (m OD)
TP37	481703.36	356166.69	17.57	1.20	-	-	-	-
TP38	481557.23	356206.99	15.07	1.20	-	-	0.50	14.57
TP39	481763.81	356237.22	18.36	0.60	-	-	-	-
TP40	481628.29	356267.99	17.48	1.20	-	-	0.50	16.98
TP41	481765.24	356312.61	18.34	1.20	-	-	0.50	17.84
TP42	481697.54	356329.08	18.37	1.20	-	-	0.60	17.77
TP43	481916.57	356398.85	18.85	1.20	-	-	-	-
TP44	481869.46	356486.74	18.55	1.20	-	-	0.60	17.95
TP45	482083.90	356577.13	18.72	1.20	-	-	0.90	17.82
TP47	482402.62	356758.57	18.74	1.20	-	-	0.60	18.14
TP48	482196.32	356915.02	18.76	1.20	-	-	0.40	18.36
TP49	481671.03	356208.17	17.23	1.20	-	-	0.50	16.73
WS57	481082.33	356046.10	10.59	6.70	-	-	0.80	9.79
WS64	481778.89	356404.63	18.34	5.00	-	-	0.55	17.79
WS65	481989.13	356475.13	18.55	3.00	-	-	0.80	17.75
WS66	481947.09	356567.58	18.23	3.90	-	-	0.70	17.53
WS67	482185.63	356681.02	19.49	3.40	-	-	0.90	18.59
WS68	482147.46	356702.09	19.05	4.00	-	-	0.40	18.65
WS69	482327.13	356715.54	19.08	6.00	-	-	0.20	18.88
WS70	482107.54	356702.71	18.57	4.90	-	-	0.40	18.17
WS71	482374.82	356815.62	18.83	4.00	-	-	0.40	18.43
WS72	482432.95	356940.72	19.19	5.00	-	-	0.20	18.99
WS73	482093.59	356978.60	18.56	2.00	-	-	0.35	18.21

Table 8: Crankley Point to A1133/A46 roundabout (BH62-WS72).

5.2 Deposit modelling

5.2.1. Using the available data (Tables 3-8) modelled surfaces of both the sand and gravel (Figure 10a) and the mudstone bedrock (Figure 10b) were produced. Additionally, three transects were produced as referenced above (in section 4.1: A-B (Figure 7), C-D (Figure 8), and E-F (Figure 9). The overall locations of the transects can be seen in Figure 6. The results from the deposit modelling should be viewed with caution taking into account the distribution of the points and the substantial existing impacts.

5.2.2. Only locations where the mudstone was encountered (primarily in boreholes) as well as sand and gravel (primarily in window samples and boreholes) were included in the modelled surfaces (Figure 10a/b).

5.2.3. Taken together with the transects (Figures 7-9) it can be seen that overall there is a correlation between the elevation of the sand and gravel surface and the mudstone

surface. Broadly, these lower sub-surface elevations are also mirrored by lower lying surface elevations (see Figure 3). On the floodplain, the mudstone bedrock appears to have not been truncated by the construction of the current A46 Bypass embankment itself. However, this does not take into account piling and additional below ground impacts which cannot be seen from the ground investigation data, and are likely to have truncated all the superficial deposits and into the underlying bedrock.

5.2.4. It is demonstratable that the superficial sand and gravel deposits, and the mineralised / organic finer-grained alluvial deposits have been truncated. A consequence of this is that the surface elevation of the sand and gravel has been modified, more or less exclusively underneath the embankment. This is evident where two ground investigation locations are cited together: one on the embankment and one parallel to it on the undisturbed floodplain (e.g. WS10 / BH27, WS15/BH29, WS23/BH33, and so on). This can be seen most clearly in the difference in elevations between the sand and gravel on the proposed northbound carriageway extension route in contrast to the present location of the embankment. It is evident that the impacts are greatest where the elevation of the embankment is raised to facilitate the height required to clear a watercourse or railway line (e.g. BH25, BH27, BH30 and BH13 etc) and consequently the embankment was required to have a deeper sub-surface impact.

5.2.5. The edges of the floodplain can clearly be seen on the modelled mudstone surface, most notably on the northern extent. Shallower elevations occur centrally, in the area of the Old Trent Dyke as well as at the Great North Road / A46 roundabout, and at the northern extent of the floodplain. It is possible that fluvial lateral reworking of the sands and gravels in addition to incision has resulted in truncations to the mudstone surface in the Old Trent Dyke area. This is not an artefact of the data relating to impacts from the embankment construction, as has previously been stated. The mudstone surface appears to be largely undisturbed, as seen across all three transects. Some of the lowest elevations are noted at the Great North Road / A46 roundabout. The reason for this remains uncertain and may possibly represent a former area of the River Trent. A significant depression in the mudstone surface is notable at the northern extent of the floodplain, in areas where organic deposits have been recorded but remain unsampled (BH46 and 47, WS54). This is almost certainly indicative of a previous course of the Trent at the easternmost limit of its migration. This is evidenced on processed Lidar surface imagery (Figure 3).

5.2.6. There are several areas of lower elevation for the sand and gravel surfaces. Mainly in the area where the Old Trent Dyke is located (Transects A-B; C-D), the roundabout at the junction of the Great North Road / A46, and variably at the northern end of the floodplain (Transect E-F). The area relating to the Old Trent Dyke likely results from the lateral movement of the channel, with numerous ridge and swale features identified from processed Lidar imagery. It is also clear that the bridge over the Nottingham to Lincoln Line (BH30) has impacted the ‘original’ surface of the sand and gravel prior to truncation, where only c.2.00m of sand and gravel is recorded, overlain by extensive made ground (c. 12.00m). The area of lower lying elevation

related to the Great North Road / A46 roundabout is likely to be related to the depression the underlying bedrock, as outlined above. The various depressions in the sand and gravel sub-surface shown at the northern extent of the floodplain are also highly likely to be related to a previous course of the Trent, especially given the accumulations of organic deposits outlined above.

5.2.7. A significant depression, mirrored in both the elevations of the modelled sand and gravel and underlying mudstone is located at BH11 (Figure 9; Transect E-F). Limited GI were carried out in the area where BH07, 08 and 42 were drilled and this area was consequently not modelled due to this paucity of data. It is possible that the depression near BH11 is associated with an 'area of the deep alluvial filled channel near to Nether Lock' (Highways England, 2021: 100) where soft 'alluvial clay' is noted, presumably during the previous ground investigations / construction phases relating to the current A46 bypass, to at least 6.00m in depth (Ibid,; 99).

6. PALAEOENVIRONMETAL SAMPLES

6.1 Summary

6.1.1 During the course of GI monitoring a total of twelve grab samples were taken from window sample cores, shell and auger borehole upcast, and material recovered from trial pits, summarised in the table below:

GI ID	Depth of Sample (m BGL)	Reduced Elevation (m OD)	Sampled Deposit	Possible Landform and/or Deposit	Location
BH 03	1.84-2.00	8.63-8.47	Organic clay deposit	Old Trent Dyke palaeochannel (c.f BH03a /TP05)	Floodplain
BH 03A	1.45-1.55	8.89-8.79	Peaty deposit with preserved organics	Old Trent Dyke palaeochannel (c.f BH03 /TP05)	Floodplain
BH 27	5.60-5.75	7.31-7.16	Organic laminated clay	Ridge and Swale palaeochannels	Under Embankment
BH 30	14.10-14.20	3.33-3.23	Organic peaty clay	Sand and Gravel - Mudstone Interface	Under Embankment
BH 33	8.50-9.00	6.34-5.84	Organic rich material	Old Trent Dyke palaeochannel (c.f WS23)	Under Embankment
BH 35	7.70-7.85	5.05-4.90	Preserved organic material	Within sand and gravel sequence	Under Embankment
BH 51	1.35-1.45	9.33-9.23	Organic matter within sand clay	Ridge and Swale palaeochannels	Floodplain
TP 05	1.60-2.10	8.70-8.20	Organic laminated	Old Trent Dyke palaeochannel (c.f BH03 /BH03a)	Floodplain
WS 13	1.80-1.90	8.36-8.26	Organic clay deposit	Cut-off palaeochannel associated with Old Trent Dyke	Floodplain

GI ID	Depth of Sample (m BGL)	Reduced Elevation (m OD)	Sampled Deposit	Possible Landform and/or Deposit	Location
WS 15	2.65-2.75	8.13-8.03	Organic clay deposit	Cut-off palaeochannel associated with Old Trent Dyke / basal organic alluvium?	Floodplain
WS 23	2.60-2.70	7.59-7.49	Organic clay deposit	Old Trent Dyke palaeochannel (c.f BH33)	Floodplain
WS 28	2.90-3.00	7.07-6.97	Organic clay deposit	Palaeochannel (c.f BH35)	Floodplain

Table 9: Grab samples of material taken during GI monitoring

6.1.2 A variety of material was observed and recovered throughout GI monitoring, all of which came from locations within the Trent floodplain (Figure 11; see Plates). The full descriptions can be obtained by consulting the logs provided in Appendix 1.

6.1.3 The vast majority of the recovered organic samples were from the southern end of the scheme route, from the roundabout near the former cattle market southwards. Several locations at the northern limit of the floodplain also observed organic deposits but this were not recovered. Only one organic sample, from BH30, recovered material from within the sand and gravel, at the interface with the underlying mudstone bedrock (3.33-3.34m OD) and may represent an intact early Holocene accumulation at the base of the sand and gravel sequence.

6.1.4 WS28 recorded organic deposits from elevations of 7.07- 6.97m OD. The deposits are likely to be related to a LiDAR mapped palaeochannel, located to the west of the roundabout associated with the former cattle market, which appears to truncate / incise the underlying sand and gravel and may be associated with an early course of the landform related to the Old Trent Dyke. Nearby BH35 recorded organic deposits from within the sand and gravel sequence (5.05-4.90m OD) which may represent reworked palaeochannel infills resulting from lateral meander migration.

6.1.5 Samples from both WS23 and BH33, are likely to be associated with the Old Trent Dyke palaeochannel, which crosses underneath the A46 from north to south in close proximity to the borehole locations. Samples were obtained from 7.59-7.49 and 6.34-5.84m OD respectively. Additional organic samples likely to be associated with the palaeochannel of the Old Trent Dyke, where it crosses under the A46, were also recovered from BH03 / BH03a and TP05 from similar elevations of 8.63-6.47, 8.89-8.79, and 8.70-8.20m OD.

6.1.6 Two separate locations recorded samples which may be associated with LiDAR mapped ridge and swale palaeochannel deposits: BH27 (7.31-7.16m OD) and BH51 (9.33-9.23m OD). WS13 (8.36-8.26m OD) recorded organic deposits which may be associated with a small, possible meander cut-off palaeochannel, of the Old Trent Dyke.WS15 recorded organic deposits immediately overlying sand and gravel (8.13-8.03m OD) which may be related to another cut-off channel.

7. DISCUSSION AND CONCLUSIONS

7.1 Overview of lithological sequence

7.1.1 The groundworks associated with the A46 Newark Bypass improvement demonstrated a relatively simple sedimentary sequence. The deposits recorded have been modelled (Figure 10a/b) and cross-section transects produced (Figures 7-9).

7.1.2 The base of most boreholes consisted of the local mudstone bedrock recorded with varying depth relating to the scheme crossing the incised and aggrading Trent floodplain to the south and east of Newark, and up onto the elevated river edge to the north of Newark.

7.1.3 A thick layer of sands and gravels, possibly the fluvially reworked Holocene Hemington Member or intact Pleistocene HPSG, overlie the bedrock. The depth of the sands and gravels varied across the site relating to topographic depressions resulting from palaeochannel incision and other related landforms. Occasional sand lenses may represent ridge and swale features as a result of lateral meander migration.

7.1.4 The accumulation of organic deposits overlying the sands and gravels primarily occurred within the depressions of palaeochannels and was largely confined to the southern end of the scheme. These organic deposits were mainly well-humified organic silty clays which were then capped by a thick layer of fine-grained oxidised overbank alluvium and a thin topsoil.

7.2 Deposit survival and existing impacts

7.2.1 The monitoring of ground investigations across the proposed route of the A46 Bypass improvement works has demonstrated the survival of waterlogged organic deposits primarily associated with palaeochannels and associated fluvial landforms. Occasional waterlogged organic deposits are preserved away from the A46 carriageway embankment. These deposits are preserved on the low elevation Trent floodplain, adjacent or within Lidar mapped palaeochannels, where consistent waterlogging has provided the necessary preservation conditions.

7.2.2 The survival of such deposits has been demonstrated in spite of the various existing impacts outline below. The degree to which the deposits survived entirely (i.e. partial or complete truncation) is largely dependent on the below ground impact (section 7.2.4). The ground investigations located on the northbound side of the carriageway, on primarily undisturbed ground, showed largely intact sediment

sequences in contrast to those recorded underlying the embankment deposits, which had varying degrees of truncation.

7.2.3 Whilst no archaeological remains, features, deposits or artefacts were observed or recovered during the monitoring of ground investigations, this does not mean that they may not be present elsewhere along the route, especially outside of the floodplain on the Farndon terrace, where significant Lat Upper Palaeolithic (LUP) flint scatters have been recovered and excavated, as well as the raised terrace of the Balderton Sand and Gravel east of the A1.

7.2.4 The primary existing impact on the underlying deposits comes from the embankment on which the current course of the A46 Bypass runs. The impacts relating to the embankment are varied and are largely correlated to the overall height of the embankment which has a direct relationship with the below ground impact i.e. embankment toe level. The impact of the embankment can clearly be seen when comparing the recorded deposits in ground investigation locations adjacent to each other, where one is located on the embankment itself and another is located beyond the base of the embankment on undisturbed ground.

7.2.5 An apparent indirect impact on the deposits comes from the embankment itself, which has likely affected the local hydrology. This in turn may have affected the preservation of waterlogged organic deposits. The embankment fill may also have contributed to contamination of underlying deposits, although this was not a substantial remark recorded in the ground investigation report or by direct observation during the monitoring of ground investigations.

7.2.6 Additional impacts relating to current A46 bypass include the construction of: the bridge crossing the Trent immediately north of Farndon, the bridge crossing the southern section of the Old Trent Dyke, the bridge crossing the Nottingham to Lincoln Line, the bridge crossing the northern section of the Old Trent Dyke, the roundabout at the junction of the Great North Road / A617 / A46, the bridge crossing the Nottingham to Lincoln Line as it turns north-east, the bridge crossing the Trent and the East Coast Main Line, and the bridge / underpass linking to Winthorpe Road. The construction of the A1, at the location of BH67-68 and BH15 and 17, appears to have had a minimal impact on the deposits recorded in this location.

7.2.7 There are, in addition, several historical impacts mainly relating to the Nottingham to Lincoln Line and the East Coast Main Line railways and associated bridges. Their construction has had an unknown (but likely adverse) impact on the underlying deposits where they interact with the proposed boundary of the scheme.

7.2.8 The construction of the Grade II listed causeway arches along the Great North Road, opened in 1770 (specifically Causeway 4 LB1297727), located immediately to the north-west of the roundabout (NGR 47933 35476) in close proximity to BH61, is likely to have had some impact on the underlying deposits, the extent of which is largely unknown. The sequence recorded in BH61 shows only the upper 0.40m as ‘made ground’.

7.3 Discussion of deposits

Mudstone Bedrock

7.3.1 The unit at the base of most of the boreholes consisted of mudstone bedrock, partially weathered at its upper boundary. The weathered component consists of reddish-brown silty sands and occasional gravel, with a relatively thick layer present in the samples recovered from Winthorpe roundabout to the west of the A1 roundabout (section 5.1) (the area of the A46 bypass adjacent to the Trent floodplain). The advantageous relief of this area adjacent to the historically marshy/ waterlogged wider floodplain provides potential locations for buried 'dryland' archaeological remains. Bedrock was not encountered where the overlying Balderton Sand and Gravel was recorded, on the northern end of the scheme outside the floodplain (see below).

Sands and Gravels

7.3.2 The sand and gravel deposits recovered at the base of each of the window samples carried out on the Trent floodplain, likely represent those of the Hemington Member, a unit formed during the Holocene from fluvial reworking of Devensian glacial outwash of the HPSG (c. 30,000 ka BP, Bridgland et al. 2014). Whilst this is very likely, based on the clear evidence for lateral migration landforms from Lidar imagery, the wholesale attribution of the sand and gravel deposits observed in the floodplain remains unsubstantiated due to the lack of currently observable defining characteristics which can assign the deposits to the Hemington Sand and Gravel (section 1.2.8). As such, it should be assumed that the sand and gravel on the floodplain represents HPSG until such observations are made which would attribute the deposits to the Holocene reworked mapped unit. Intact islands of the HPSG are sparsely preserved within the Trent Floodplain at this location (BGS, 2022). The high likelihood of reworking could mask former land surfaces from which archaeological features and artefacts can be preserved.

7.3.3 Balderton Sand and Gravel was recorded exclusively east of the A1, south through east of Winthorpe. This Pleistocene (MIS67/7) sequence represents some 7.00-8.50m of deposits infilling a 1.50-3.00km wide palaeovalley representing a former course of the Trent between Newark and Lincoln (Bridgland et. al, 2014: 31).

Organic Deposits

7.3.4 Waterlogged organic deposits were recovered from seven boreholes, four window sample cores, and a single test pit (see Section 5 above). The age and significance of these deposits is presently unknown. These samples were characterised by a predominantly well humified sequence of silts and clays. In addition, several locations where waterlogged organic deposits were encountered were recorded but remain unsampled, largely due to poor recovery of the deposits in addition to geotechnical testing constraints requiring the material. The sediments are preserved in low lying consistently waterlogged conditions, predominantly within palaeochannels indicated on LiDAR imagery (see Figures 3 and 5). The formation of organic silts within these features suggests low energy or stagnant channel

conditions which allowed for the gradual accumulation and preservation of organic matter. This part of the Trent Valley is characterised by lateral migration and/or avulsion (Brown et al. 2013), with the numerous incised palaeochannels providing waterlogged natural depressions for the accumulation and preservation of organic matter. The proximity to the confluence of the River Devon with the Trent means that increases in channel discharge, resulting from heavy rainfall falling within the catchment area of the Devon (primarily the Vale of Belvoir), means that this may have caused higher velocities of flow, contributing to the anatomising pattern seen with the current bifurcated Trent and the historical palaeochannels observed on the Newark 'island' (Colcutt, 1996).

7.3.5 Five of the twelve overall samples were recovered from boreholes targeting the main embankment on which the A46 is sited. This suggests that there are varying degrees of adverse impacts resulting from the overlying embankment fill which has potentially affected local hydrological conditions. Only a single hole (BH33) located on the embankment recovered soft, non-desiccated organic deposits compared to the well-preserved nature of waterlogged material recovered from window samples and boreholes located away from the embankment (i.e BH03, WS23, WS28, WS54 etc). The loss of waterlogged conditions over time will result in the degradation and potential loss of any palaeonvironmental and archaeological material. The proposed works should aim to mitigate any future degradation or loss of such material.

7.3.6 The southern end of the study site (between Farndon and the former cattle market roundabouts) is an area of significant interest due to the density of paleochannels it contains. These channels are of unknown age and may display evidence of multiple phases of channel activation and stagnation. Nearby investigations along the Trent Valley have shown occupation of river marginal landscapes dating back to the Late Upper Palaeolithic period (Farndon, southern end of study area; Grant and Harding, 2014), with Mesolithic, Neolithic and Bronze age artefacts recovered from multiple phases of investigation at Langford and Cromwell (Wilson, 1996; Garton et al., 1997; Collins, 2018; Keyworth, 2018; Krawiec, 2019). More recently, the development of Newark through from the Roman period, and expansion in the Medieval and Post-Medieval periods, collectively demonstrates that the area of proposed works has the potential to encounter multi-period archaeological remains. Obtaining the ages of the sediment sequences through radiocarbon dating and palaeoenvironmental analysis would allow for further comment on the possible archaeological periods these channels relate to.

7.3.7 At the northernmost extent of the floodplain, several ground investigation locations also recorded organic deposits (WS54, BH46 and BH47). No samples were retained from these sequences due to the combination of poor recovery and geotechnical requirements for sampling which meant no material was available for palaeoenvironmental purposes. Consequently, none of the material from this area is available for preliminary assessment.

Fine-grained alluvial deposits

7.3.8 The fine-grained alluvial deposits which blanket the sands and gravels and the occasional organic deposits across the study site have been deposited by the migrating channel of the Trent and overbank flooding events since the onset of the Holocene (c. last 11,500 years). For the most part, these sediments are highly oxidised and have a low potential to preserve palaeoenvironmental remains. However, such deposits have been shown to preserve wooden archaeological remains despite the deterioration of the waterlogged conditions (Krawiec et al 2017). The highly mobile Trent Channel at this location also derives an increased possibility of sediment reworking, which can result in the movement and reburial of archaeological remains with the alluvium.

7.4 Potential impact on deposits

7.4.1 A large majority of the current A46 Newark Bypass lies on the Trent floodplain, covering some 5.00km of the proposed 6.50km scheme. This area is of particular interest given the numerous palaeochannels indicated on processed LiDAR imagery (see Figures 3 and 5). The waterlogged deposits associated with palaeochannel and other landforms, recorded during the monitoring of ground investigations, have the potential to preserve multi-period waterlogged palaeoenvironmental and archaeological remains. There are a number of impacts relating to the proposed development which may adversely impact these deposits, as well as those at additional locations not surveyed during the previous round of ground investigations.

7.4.2 The principle impacts relating to the proposed works is the widening of the northbound carriageway of the A46 to create an 'all-purpose dual carriageway formed of two standard 7.3m wide carriageways in each direction' (National Highways, 2021: 108). It is assumed that the construction of the north bound carriageway will mirror that of the existing embankment in terms of elevation and profile. The below ground impacts are, however, unknown but are anticipated to be substantial i.e. into the underlying bedrock. The following, primarily relating to the construction of the additional embankment, is taken from the National Highways assessment report (2021):

'Any excavations associated with the works are likely to be within the superficial Alluvium or River Terrace Deposits. The Alluvium is unlikely to be suitable for reuse, except for landscaping. The River Terrace Deposits are likely to yield granular fill material that may be incorporated into the main embankment fill (101)';

'The presence of compressible Alluvium also presents a significant risk of differential settlement along the route in relation to the widening of the existing structures and construction of new structures and earthworks. Pile foundations (driven or bored piles) are likely to be required where the thickness of alluvium precludes the use of shallow foundations. Where the Alluvium thickness is <2 m or absent, the River Terrace Deposits may be a suitable founding stratum for shallow foundations. (100)';

'Parts of the proposed widening works will be located within the existing flood area and will therefore reduce the current flood capacity. The flood alleviation strategy is expected to require the excavation of nearby areas by reducing the ground levels by up to approximately 1 m to compensate the flood volume capacity reduction imposed by the proposed earthworks. (101; emphasis added)' and;

'The location and size of site compounds, potential storage/borrow areas and proposed signage, lighting or other built elements associated with the project, such as noise or environmental barriers, are unknown at this stage and have not been assessed. In addition, full details of the engineering designs and land take for construction have not been finalised. These elements have the potential to increase the magnitude of adverse impacts on the landscape and on visual receptors both during the construction and operation phases.' (151-152).

7.4.3 Based on the publicly available General Arrangement plan (HE551478-ATK-HGN-OP2_A46Z-DR-CH-000009; dated 17/06/21) and the Staged Overview of Assessment Report (National Highways, 2021) the following additional construction events with the potential to have below ground impacts are outlined (Figure 12) resulting from the proposed scheme, the details of which are available in the National Highways report (2021: 89-95):

- Windmill Underpass – extended by 7.00m at western end;
- Windmill Viaduct – new, parallel bridge alongside existing bridge to carry A46 northbound traffic. Two intermediate piers and two abutments with piled foundations;
- Pipe culvert No. 5 – extended by 24.00m on western side;
- Farm access underpass – extended at western end by 25.00m, existing approach wing walls demolished and replaced;
- Pipe culvert No. 6 (Old Trent Dyke north) – extended by 12.00m
- Nottingham to Lincoln railway line west crossing – new bridge to carry the north boundary carriageway. Design to be determined at later stages.
- Pipe culvert No. 7 (Old Trent Dyke south) – extended by 17.00m on the northbound side.
- Cattle Market flood relief culvert – extended by 80.00m on north-east side of roundabout and 40.00m on south-east side;
- Cattle Market causeway arches (Grade II Listed) – new flood relief structures constructed parallel to existing masonry to carry the southbound carriage way;
- Pipe culvert No. 12 - extended by approximately 50.00m on the northbound;
- Nottingham to Lincoln railway line east crossing – new bridge to carry northbound carriageway, the extent of the demolition or modification will be determined in the later design stages;
- Nether Lock Viaduct – new viaduct to carry the northbound carriageway;
- Nether Lock railway bridge – new bridge to carry the northbound carriageway;
- Sewage Works Access Underpass – extended at the western end by 25.00m;

- Pipe Culvert No. 16 – extended by 50.00m on the northern side and 10.00m on the southern side;
- Winthorpe Road subways – existing underpass demolished and new underpasses created under realigned A46, new underpass to be some 80.00m in length x 7.50m wide;
- A1/A46 crossing – new bridge some 60.00m in length

7.4.8 It should be noted that in the assessment report 'most structures will use piled foundations, which matches the foundations of most of the existing structures' (National Highways, 2021: 95). Piling has the potential to adversely alter the local site hydrology, leading to the possible drainage of waterlogged deposits as well as other adverse effects (Historic England, 2019). This could consequently cause the desiccation of deposits which have the potential to preserve paleoenvironmental and archaeological remains. Additionally, specific details of the impacts are not known at this stage of the pre-planning development process. Therefore, the above outlined potential impacts represent what is available at the time of writing, which may be modified in due course following the design stage.

7.4.9 Widening the A46 carriageway embankment on the Trent Floodplain may also exacerbate the impacts currently caused (Section 6.3.5), most notably the change in local hydrological conditions and its demonstrable impact on desiccation of some organic deposits preserved under the embankment. As a result, this may further risk the preservation of waterlogged archaeology.

7.4.10 Groundworks involving the full or partial truncation of the sedimentary sequence may damage and/or destroy preserved archaeology given the high likelihood of sediment reworking on the floodplain. It is probable that archaeological material is present within both the gravel and overlying alluvial units. Removal or disturbance of the alluvial layer also risks harming local waterlogged conditions as preferable preservation conditions for such material. Organic and archaeological material.

7.5 Consideration of research aims

Updated Research Agenda

7.5.1 The monitoring of ground investigations has revealed the presence of waterlogged organic material within palaeochannels spanning the study area. These sediments have the potential to preserve multi-period paleoenvironmental and archaeological remains, in addition to being suitable for radiocarbon dating. Thick sequences of organic deposits recovered in some locations should provide a suitable archive for the assessment of preserved microfossil (i.e pollen, diatoms) and macrofossil (i.e molluscs, plants, insects) remains. Recovery of organic material would be undertaken during monitoring of the proposed groundworks phase of works. The analyses of such deposits would provide an important contribution to the growing body of archaeological studies undertaken in the Newark area and the Middle Trent Valley.

7.5.2 Should further assessment be undertaken, the study may be able to contribute to a suite of regional research objectives within the EMHERF, listed below:

MESOLITHIC (9500-4000 cal. BC)
2.6.2 How can we maximise the potential of palaeochannels, upland and/or coastal peats and other organically rich deposits as sources of data on Early Holocene landscapes and changes in subsistence strategies.
NEOLITHIC AND EARLY TO MIDDLE BRONZE AGE (c.4000-c.1150 cal BC)
3.4.2: Can we identify locations with a high potential for elucidating variations in arable, pasture and woodland cover between ecological zones (e.g. palaeochannels; upland peats)?
3.7.3: How significant were river-crossing or confluence zones as foci for monument complexes?
LATE BRONZE AGE AND IRON AGE (c.1150 cal BD- AD43)
4.1.1: How can we maximise the potential of scientific dating methods as tools for refining the regional chronological framework for the first millennium BC?
4.7.1: What roles may wet and other natural locations have performed and how might these have changed over time?
4.8.1: Can we chart more closely the processes of woodland clearance and agricultural intensification, their impact upon alluviation and colluviation, and variations between different areas?
ROMANO-BRITISH (AD 43-c.410)
5.4.6: Can we elucidate further the daily life of settlements and their role in the processing and marketing of agricultural products?
5.7.2: How were roads, rivers and artificial waterways integrated?
MEDIEVAL (410-1485 AD)
7.7.4: What can environmental remains teach us about diet and living conditions in urban, rural and coastal communities?
ENVIRONMENTAL THEMES
Lack of published early prehistoric pollen profiles as noted by Greig (1996)
Lack of extensive dated evidence for agricultural land use; pasture, cultivation and woodland
Roman- Evidence of arable expansion is required from pollen-bearing deposits to add to the evidence of more abundant cereal remains from sites
Medieval- Freshwater fish production and supply.

7.6 Conclusions and recommendations

7.6.1 The geoarchaeological survey has characterised the sediment deposits running broadly parallel to a 6.5km stretch of the A46 Newark Bypass, Newark, Nottinghamshire. Modelling of the site has provided an overview of the depositional sequence, which is primarily dominated by sands and gravels, blanketed by oxidised silt-clay alluvium in the Trent floodplain area. Waterlogged organic deposits suitable for radiocarbon dating, and with the potential of preserving palaeoenvironmental remains, were found to be mainly confined to the depressions of the numerous palaeochannels and associated fluvial landforms in the floodplain area.

7.6.2 At this stage, no palaeoenvironmental analysis or radiocarbon dating has been carried out. These analyses are recommended and would enable the development of a wider understanding of the archaeological history and the evolution of the floodplain area. Further assessment will also allow an expanded address of relevant EMHERF research objectives.

7.6.3 The report findings have resulted in more defined targets for future sampling and monitoring which are likely to be required during subsequent phases of work. The surrounding region of the area of investigation has a known multi-period history of archaeological presence, remains of such artefacts may be preserved along the site area.

7.6.4 Further assessment in the form of radiocarbon dating a selection of the recovered organic material is recommended. Samples for potential submission have been outlined in the table below (Table 10), which have been visually assessed and likely have the greatest potential to preserve palaeoenvironmental remains. The age and significance of these deposits is presently unknown. This will allow for a comprehensive investigation of the archaeological history and evolution of floodplain and alluvial terrace within Newark.

GI ID	Depth of Sample (m BGL)	Reduced Elevation (m OD)	Sampled Deposit	Possible Landform and/or Deposit	Location	Recommended for C14 / Assessment?
BH 03	1.84-2.00	8.63-8.47	Organic clay deposit	Old Trent Dyke palaeochannel (c.f BH03a /TP05)	Floodplain	C14, wood, process for macros
BH 03A	1.45-1.55	8.89-8.79	Organic clay silt with preserved macros	Old Trent Dyke palaeochannel (c.f BH03 /TP05)	Floodplain	C14, process for macros
BH 35	7.70-7.85	5.05-4.90	Preserved organic material	Within sand and gravel sequence	Under Embankment	C14, bulk
BH 33	8.50-9.00	6.34-5.84	Organic silt clay	Old Trent Dyke palaeochannel (c.f WS23)	Under Embankment	C14, process for macros
TP 05	1.60-2.10	8.70-8.20	Organic laminated silt clay	Old Trent Dyke palaeochannel (c.f BH03 /BH03a)	Floodplain	C14, process for macros
WS 28	2.90-3.00	7.07-6.97	Organic clay deposit	Palaeochannel, previous Old Trent Dyke course?	Floodplain	C14, process for macros

Table 10: Recommended samples for radiocarbon age determination assessment

7.6.5 From the information available at this stage of the planning and development process, the potential adverse impacts have been outlined, the majority of which will impact the 5.00km stretch of the route on the floodplain of the River Trent. The

details of potential adverse impacts to the underlying deposits are at present not yet available.

7.6.6 It is also recommended that integration of largely confidential / unavailable data held by the BGS relating to the original construction of the present A46 Bypass, as well as access to the original GI report which has not been consulted (National Highways, 2021), alongside the data from the most recent GI would be beneficial to create a more complete deposit model for the site. In addition, it would provide a more detailed assessment of the past and potential future impacts on the underlying deposits, as the original and current GI datasets could be compared.

7.6.7 In addition, should the locations of recovered samples prove productive, further purposive geoarchaeological ground investigations are recommended. The work would be undertaken at locations where organic deposits have been identified so that intact sediment sequences can be recovered to undergo initial palaeoenvironmental microfossil and macrofossil assessment.

8. BIBLIOGRAPHY

Bennett, M. 2009. *The English Civil War*. The History Press.

BGS. 2021. Surface Geology. *Geology of Britain viewer (classic)* [online]. Available at: http://mapapps.bgs.ac.uk/geologyofbritain/home.html

Bridgland, D.R, Howard, A.J, White M.J and White, T.S. 2014. *Quaternary of the Trent*. Oxbow Books: Oxford & Philadelphia.

Brown, A.G., Toms, P.S., Carey, C.J., Howard, A.J. and Challis, K. 2013. Late Pleistocene–Holocene river dynamics at the Trent-Soar confluence, England, UK. *Earth Surface Processes and Landforms*, 38(3), 237-249.

British Sugar. 2021. British Sugar's Newark factory celebrates 100th year [online]. Available at: https://www.britishsugar.co.uk/media/news/2021-11-09-british-sugars-newark-factory-celebrates-100th-year#:~:text=British%20Sugar%E2%80%99s%20factory%20in%20Newark%20is%20this%20year,to%20produce%20around%2015%20million%20tonnes%20of%20sugar.

CIfA. 2014a. *Code of Conduct*.

CIfA. 2014b. *Standard and guidance for archaeological field evaluation*.

CIfA. 2014c. *Standard and guidance for the collection, documentation, conservation and research of archaeological materials*.

Collcutt, S.N. 1996*. The Trent Valley Around Cromwell, Nottinghamshire: Landscape Evolution*. Unpublished Oxford Archaeological Associates Limited report

Collins, C. 2018. *Cromwell North: An Archaeological Trial Trench Evaluation and Borehole Survey*. Nottingham: Trent & Peak Archaeology unpublished report.

Coyne. 2010. Archaeology Research and Investigations in the Newark Area [online]. Available online at: http://www.ournottinghamshire.org.uk/page_id__137.aspx

Ekwall, E. 1960. *The Oxford Dictionary of English Place Names*. Oxford University Press.

Garton, D, Howard, A.J and Pearce, M. 1997. *Archaeological investigations at Langford quarry, Nottinghamshire 1995-1996*. Tarmac Papers vol. 1.

Grant, M.J. and Harding, P. 2014. Farndon Fields, Nottinghamshire: in situ multi-phased Late Upper Palaeolithic activity on the floodplain. *PAST: Newsletter of the Prehistoric Society*, 76, 2-3.

Groake, J. 2018. *Langford Quarry, Western Extension: Results of an Archaeological Trenching Evaluation*. Unpublished Trent & Peak Archaeology report 071/2018

Historic England. 2011. *Environmental Archaeology.* Swindon: English Heritage.

Historic England. 2015a. *Geoarchaeology.* Swindon: English Heritage.

Historic England. 2015b. *Management of Research Projects in the Historic Environment. The MoRPHE Project Managers' Guide*. Swindon: English Heritage.

Historic England. 2019. *Piling and Archaeology: Guidance and Good Practice*. Historic England. Swindon: Historic England.

Historic England. 2016. *Preserving Archaeological Remains.* Swindon: English Heritage.

Keyworth, T. 2018. *Archaeological Monitoring and Paleoenvironmental Assessment at Cromwell Quarry (Phases 1-7), Cromwell, Nottinghamshire*. Unpublished Trent & Peak Archaeology report 164/2019.

Kinsley, A.G. 1993. Fieldwalking, earthwork surveys and geological mapping on the Fosse Way (A46) between Widmerpool and Newark, Notts. *Interim Report*. TPAU.

Knight, D. Vyner, B. and Allen, C. 2012. *East Midlands Heritage: An Updated Research Agenda and Strategy for the Historic Environment of the East Midlands*. Buxton: Buxton Press

Krawiec, K. 2019. *An interim summary of watching brief attendance at Langford Quarry 2016-2019.* Unpublished Trent & Peak Archaeology report 032/2019.

Joseph, J.S. 1953. Air reconnaissance of southern Britain. *The Journal of Roman Studies*, 43(1-2), 81-97.

Knight, D. and Howard, A, J. 2004. *Trent Valley Landscapes*. King's Lynn Heritage Marketing and Publications.

Krawiec, K, Howard, A.J and Gearey, B.R. 2017. *Beside the River Trent: Archaeological investigations at Shardlow Quarry, Derbyshire*. Spoilheap Monograph 14.

Machling, T. and Williamson, R. 2018. 'Up Close and Personal': The later Iron Age Torcs from Newark, Nottinghamshire and Netherurd, Peebleshire. *Proceedings of the Prehistoric Society*, 84, 387-403.

May, J. 1970. An Iron Age square enclosure at Aston upon Trent, Derbyshire: a report on excavations in 1967. *Derbyshire Archaeological Journal,* 90, 10-21.

National Highways. 2022. *A46 Newark Bypass* [online]. Available at: https://nationalhighways.co.uk/our-work/east-midlands/a46-newark-bypass/

National Highways. 2021. *Staged Overview of Assessment Report A46 Newark Northern Bypass 01/11/21.* National Highways.

Nicholson, A. 2012. Newark-on-Trent. *The Nottinghamshire Heritage Gateway* [online]. Available at: <http://www.nottsheritagegateway.org.uk/places/newark.htm>

Nottinghamshire County Council. 2019. *Historic Environment Record* [online]. Nottingham: Nottinghamshire County Council.

Rogers, A. 1974. The Origins of Newark: The Evidence of Local Boundaries. *Transactions of the Thoroton Society of Nottinghamshire*, 78, 13-26.

Salisbury, C. 1983. An Early Tudor Map of the River Trent in Nottinghamshire. Transactions of the Thoroton Society, 87, 54-58

Schoch, W., Heller, I., Schweingruber, F.H. and Kienast, F. 2004. *Wood anatomy of central European Species*. Birmensdorf, Switzerland: Swiss Federal Institute for Forest.

Schweingruber, F.H. 1990. *Microscopic Wood Anatomy*. Eidgenössiche Forschungsantalt für Wald, Schnee und Landchaft, Birmensdorf.

Stein, S and Malone, S. 2017. *Mapping the Palaeochannels of the Trent Catchment. Stage 2. Derbyshire, Leicestershire, Lincolnshire, North Lincolnshire, Staffordshire and Warwickshire*. Trent & Peak Archaeology: Nottingham.

Tetra Tech. 2021. Factual Ground Investigation Report. Tetra Tech Ltd, Cardiff.

Thompson, A. and Nevell, M. 2018. *Iron Age and Roman Besthorpe: Surviving on Sands and Gravel.: Excavating a late prehistoric and Romano-British River Valley Landscape*. University of Salford: Salford Applied Archaeology Series Vol 3.

Troels-Smith, J. 1955. Karakterisering af lose jordater (characterisation of unconsolidated sediments). *DenmarksGeologiskeUndersogelse*, Series IV/3, 10, 73.

Wilson, R.J.A. 1996. *From River Trent to Raqqa: Nottingham University Archaeological Fieldwork in Britain, Europe and the Middle East, 1991-1995*. Nottingham: University of Nottingham.

York Archaeology. 2021. *A46 Newark Northern Bypass : Archaeological Monitoring and Recording.* Nottingham: York Archaeology.

ACKNOWLEDGEMENTS

York Archaeology would like to thank Tetra Tech for commissioning the work and for their assistance throughout the project, and County Archaeologist for Nottinghamshire County Council for their guidance and monitoring.

N

0 100 200 km

0 1 2 km

0 0.5 1 km

Assumed Boundary

Figure 1: Site Location
Site Code: NNB

Scale at A3 - varies
Drawn by: TK

Contains OSM Open data © Crown copyright and database rights [2022]

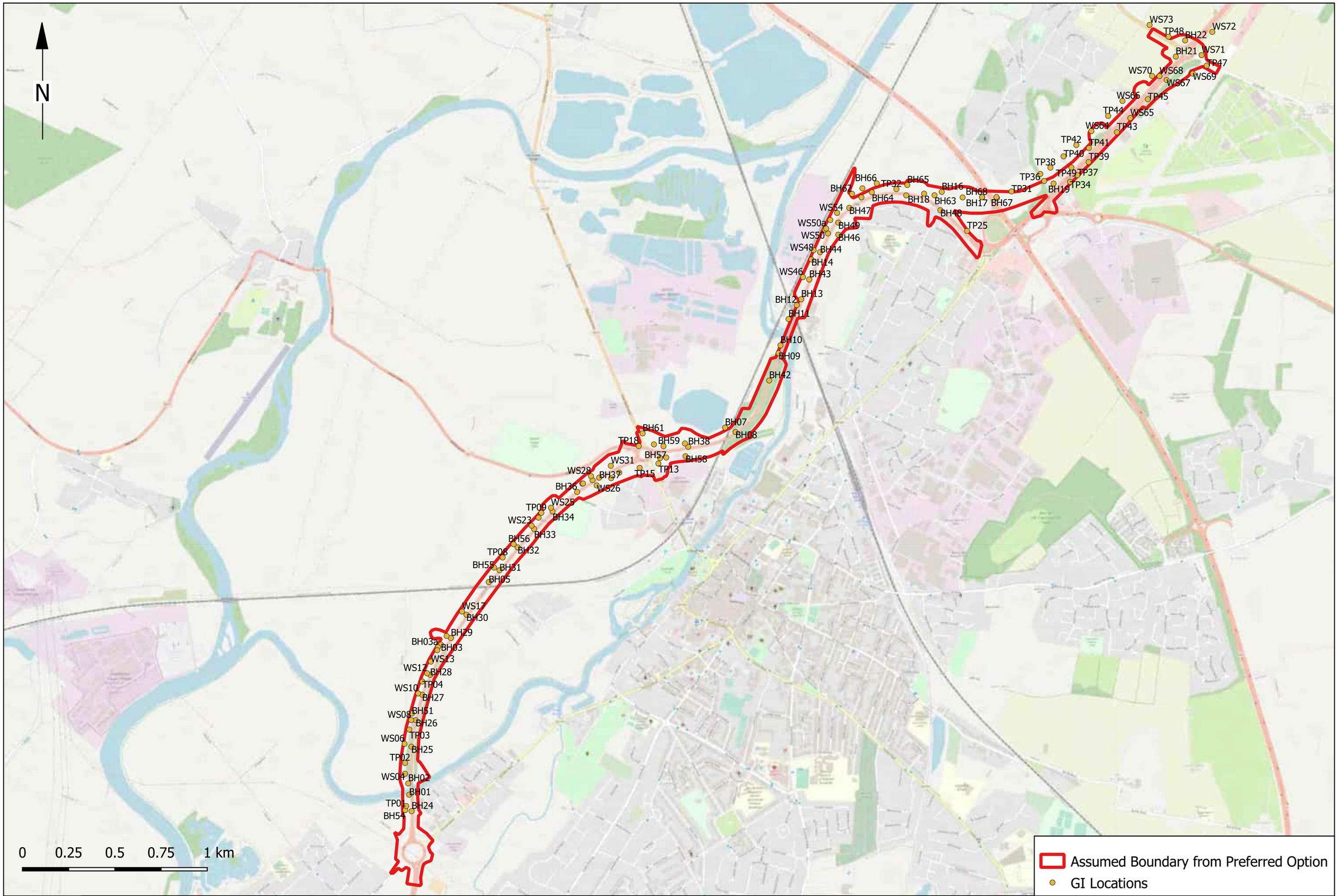


Figure 2 - Site Plan Showing Ground Investigation Locations
Site Code: NNB

Scale of map at A3 - 1:18000
Drawn by: TK

Contains OpenOS data © Crown copyright and database rights [2022]

N

A

B

C

D

E

F

Old Trent Dyke

0 0.25 0.5 0.75 1 km

2018 1m LiDAR DSM Clipped (m OD)
- 14.00
- 12.25
- 10.50
- 8.75
- 7.00

- Assumed Boundary from Preferred Option
- Model Boundary
- GI Locations
- Sample Locations from GI Monitoring
- Organic Deposits Not Sampled
- Transect A-B

Figure 3 - Processed LIDAR Data and GI Locations Across The Newark 'Island' Floodplain Showing Transects A-B, C-D, and E-F
Site Code: NNB

Scale of map at A3 - 1:15000
Drawn by: TK

Contains OpenOS data © Crown copyright and database rights [2022]

N

0 0.25 0.5 0.75 1 km

BGS Mapped Deposits

- Mercia Mudstone Group
- Alluvium
- Holme Pierrepont Sand And Gravel Member
- Balderton Sand And Gravel Member
- Artificial Ground

- Assumed Boundary from Preferred Option
- GI Locations

Figure 4 - Mapped BGS Deposits Which Interact With The Proposed Scheme Route
Site Code: NNB

Scale of map at A3 - 1:18000
Drawn by: TK

Contains OpenOS data © Crown copyright and database rights [2022]

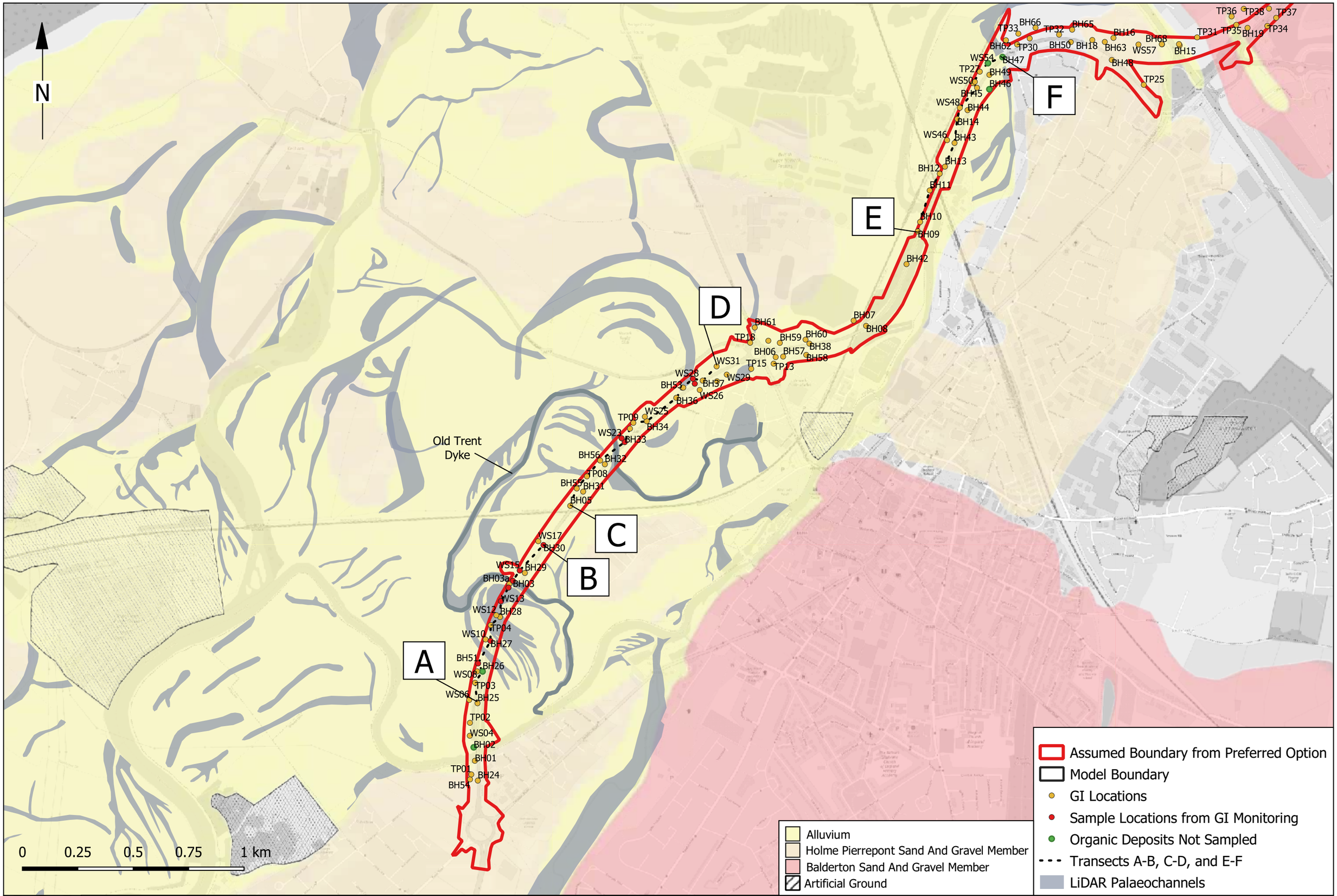


Figure 5 - BGS Mapped Superficial Deposits and GI Locations Across The Newark 'Island' Floodplain Showing Transects A-B, C-D, and E-F
Site Code: NNB

Scale of map at A3 - 1:15000
Drawn by: TK

Contains EA data © Crown copyright and database rights [2022]

N

A

B

C

D

E

F

Old Trent Dyke

0 0.25 0.5 0.75 1 km

Assumed Boundary from Preferred Option
Model Boundary
GI Locations
Sample Locations from GI Monitoring
Organic Locations Not Sampled
Transects A-B, C-D, and E-F

Figure 6 - GI Locations Across The Newark 'Island' Floodplain Showing Transects A-B, C-D, and E-F
Site Code: NNB

Scale of map at A3 - 1:15000
Drawn by: TK

Contains OpenOS data © Crown copyright and database rights [2022]

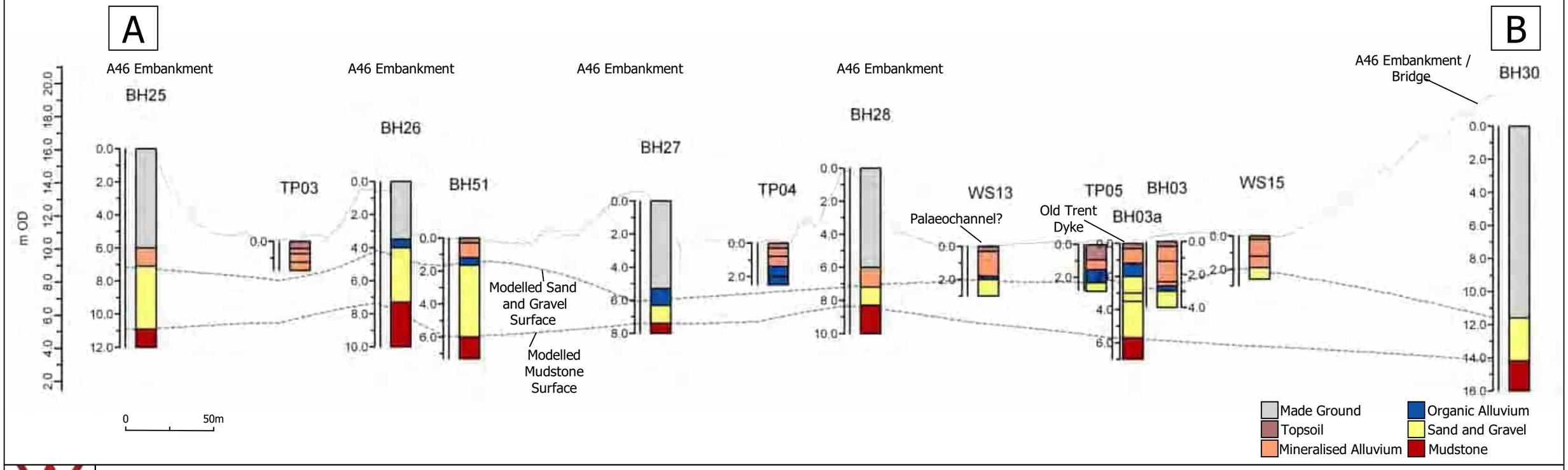
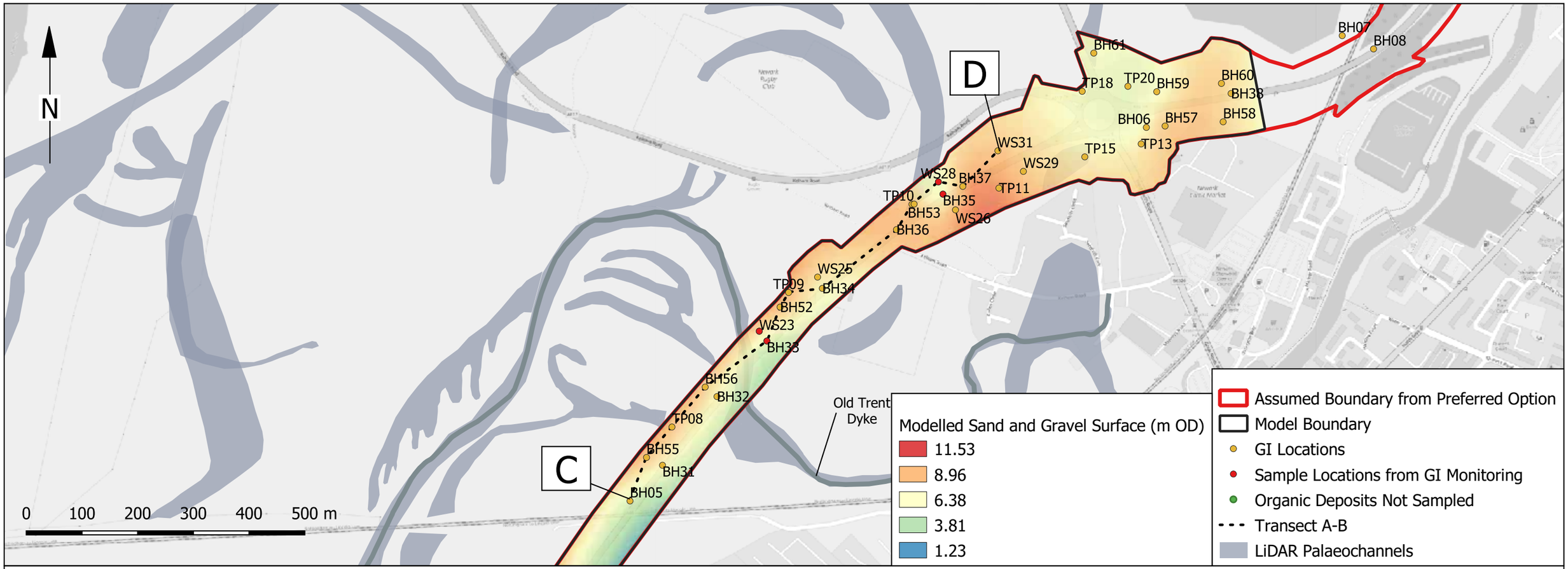


Figure 7 - Floodplain Transect A-B Showing Modelled Sand and Gravel Surface. Indicative GL is 2018 1m DSM LiDAR
Site Code: NNB

Scale of map at A3 - 1:7000. Transect Cross-Section VE: 10
Drawn by: TK

Contains OpenOS data © Crown copyright and database rights [2022]



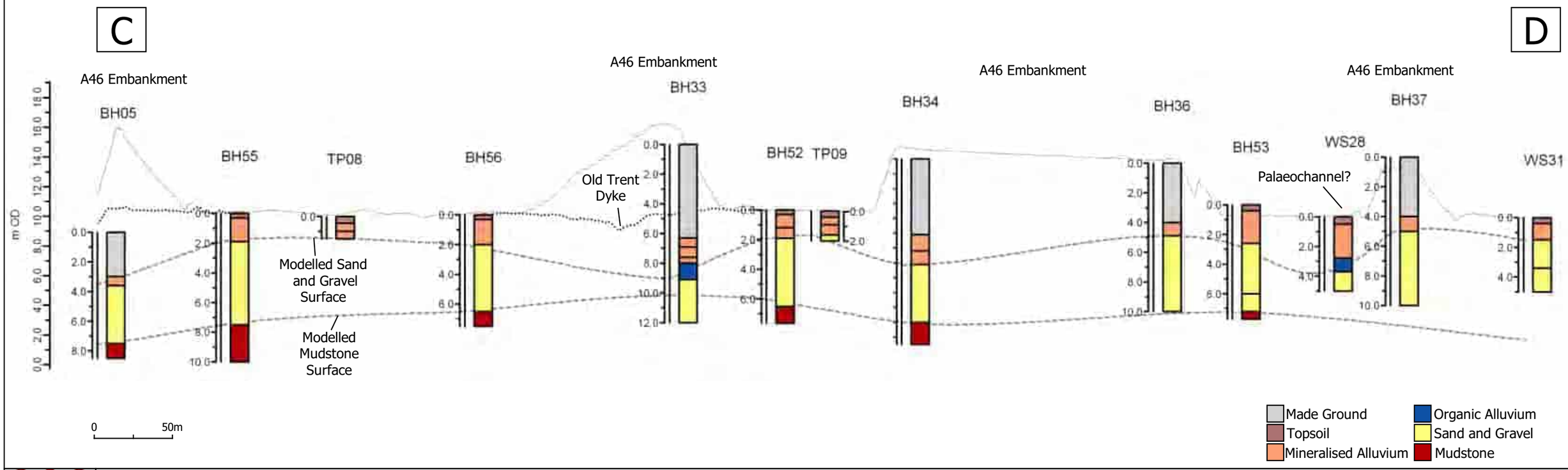


Figure 8 - Floodplain Transect C-D Showing Modelled Sand and Gravel Surface. Indicative GL is 2018 1m DSM LiDAR
Site Code: NNB

Scale of map at A3 - 1:7000. Transect Cross-Section VE: 10
Drawn by: TK

Contains OpenOS data © Crown copyright and database rights [2022]

Figure 9 - Floodplain Transect E-F Showing Modelled Sand and Gravel Surface. Indicative GL is 2018 1m DSM LiDAR
Site Code: NNB

Scale of map at A3 - 1:7500. Transect Cross-Section VE: 10
Drawn by: TK

Contains OpenOS © Crown copyright and database rights [2022]

a

b

N

Old Trent Dyke

0 0.25 0.5 0.75 1 km

Modelled Sand and Gravel Surface (m OD)
- 11.53
- 8.96
- 6.38
- 3.81
- 1.23

Assumed Boundary from Preferred Option
Model Boundary
GI Locations
Sample Locations from GI Monitoring
Organic Locations Not Sampled
LiDAR Palaeochannels

Modelled Mudstone Surface (m OD)
- 9.52
- 6.87
- 4.21
- 1.55
- -1.10

Figure 10 - GI Locations Across The Newark 'Island' Floodplain Showing a) Modelled Sand and Gravel Surface and; b) Modelled Mudstone Bedrock Surface
Site Code: NNB

Scale of map at A3 - 1:15000
Drawn by: TK

Contains EA data © Crown copyright and database rights [2022]

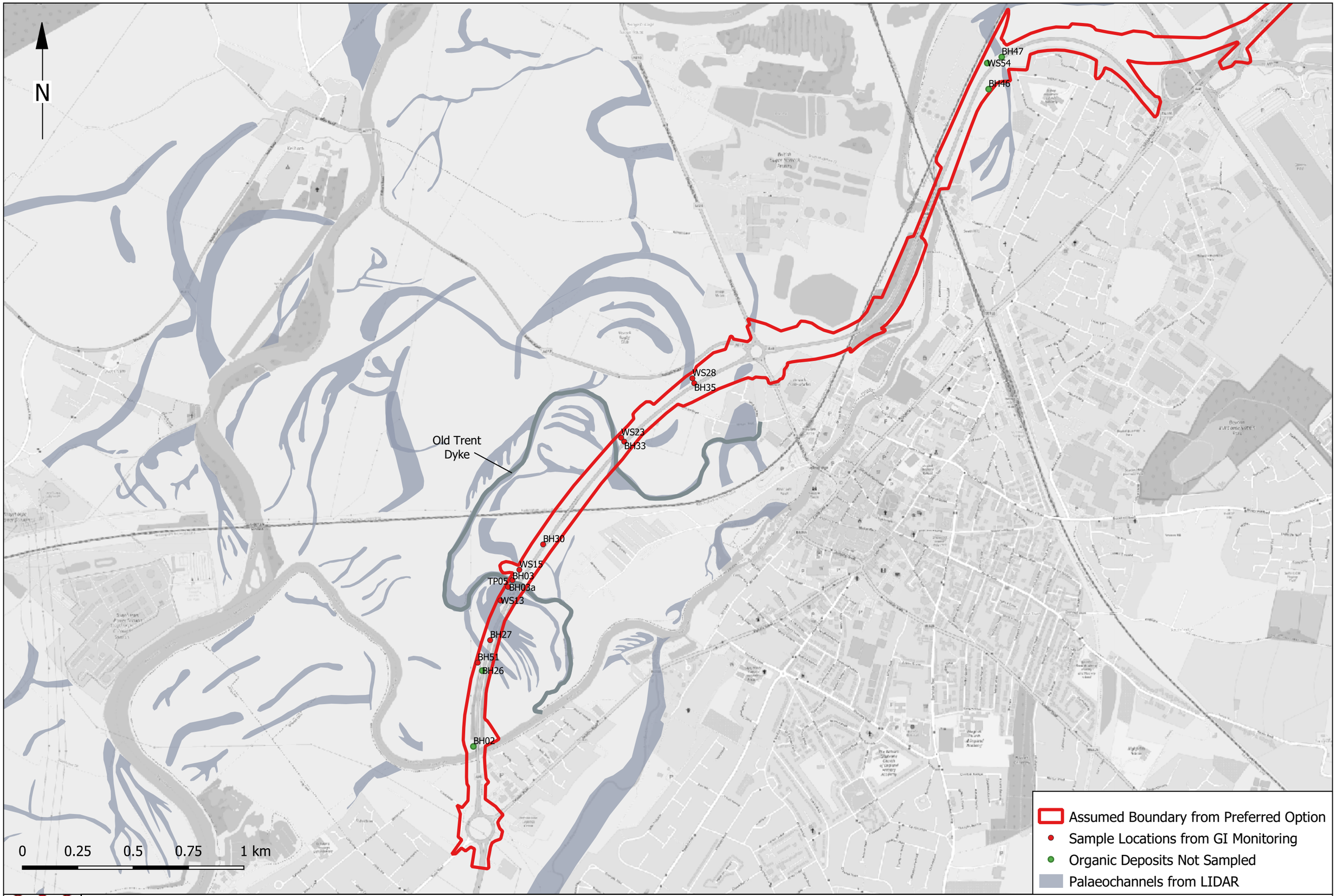


Figure 11 - Location of Retained Organic Samples and Organic Deposit Locations Where Samples Were Unable To Be Obtained
Site Code: NNB

Scale of map at A3 - 1:15000
Drawn by: TK

Contains OpenOS © Crown copyright and database rights [2022]

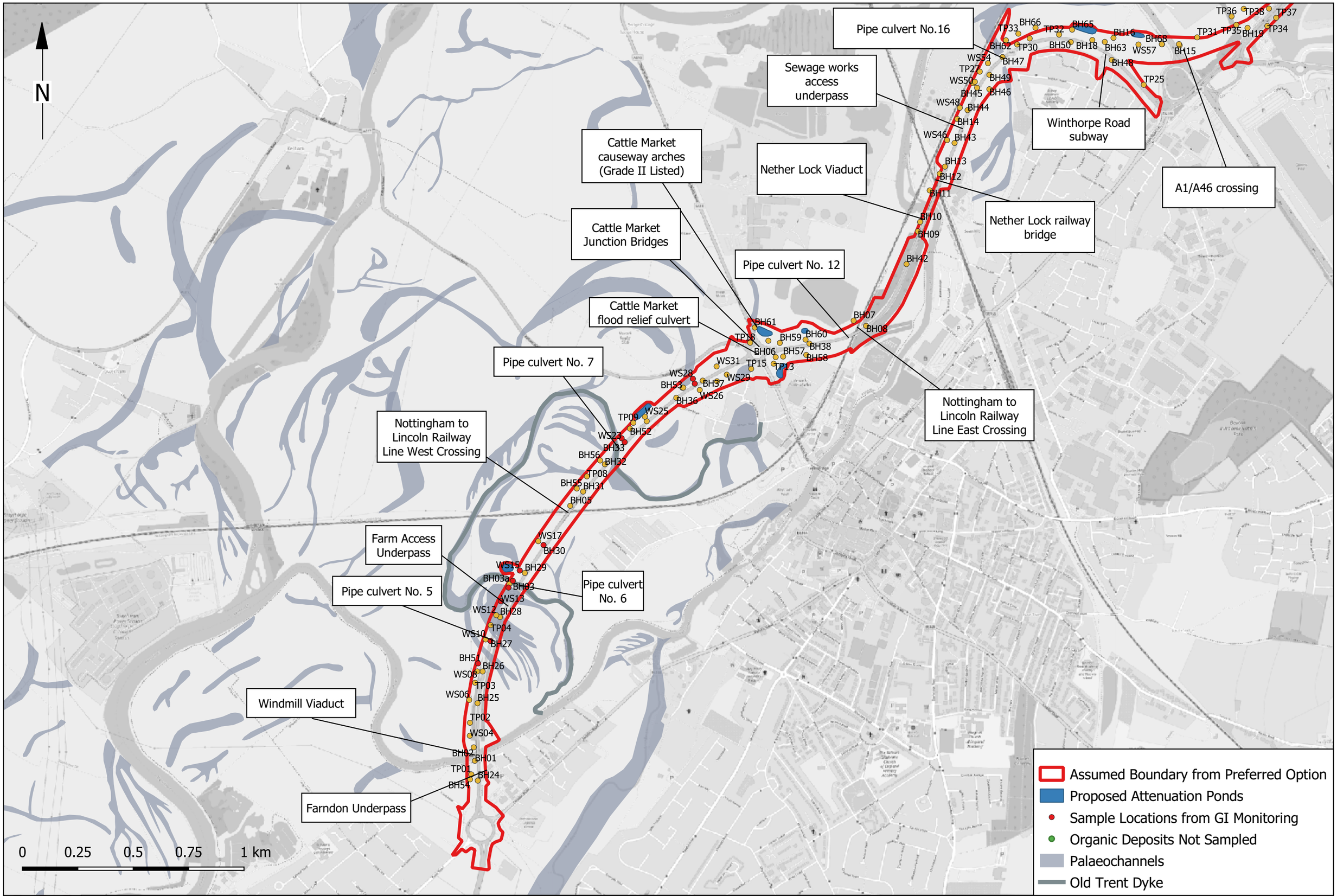


Figure 12 - Proposed Modifications and Additions to Structural Elements of the A46 Bypass Outlined for Option 2 Modified
Site Code: NNB

Scale of map at A3 - 1:15000
Drawn by: TK

Contains OpenOS data © Crown copyright and database rights [2022]

OASIS Form

OASIS ID (UID)	yorkarch3-508482
Project Name	A46 Newark North Bypass<M Newark, Nottinghamshire
Sitename	A46 Newark North Bypass
Activity type	Field Observation (Monitoring)
Project Identifier(s)	NNB
Planning Id	N/A
Reason For Investigation	Planning requirement
Organisation Responsible for work	York Archaeology
Project Dates	01-Mar-2021 - 01-Jul-2021
Location	A46 Newark North Bypass NGR : SK 82290 56820 LL : 53.1022419841379, -0.772368719565927 12 Fig : 482290,356820
Administrative Areas	Country : England County : Nottinghamshire District : Newark and Sherwood Parish : Winthorpe
Project Methodology	York Archaeology (the new trading name for Trent and Peak Archaeology) were commissioned by TetraTech to undertake archaeological and geoarchaeological monitoring of ground investigations from March to July 2021 ahead of the first stage of proposed improvements to the A46 Newark Bypass (NGR 48229 35682 to 47809 35251)
Project Results	Modelling of the site has provided an overview of the depositional sequence, which is primarily dominated by sands and gravels, blanketed by oxidised silt-clay alluvium in the Trent floodplain area. The geoarchaeological assessment recorded waterlogged organic deposits in seven boreholes. These samples were characterised by a predominantly well humified sequence of silts and clays. In addition, several locations where waterlogged organic deposits were encountered were recorded but remain unsampled. The sediments are preserved in low lying consistently waterlogged conditions, predominantly within palaeochannels identified on the LiDAR imagery. The organic deposits are suitable for radiocarbon dating and have the potential of preserving palaeoenvironmental remains. At this stage, no palaeoenvironmental analysis or radiocarbon dating has been carried out. These analyses are recommended as they would enable the development of a wider understanding of the archaeological history and the evolution of the floodplain area. Potential adverse impacts on the archaeological and palaeoenvironmental record are outlined. The majority will impact the 5.00km stretch of the route on the floodplain of the River Trent. The details of potential adverse impacts to the underlying deposits are at present not forthcoming but the range and scope of the impacts appears to be substantial. One of the main concerns is the loss of waterlogged conditions, which over time will result in the degradation and potential loss of any palaeoenvironmental and archaeological material. The proposed works should aim to mitigate any future degradation or loss of such material.

Appendix 1 Troels-Smith

Darkness	
nig.4	black
nig.3	
nig.2	
nig.1	
nig.0	white

Degree of Stratification	
strf. 4	well stratified
strf. 3	
strf. 2	
strf. 1	
strf. 0	no stratification

Degree of Elasticity	
elas.4	very elastic
elas.3	
elas.2	
elas.1	
elas.0	no elasticity

Degree of Dryness	
sicc.4	very dry
sicc.3	
sicc.2	
sicc.1	
sicc.0	water

	Sharpness of Upper Boundary
lim.4	< 0.5mm
lim.3	< 1.0 &> 0.5mm
lim.2	< 2.0 &> 1.0mm
lim.1	< 10.0 &> 2.0mm
lim.0	> 10.0mm

	Sh	*Substantia humosa*	Humous substance, homogeneous microscopic structure
I Turfa	*Tb*	*T. bryophytica*	Mosses +/- humous substance
	Tl	*T. lignosa*	Stumps, roots, intertwined rootlets, of ligneous plants
	Th	*T. herbacea*	Roots, intertwined rootlets, rhizomes of herbaceous plants
II Detritus	*Dl*	*D. lignosus*	Fragments of ligneous plants >2mm
	Dh	*D. herbosus*	Fragments of herbaceous plants >2mm
	Dg	*D. granosus*	Fragments of ligneous and herbaceous plants <2mm >0.1mm
III Limus	*Lf*	*L. ferrugineus*	Rust, non-hardened. Particles <0.1mm
IV Argilla	*As*	*A.steatodes*	Particles of clay
	Ag	*A. granosa*	Particles of silt
V Grana	*Ga*	*G. arenosa*	Mineral particles 0.6 to 0.2mm
	Gs	*G. saburralia*	Mineral particles 2.0 to 0.6mm
	Gg(min)	*G. glareosa minora*	Mineral particles 6.0 to 2.0mm
	Gg(maj)	*G. glareosa majora*	Mineral particles 20.0 to 6.0mm
	Ptm	*Particulaetestaemolloscorum*	Fragments of calcareous shells

Physical and sedimentary properties of deposits according to Troels-Smith (1955)

Appendix 2 Borehole Logs

WS04

0-0.50m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil – modern agricultural topsoil

0.5-3.6m	DA	ST	EL	SICC	UB
	2/3	2	0	2/3	4

Alluvial. Clayey Sand; mid greyish brown becoming blue greyish brown at 1.7m and dark bluish grey at 2.9m. Clay content diminishing and sand content increases at 2m gradual merging border with sand below, completely sand by 2.9m
Moisture present at 1.2m with complete waterlogging by 2m

3.6-5.0m	DA	ST	EL	SICC	UB
	2	0	0	4	1

Grey sand and gravel, coarse and waterlogged with large rounded pebbles and small 1-2mm angular gravels with a gradual transition. Waterlogged with gravels recovered but sand matrix washed out.

WS06

0-0.4m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil – modern agricultural topsoil

0.4-3.4m	DA	ST	EL	SICC	UB
	2/3	2	0	1	4

Alluvial clayey sand. Greyish brown becoming lighter with depth. Dark brown patches (not charcoal or lignite) at 1.35-1.38m. Clay content decreases with depth becoming fine sand. Gradual transition with sand beneath.
Water table at 1.1m

3.4-5m	DA	ST	EL	SICC	UB
	2	0	0	0	1

Grey Sandy Gravels. Waterlogged. Large, rounded pebbles, small 1-2mm angular gravels with a gradual transition. Waterlogged, no sand matrix recovery in core.

WS 08

0-0.4m	DA	ST	EL	SICC	UB
	4	0	0	3	/

Topsoil – modern agricultural topsoil

0.4-2.55m	DA	ST	EL	SICC	UB
	3	2	0	0	4

Alluvial clayey sand. Greyish brown but laminated with areas of lighter grey (with black coarse sand inclusions), areas of mid orange brown and areas of brighter orange before the 1.1m water table. Grey clay laminations at 1.71-1.73m and angular gravel pocket 1.85-1.9m

2.55-4.93m	DA	ST	EL	SICC	UB
	2	1/2	0	0	2

Alluvial brownish grey coarse sandy gravel. Gradual transition with context above not becoming clear until 2.78m rounded to sub-rounded pebbles (10-15mm) and small 1-5mm angular and sub-angular. Below water table

4.93-6m	DA	ST	EL	SICC	UB
	3	0	0	0	4

Silty sandy clay. Mid orange-brown no visible inclusions, malleable clay.

WS 10

0-0.2m	DA	ST	EL	SICC	UB
	4	0	0	3	/

Topsoil- modern agricultural topsoil

0.2-3m	DA	ST	EL	SICC	UB
	2/3	2	0	0	4

Alluvial clay sand. Light greyish brown, becoming lighter grey with red inclusions. Fine sand lamination with black lignite (1.2-1.4m) colouration then becomes dark grey brown and the dark grey. Waterlogged from 1.2m. No retrieval beyond 3m

WS12

0-0.4m	DA	ST	EL	SICC	UB
	4	0	0	3	/

Topsoil – modern agricultural topsoil

0.4-1.45m	DA	ST	EL	SICC	UB
	2/3	1	0	2	4

Alluvial Brownish grey clayey sand, slight laminations. Water table revealed at 1.2m

1.45-3m	DA	ST	EL	SICC	UB
	3 / 4	0	0	1 / 2	4

Sandy clayey peat. Very dark bluish grey (predominately grey) retrieved in core down to 2m but recorded to depth of 3m. No visible inclusions

WS13

0-0.3m	DA	ST	EL	SICC	UB

	4	0	0	3	4

Topsoil – modern agricultural topsoil

0.3-1.63m	DA	ST	EL	SICC	UB
	3 /4	0	0	1 /2	4

Middling greyish brown clayey sand. Slight laminations with light orangey brown lenses. Water at 1.1m
Alluvial

1.63-3m	DA	ST	EL	SICC	UB
	3 /4	0	0	1 /2	4

Slightly clayey coarse sand peat. Very dark blueish grey. Recorded down to 3m but only present in core to 2m, no recovery due to water beyond this point.
Sample ES 01 taken at 1.8-1.9m

WS15

0-0.3m	DA	ST	EL	SICC	UB
	3	0	0	4	/

Topsoil – modern pasture

0.3-2.28m	DA	ST	EL	SICC	UB
	2	1	0	3	3 /4

Alluvial Light grey-brown sandy clay becomes light brown grey clay with less sand content with depth until it is entirely clay at 1.92m

2.28-3m	DA	ST	EL	SICC	UB
	2/3	0	0	1	4

Sandy gravels. Dark blueish grey rounded stones 1-40mm. Sample ES 02 taken at 2.65-2.75m Waterlogged nature prevented core retrieval beyond 3m.

WS17

0-0.3m	DA	ST	EL	SICC	UB
	3	0	0	4	/

Topsoil – modern pasture

0.3-2.57m	DA	ST	EL	SICC	UB
	2	1 /2	0	1	3 /4

Light grey-brown sandy clay becomes lighter orange brown clay with little to no sand with depth almost peat at 1.84m. Water at 1.84m

2.57-4m	DA	ST	EL	SICC	UB
	2	1 /2	0	1	3 /4

Sandy gravels, brownish grey wit rounded stones 1-40mm. Waterlogged nature prevented recovery from 3-4m

WS 19 (Now samples as CP core)

0-0.2m	DA	ST	EL	SICC	UB
	3/4	0	0	4	-

Topsoil. Modern agricultural topsoil.

0.2-1.2m	DA	ST	EL	SICC	UB
	3	0	0	3	2/3

As3, Ga1.
Sandy clay. Light greyish brown.

1.2-2m	DA	ST	EL	SICC	UB
	1/2	2	0	1	1

As2, Sh+, Ga2.
Light brown yellow slightly clayey sand. Orange lenses with fine black organic matter within.

2->6m	DA	ST	EL	SICC	UB
	2	0	0	1	-

Gg(maj)1, Gg(min)2, Ga1.
Coarse sand and gravel. Gravels are rounded and sub-rounded (5-20mm). Sand is mid brownish grey colouration.

WS 23

0-0.3m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil – modern pasture

0.3-2.1m	DA	ST	EL	SICC	UB
	2	1 /2	0	3	4

Dark orange-brown sandy clay becoming lighter with depth, no visible inclusions

2.1-2.7m	DA	ST	EL	SICC	UB
	4	0	0	2 /3	4

Very dark grey organic clay, no visible inclusions
Es. 04 taken at 2.6-2.7m

2.7-4m	DA	ST	EL	SICC	UB
	2 /3	1 /2	0	1	4

Middle greyish brown sandy gravel. Rounded stones with small (<5mm) sub-rounded stones and coarse sand. Transitions to light orange brown at 3.7m

WS 25

0-0.35m	DA	ST	EL	SICC	UB
	3 /4	0	0	4	/

Topsoil – modern pasture

0.35-2.77m	DA	ST	EL	SICC	UB
	2	2/3	0	2	4

Dark to middling orange brown clayey sand with laminations and small pockets of black sand as well as laminations of brownish grey clay and reddish-brown sand with a band of light grey clay at the base. Sub-rounded gravel present <5mm in a band at 1.6-1.65m with angular stones of approx 30mm.

2.77-4m	DA	ST	EL	SICC	UB
	2	1	0	1	4

Coarse sandy gravel yellowish brown and reddish-brown sand with rounded and sub-rounded stones 3-75mm. Well compacted and holding water

WS 26

0-0.25m	DA	ST	EL	SICC	UB
	2/3	0	0	4	/

Topsoil – modern pasture topsoil

0.25-1.2m	DA	ST	EL	SICC	UB
	2/3	1	0	4	0

Mid yellow brown clayey sand. Merges with topsoil very occasional rounded and sub-angular stones 10-20mm (<1%)

1.2m-3m	DA	ST	EL	SICC	UB
	2	1	0	2/3	4

Light grey brown sandy gravels. Coarse sand with rounded and sub-rounded pebbles 7-25mm

WS 28

0-0.4m	DA	ST	EL	SICC	UB
	3	0	0	4	/

Topsoil – clayey sand with root inclusions

0.4-2.2m	DA	ST	EL	SICC	UB
	2	0	0	2	3

Mid greyish brown sandy clay. No visible inclusions or stratigraphy. Water table encountered at 1.2-1.3m

2.2-3.67m	DA	ST	EL	SICC	UB
	3 /4	0	0	2	2

Very dark grey brown/black peat with a gradual transition from above context. No visible organics or inclusions.
Sample ES 03 taken at 2.9-3m

3.67-5m	DA	ST	EL	SICC	UB

	3 /4	0	0	1 /2	4

Very dark grey -black clayey gravel. Rounded stones sharp transition. Waterlogged coarse feel

WS 29

0-0.3m	DA	ST	EL	SICC	UB
	3	0	0	4	/

Topsoil- modern pasture

0.3-1.83m	DA	ST	EL	SICC	UB
	2	1 /2	0	2	4

Light orange sandy clay. No inclusions. Becomes more clayey with depth

1.83-2.7m	DA	ST	EL	SICC	UB
	2	1	0	3	4

Coarse sand. Light brown. Waterlogged

2.7-3m	DA	ST	EL	SICC	UB
	2	0	0	4	4

Light brown sandy gravel. Rounded pebbles ~50mm. No recovery beyond 3m

WS 31

0-0.3m	DA	ST	EL	SICC	UB
	3	0	0	4	/

Topsoil – modern pasture

0.3-1.46m	DA	ST	EL	SICC	UB
	2 /3	2	0	2	1

Sandy clay, mid greyish brown with a lense of blueish grey between 1.1-1.2m. Fine and wet with gradual transition with topsoil above.

1.46-6m	DA	ST	EL	SICC	UB
	2	1 /2	0	4	2

Sandy gravels. Light orange brown coarse sand with rounded stones. Gradual transition from above context laminations visible between greyish brown and orange brown sands. At 3.4m sand component decreases becoming more gravels. 4.85-5m a dark grey clay band is visible, probably due to water presence. At 5-6m core could not be recovered

WS 50

0-0.36m	DA	ST	EL	SICC	UB
	3 /4	0	0	4	/

Topsoil

0.36-0.69m	DA	ST	EL	SICC	UB
	1 /2	0	0	4	4

sandstone and clayey loam made ground, overlay geo grid

0.69-1.3m	DA	ST	EL	SICC	UB
	3 /4	0	0	4	4

Dark grey clay loam with root inclusions. Compacted by malleable. Old/ buried topsoil

1.3-2.3m	DA	ST	EL	SICC	UB
	2/3	1	0	2	3

Mid greyish brown clay. No stone inclusions but possible flecks of charcoal at 1.74m

2.3-5m	DA	ST	EL	SICC	UB
	2	0	0	0	1

Brownish grey angular gravel (<1mm) with sand. Fine sand laminations at 2.3-2.4m coarse gravels. Water level present. Sand decreases with depth but gravel is consistent. Occasional sub-rounded pebbles 20-30mm

WS 54

0-0.27m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil

0.27-0.6m	DA	ST	EL	SICC	UB
	1 /2	0	0	4	4

Sandstone and clay loam made ground. Overlays geo grid

0.6-2.65m	DA	ST	EL	SICC	UB
	2/3	1	0	1 /2	4

Mid blueish grey clay with red oxidisation at 1.8m water/moisture at 1.2m

2.65-4m	DA	ST	EL	SICC	UB
	4	0	0	2	1

Peaty clay, slight organic smell. Very dark grey becoming black with depth. Soft and malleable

WS 65

0-0.2m	DA	ST	EL	SICC	UB
	3 /4	0	0	4	/

Topsoil – dark grey brown slightly silty sand with roots and rounded pebbles

0.2-0.8m	DA	ST	EL	SICC	UB
	3 /4	0	0	4	0

Made ground. Dark grey brown silt sand with modern brick fragments and rounded gravels

0.8-3m	DA	ST	EL	SICC	UB
	2/3	2	0	3	4

Dark brown orange sand with occasional pebble/stone inclusions. Becomes darker with depth gravel lens at 2.6m

WS 67

0-1m	DA	ST	EL	SICC	UB
	3 /4	0	0	4	/

Topsoil

1-3m	DA	ST	EL	SICC	UB
	2 /3	2	0	4	4

Dark brown orange sand with occasional pebble/stone inclusions. Becomes lighter and more orange with depth. Gravel cluster at 2.34-2.4m. No excavation beyond 3m

WS 68

0-0.45m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil – modern agricultural topsoil

0.45-3.84m	DA	ST	EL	SICC	UB
	3 /4	2	0	2	2 /3

Dark brownish orange sand with occasional pebble inclusions. Lenses of gravel identified between 1.56-1.76m and 2-2.11m moisture/water encountered at 3m

3.84-4m	DA	ST	EL	SICC	UB
	1	0	0	3 /4	3

Coarse gravel with slight sand inclusions. Gradual transition from above deposit. Gravels are angular and small 1-2mm wet/water filled deposit.

WS 69

0-0.2m	DA	ST	EL	SICC	UB
	2 /3	0	0	4	/

Topsoil

0.2-6m	DA	ST	EL	SICC	UB
	2	1 /2	0	1 /2	4

Light to mid brown orange fine sand with occasional pockets of gravel (3.7-4m). becomes darker with depth. Moisture encroaches at 2.65m and water at 3m. No gravels between 1.3-3.73m

WS 71

0-0.43m	DA	ST	EL	SICC	UB
	3 /4	0	0	4	/

Topsoil- modern agricultural topsoil

0.43-4m	DA	ST	EL	SICC	UB
	2 /3	1 /2	0	2 /3	4

Brownish orange sand with occasional (~10%) gravel/stone inclusions which become coarser in texture with depth. Lighter yellow lens at 2.76m and other dark red band throughout water encountered at 2.6m compaction increases toward 4m

WS 72

0-0.41m	DA	ST	EL	SICC	UB
	3 /4	0	0	4	/

Topsoil- modern agricultural topsoil

0.41-4.68m	DA	ST	EL	SICC	UB
	2/ 3	1	0	2 /3	4

Reddish orange sand with occasional (~10%) gravels. Slightly coarse and gets coarser with depth same as that encountered in WS 71 at this depth

4.68-5m	DA	ST	EL	SICC	UB
	0/1	2	0	2	4

Very light pale grey sand and clay with orange lenses. Alluvial. compacted/sticky with no visible gravels.

WS 73

0-0.4m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil – modern agricultural topsoil

0.4-2m	DA	ST	EL	SICC	UB
	1 /2	2 /3	0	4	4

Fine sand with rounded stone inclusions stratified 1.2-1.34m is reddish orange with 10mm angular stones. 1.4-1.52m is red sand with occasional gravels. 1.53-1.73 is white yellow coarse sand and 1.73-1.9m is reddish orange with gravels. Very dry and compact. Could not be excavated beyond 2m with window sampling.

BH 01

0-1.2m	Inspection pit. Not recovered in core

1.2-1.66m	DA	ST	EL	SICC	UB
	2 /3	0	0	3	/

Orange brown mixed sand and gravel. Small rounded stones <20mm

1.66-1.86m	DA	ST	EL	SICC	UB

	2 /3	3	0	3	3

Mid brown silt sand. Fine to medium with occasional rounded pebbles <60mm. single band organic black silt at 1.8-1.81m

1.86-2m	DA	ST	EL	SICC	UB
	3	0	0	3	4

Coarse sand and gravel. Rounded pebbles <20mm. Occasional lignite inclusions.

2-4.5m	DA	ST	EL	SICC	UB
	-	-	-	-	-

No recovery, blow out sand and gravel, possibly same as above context

4.5-4.8m	DA	ST	EL	SICC	UB
	1	0	0	3	-

loose medium-coarse sand

4.8-5.2m	DA	ST	EL	SICC	UB
	1	0	0	3	3

Light brown grey gravel and sand, small rounded pebbles <20mm with occasional large stones 60-100mm

5.2-25m	DA	ST	EL	SICC	UB
	3	0	0	4	4

Mercian Mudstone. Degraded 5.2-7m becoming solid stone from 7m onwards. Upper boundary has 45 degree angle

BH 03

0-1.2m Inspection pit. Not recovered in core

1.2-1.84m	DA	ST	EL	SICC	UB
	2 /3	1	0	2	4

Mid orange brown sandy clay with pockets of light orange silty sandy clay.

1.84-2.45m	DA	ST	EL	SICC	UB
	4	1	0	2	4

Dark grey organic clay with preserved organic component. Sample ES 05 taken at 1.84-2m

2.45m-depth	DA	ST	EL	SICC	UB
	4//3	4	0	2	1 /2

Gravelly sand stratigraphic/laminated sequence. Black/dark grey sand (organic smell) 2.45-2.8m, orange with rounded pebbles 2.8-3m, black/dark grey organic sand with angular stones and unworked flint 3-3.25m, pale grey fine sand 3.25-3.7m and greyish orange sand 3.7m-depth

BH 03a

0-0.3m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil – agricultural topsoil

0.3-1.2m	DA	ST	EL	SICC	UB
	2	1	0	2 /3	4

Clayey fine sand. Orangish brown

1.2-1.42m	DA	ST	EL	SICC	UB
	3	0	0	2	2

Dark blue grey sandy clay/ organic sand. Some organic inclusions.
Slag recovered from upper horizon (1.2m)

1.42-1.92m	DA	ST	EL	SICC	UB
	3 /4	1	2	2	4

Clayey peat. Black and very dark blue grey, retains water and spongey rich in organic material.
Sample ES 07

1.92-4.6m	DA	ST	EL	SICC	UB
	3/2	3	0	2	4

Sandy gravel. Mid to dark greyish brown. Coarse sand with rounded pebbles 5-40mm and occasional angular stones ~10mm. Stratigraphically distinct banding of predominately gravel and predominately coarse sand. Banding visible at 1.92-2.14m, 2.14-2.41m, and 2.41-2.81m.

4.6-25m	DA	ST	EL	SICC	UB
	2	4	0	3	4

Mercian mudstone. Weathered at upper boundary becoming firmer with depth

BH 05

0-0.2m	DA	ST	EL	SICC	UB
	2	0	0	4	/

Tr1, Ag2, Gs1
Topsoil: Greyish brown. Modern.

0.2-0.35	DA	ST	EL	SICC	UB
	3/4	0	0	4	4

Gg(min)2, Gg(maj)1, Ag1.
Modern hardcore. Fine silty gravel.

0.35-1m	DA	ST	EL	SICC	UB
	1	0	0	4	4

Gg(maj)3, Gg(min)1, Gs+, Ga+.

Modern Concrete. Hard. Rounded and angular gravels and cobbles.

1-3m	DA	ST	EL	SICC	UB
	2	0	0	2/3	3

Gg(maj)1, Gg(min)2, Gs1, Ga+
Orangish brown medium-coarse sand with angular (~10-30mm) and rounded gravels (20-100mm) including cobbles.

3-3.6m	DA	ST	EL	SICC	UB
	3	0	0	1/2	2

As2, Gg(maj)1, Ga1.
Coarse sandy clay. Dark blueish grey. Rounded cobble inclusions. Slight organic odour/smell. No roots detritus.

3.6-7.5m	DA	ST	EL	SICC	UB
	3	0	0	1/2	1

Gg(maj)1, Gg(min)2, Gs1, Ga+.
Coarse sandy gravels. Dark brownish grey rounded and sub- rounded gravels. Natural superficial deposits.

7.5m+	DA	ST	EL	SICC	UB
	2/3		0	2/3	4

Mudstone.

BH 06

0-10.3m Cable and percussion. Followed on from 10.3m by rotary.

10.3-25m	DA	ST	EL	SICC	UB
	2 /3	4	0	4	/

Mercian mudstone. Laminated with gypsum throughout.

BH07

0-1.2m Inspection pit, not recovered in core

1.2-3.46m	DA	ST	EL	SICC	UB
	2	2 /3	0	2	4

Slightly clayey sand. Light orange brown with occasional angularstone inclusions <10mm. banding/lenses of grey clay and gravels observed at 1.9m and 2.8m surrounded by bands of light orange sand. Orange mottling present throughout. Fine sand becomes very coarse with depth angular chert 25-60mm recorded between 2.45-2.55m. Unworked.

3.46m-depth	DA	ST	EL	SICC	UB
	2	-	0	2 / 3	2 /3

Coarse sand and gravels. Grey brown. Rounded and sub-rounded stones 5-70mm

BH 08 (sonic)

0-1.2m	inspection pit, not recovered in core				
1.2-1.4m	DA	ST	EL	SICC	UB
	2 /3	0	0	4	/
	Gg(maj) 3 Gg(min) 1 Gs+				
	Medium to coarse sandy gravels. road/embankment made ground.				
1.4-8m	DA	ST	EL	SICC	UB
	4	0	0	4	2
	Fuel ash/ furnace waste. Embankment fill				
8-8.3m	DA	ST	EL	SICC	UB
	3	0	0	4	4
	Gg(maj) 1 Gg(min) 1 Gs 2				
	Medium to coarse sand and gravel. Redeposited gravels.				
	Embankment fill. Membrane at 8.3m				
8.3-8.55m	DA	ST	EL	SICC	UB
	4	0	0	4	4
	Fuel ash / furnace waste				
8.55-10m	DA	ST	EL	SICC	UB
	2/3	0	0	4	4
	Gg(maj)1 Gg(min)1 Gs 2				
	Medium to coarse sand and gravel. Poor recovery, drilling team ran out of water.				
	BH revisited and redrilled from 8.45m				
8.45-9m	DA	ST	EL	SICC	UB
	3	0	0	2	-
	Gs2 Ga1 Gg(min)1				
	Clean small gravels and fine to medium sand. Possibly fallen in as				
	BH left on 30/6/21 and revisited 1/7/21				
9-15.4m	DA	ST	EL	SICC	UB
	2 /3	3	0	4	4
	Gs2 Gg(maj)1 Gg(min)1				
	Rounded to sub-rounded gravels (10-20mm) and medium to coarse sand.				
	Striated cobble bands (20-60mm) at 10-10.2m, 12-12.1m and 15.3-15.4m				
15.4-35m	DA	ST	EL	SICC	UB
	2/3	2	0	4	4
	Mercia Mudstone, degraded but increasing to stone with depth.				
	Contains degraded gypsum inclusions.				

BH 09

0-?	DA	ST	EL	SICC	UB
	3	0	0	4	/
	Topsoil				
?-1.1m	DA	ST	EL	SICC	UB
	3	0	0	4	1
	As2, Ag1 Gg(maj)1				
	Silt clay mid to dark greyish brown				
1.1-3.4m	DA	ST	EL	SICC	UB
	3	0	0	2 /3	4
	As3 Ag1				
	Organic clay dark blue grey with fine texture				
3.4-5m	DA	ST	EL	SICC	UB
	2	0	0	1	4
	Gg(maj)2 Gg(min)2				
	Sand and gravel				
5m-depth					
	Mercian Mudstone.				

BH 11

0-6.7m	Cable and percussion. Followed by rotary from 6.7m				
	At least top 1m is made ground from railway embankment and road overpass.				
6.7-25m	DA	ST	EL	SICC	UB
	2/3	4	0	4	-
	Mercian Mudstone and siltstone				

BH 12

0-6.75m	Cable and percussion. Followed by rotary from 6.7m				
	At least top 1m is made ground from railway embankment and road overpass.				
6.75-25m	DA	ST	EL	SICC	UB
	2/3	4	0	4	-
	Mercian mudstone and siltstone				

BH 13 (sonic)

0-1.2m	road surface and inspection pit, not recovered in core				
1.2-9.1m	DA	ST	EL	SICC	UB
	4	0	0	3	-
	Fuel ash/ furnace waste. Very fine. embankment fill, membrane at 9.1m				
9.1-12.6m	DA	ST	EL	SICC	UB

	2	0	0	4	4

Gs2 Gg(maj)1 Gg(min)1
mixed redeposited medium to coarse sand and rounded to sub-rounded gravels.
Redeposited natural as embankment fill. Membranes at 12.3 and 12.6m

12.6-13.4m

DA	ST	EL	SICC	UB
3	3	0	4	4

Gs2 Gg(maj)1 Gg(min)1
Well sorted medium to coarse sand and gravels. Striations of light yellow and dark grey

13.4-14m

DA	ST	EL	SICC	UB
1 /2	0	0	4	4

Ag1 Ga1 Gg(min)1 Gg(maj)1 Gs+
Light yellow brown firm silt sand and gravels

14-15.3m

DA	ST	EL	SICC	UB
2	0	0	2	4

Gs2 Gg(maj)1 Gg(min)1
Medium to coarse sand and rounded to sub rounded gravels. Very occasional cobbles (>80mm)

15.3-17m

DA	ST	EL	SICC	UB
3	0	0	4	4

As2 Gs1 Gg(maj)1 Gg(min)+
Very degraded Mercian mudstone with gravel and sand inclusions.

17-27.5m

DA	ST	EL	SICC	UB
-	-	0	-	4

Mercian Mudstone.

BH 16

0-1.2m Inspection pit, not recovered in core

1.2-2.3m

DA	ST	EL	SICC	UB
1	2	0	2 /3	4

Fine, slightly pinkish yellow sand with lenses of sub rounded graves (<10mm) between 1.2- 1.44m. Occasional pockets of black sand. Moisture at 1.8m. Becomes darker with depth

2.3-6m

DA	ST	EL	SICC	UB
2	1	0	2 /3	3

Slightly sandy clay. Pinkish red with grey lenses between 2.64-2.74m. Becomes darker with depth. Most likely degraded Mercian Mudstone

6-25m

DA	ST	EL	SICC	UB

2	4	0	2 /3	3

Mercian Mudstone

Note BH16 was excavated through the Civil War Circumvallation (1642-1646)

BH 18

0-1.2m Inspection pit, not recovered in core

1.2-3m no core recovered, possibly cable and percussion?

3-25m

DA	ST	EL	SICC	UB
2 /3	0	0	4	-

Mercian mudstone. Weathered to 9m. Solid with gypsum striations from 10m to depth

BH 19

0-1.2m Inspection pit, not recovered in core

1.2-1.7m

	DA	ST	EL	SICC	UB
2	2 /3	0	3	4	

Slightly sandy clay. Light brown and grey and reddish brown with blue grey lenses and orange pockets, occasional rounded pebble inclusions 10-20mm

1.7-3.9m

	DA	ST	EL	SICC	UB
2/3	2/3	0	2/3	3	

Gravel and sand. Light orange brown coming more reddish brown with depth. Frequent angular and sub rounded stones (10-30mm) middling to coarse sand higher concentration of angular stones in orangish sand.

3.9m- depth

DA	ST	EL	SICC	UB
2/3	-	0	3	4

Mercian mudstone.

BH 22

0-0.4m

DA	ST	EL	SICC	UB
4	0	0	4	/

topsoil – modern pasture

0.4-3m

DA	ST	EL	SICC	UB
3	2	0	2	4

Gravelly sand. Reddish brown orange brown laminations. Gravel patches are 1.4-1.5m surrounded by black silt and 2.3-2.4m and 2.7-2.8m rounded pebbles up to 60mm patches of very light grey sand 1.9-2m transitions to clay ~2.9m overall 4 visible stratigraphic layers/lenses

BH 24 (sonic)

0-0.4m	Road surface				
0.4m-1.2m	inspection pit, not recovered in core				
1.2-6m	DA	ST	EL	SICC	UB
	2 /3	3	0	4	-
	Ga2 Gs1 Gg(maj)1 Gg(min)+ Sh+				
	Redeposited medium to fine sand and rounded to sub-angular gravels. Embankment fill. Distinct ash dumps at 1.3-1.4m and 3.3-3.6m. Silt bands with gravel inclusions at 1.8-2m and 3.8-3.9m.				

BH 25 (sonic)

0-1.2m	Road surface and inspection pit, not recovered in core				
1.2-4.3m	DA	ST	EL	SICC	UB
	2	0	0	4	-
	Gg(maj)1 Gg(min)1 Gs2 Ga+ Ag+ As+				
	Coarse to medium sand and sub-angular to sub-rounded gravels with occasional silt/clay inclusions in the matrix. Redeposited river gravels				
4.3-4.8m	DA	ST	EL	SICC	UB
	3 /4	0	0	3	3
	Ga1 Ag1 Gg(maj)1 Gg(min)1				
	Dark grey silt sand with high gravel content. No visible organics. Embankment fill				
4.8-6m	DA	ST	EL	SICC	UB
	2	0	0	4	4
	Ga2 Gg(min)1 Gg(maj)1				
	Orange brown fine to medium sand and sub-rounded gravel. Redeposited embankment fill. Membrane at 6m				
6-6.5m	DA	ST	EL	SICC	UB
	3 /4	0	0	3	4
	Ag2 As2 Gs+				
	Light blue grey sit clay with orange mottling and occasional lignite. Becomes very sandy with depth.				
6.5-7m	DA	ST	EL	SICC	UB
	2 /3	3	0	2	1
	Ag1 Ga2 Gs1				
	Fine to medium sand with clay band at 6.8-6.9m				
7-10.9m	DA	ST	EL	SICC	UB
	2	0	0	3	1
	Gg(maj) 2 Gg(min)1 Gs1				

Medium to coarse sand and sub-angular to sub-rounded gravels.
Distinct gravel sorting with sand bands at 6-6.6m and 10.5-10.8m.
Single organic band at 10.7m

10.9-12m	DA	ST	EL	SICC	UB
	3	0	0	4	4

Mercia Mudstone.

BH 26 (sonic)

0-1.2m Inspection pit, not recovered in core.

1.2-3.45m	DA	ST	EL	SICC	UB
	2	0	0	4	-

Gg(maj)1 Gg(min)1 Gs2
Embankment fill. Redeposited – coarse sand and gravels. Very gravelly band at 2-2.2m. Slightly silty band at 1.9-2.0m

3.45-4m	DA	ST	EL	SICC	UB
	3	0	0	4	4

As3, Ag1
Dark brown Grey. Silty Clay. Occasional orange mottles – oxidisation. Alluvial?

4-4.6m Washout – possibly compaction of sand and clay below.

4.6-5m	DA	ST	EL	SICC	UB
	3/4	0	0	2	-

As2, Ag1, Gg(min)1.
Very sticky silty clay with gravel inclusions – Gravel has possibly fallen in and mixed with clay bellow.

5-5.4m	DA	ST	EL	SICC	UB
	3	0	0	3	2

As3, Ag1
Very plastic silt clay. Occasional lignite and small gravels. Occasional oxidisation – orange veins.

5.4-6m	DA	ST	EL	SICC	UB
	2	0	0	3	4

Ga1, Gs3, A+
Brown orange medium-coursed sand. Clay band at 5.55-5.5m

6-7.3m	DA	ST	EL	SICC	UB
	3	0	0	3	4

Gg(min)2, Gs2, Gg(maj)+
Medium-course sand and gravels. Mid Grey.

7.3-10m	DA	ST	EL	SICC	UB
	3/4	0	0	4	4

Mudstone – degraded to clay.

BH 27

0-1.2m Inspection pit – not recovered in core

1.2-5.3m	DA	ST	EL	SICC	UB
	2	0	0	4	-

Gg(maj)1, Gg(min)1, Gs2.
Embankment fill. Redeposited sand and gravel. Mid-coarse sand, mid grey-brown. Rounded and sub-rounded gravels <500mm. 4mm thick membrane at 5.3m – base of embankment.

5.3-5.8m	DA	ST	EL	SICC	UB
	4	3	0	2	4

Sh1, Ga1, Ag2.
Striated silty sand and degraded organics – nothing visible.
Sample ES.12 taken from 5.6-5.75m BGL.

5.8-6.35m	DA	ST	EL	SICC	UB
	3/4	0	0	3	4

Gs2, Gg(min)1, Ag1, Gg(maj)+
Dark brownish grey, medium coursed sand and gravels. Possibly stained from previous context?

6.35-7.45m	DA	ST	EL	SICC	UB
	2	0	0	4	2

Gg(maj)2, Gg(min)1, Gs1
Coarse sand and gravels, middling to light greyish brown. High Cobble content.

7.45-11m	DA	ST	EL	SICC	UB
	3	0	0	4	4

Mudstone – 9m. Degraded at 8m

BH 28

0-1.2m Inspection pit not recovered in core.

1.2-6m	DA	ST	EL	SICC	UB
	2/3	2	0	3	-

Gs2, Gg(maj)1, Gg(min)1, As+
Well sorted mixed medium coursed sand and gravel with occasional clay inclusions in matrix.

6-7.3m	DA	ST	EL	SICC	UB
	3/4	0	0	3	4

Ga3, Sh+
Fine to medium silty sand with organics? Dark blue grey. Modern membrane at 6.5m – possible push down from 6m?

7.3-8.5m	DA	ST	EL	SICC	UB
	2	0	0	2	4

Gs2, Gg(maj)1, Gg(min)1
Mixed coarse sand and gravel with subangular to sub-rounded gravels. Increasing gravel size with depth.

8.5-10m	DA	ST	EL	SICC	UB
	2	0	0	4	4

Mudstone. Not very weathered. Straight into firm clays.

BH 29 (sonic)

0-1.2m Inspection pit not recovered in core.

1.2-6m	DA	ST	EL	SICC	UB
	3	4	0	4	-

Gg(maj)1, Gg(min)1, Gs1, Ga1.

Embankment fill. Redeposited sand and gravels. Well sorted sub-angular and sub-rounded gravels with occasional cobbles. Made Ground.

6-6.5m	DA	ST	EL	SICC	UB
	2	0	0	4	3

Gs2, Gg(maj)1, Gg(min)1.
Compacted sand and gravels – possible embankment with possible buried subsoils. Medium coarse sand.

6.5-7.3m	DA	ST	EL	SICC	UB
	3	0	0	4	4

Gs1, Gg(maj)1, Gg(min)1, Sh1.
Medium coursed sand and gravels. Organic components increase with depth – Alluvium?

7.3-8m	DA	ST	EL	SICC	UB
	3/4	0	0	4	3

Sh1, As2, Ag1
Organic silty clay. Well laminated – and visible orange within clay matrix horizontal fissures. Dark brownish grey. Alluvial.

8-9m	DA	ST	EL	SICC	UB
	2/3	0	0	3	4

Ag2 As1 Gs1.

Silt clay. No visible organic components? Mid. Greyish brown. Occasional lignite flecks. Occasional orange mottling. Very sandy from 8.8-8m merging context.

9-11m	DA	ST	EL	SICC	UB
	3	0	0	3	1

Gs2, Gg(maj)1, Gg(min)1.
Medium course sand and gravels. Merging 8.8-9m.

11-12m Not Recovered.

12-12.75m	DA	ST	EL	SICC	UB
	1/2	0	0	-	-

Gg(maj)2, Gg(min)2, Gs+
Slightly sandy rounded and sub-rounded gravels.

12.75m+	DA	ST	EL	SICC	UB
	2/3	3	0	2/3	3/4

Mudstone.

BH 30 (Sonic)

0-1.2m Inspection pit. Not recovered in core.

1.2-11.6m	DA	ST	EL	SICC	UB
	2	2	0	3	-

Gg(maj)1, Gg(min)1, Gs1, Ga1.
Mixed medium coarse sand and gravels: embankment – redeposited natural gravels used to build A46. Occasional silty sand bands. No recovery of 6-8m. One organic band recorded at 10.6-10.7m. Membrane at 11.6m BGL. Modern(?) metal object at 10.3m BGL.

11.6-14.1m	DA	ST	EL	SICC	UB
	2	3	0	2/3	4

Gg(maj)1, Gg(min)1, Gr2.
Well sorted medium coarse sand and gravel.

14.1-14.2m	DA	ST	EL	SICC	UB
	4	0	0	3	4

Sh1, Ag2, Gg(maj)1, Dg/Dh+.
Organic silt with visible reed? Gravel inclusions.
ES.11 Recovered from the entirety of this context.

14.2-16m	DA	ST	EL	SICC	UB
	3	0	0	4	4

Mudstone.

BH 32 (Sonic)

0-1.2m Inspection pit. Not recovered in core.

1.2-8m	DA	ST	EL	SICC	UB
	2	2	0	4	-

Gg(maj)1, Gg(min)1, Gs1, Ag1.
Redeposited sand and gravel (rounded) embankment for road with occasional silty clay bands.

BH 33 (Sonic)

0-1.2m Inspection pit. Not recovered in core.

1.2-6.2m	DA	ST	EL	SICC	UB
	2/3	3	0	3	-

Ga1, Gs1, Gg(min)1, Gg(maj)1.
Striated gravel sand and mid to coarse sand (rounded gravels). Redeposited rover gravels – embankment formation. Silty sand bands at 4-4.2m BGL (coarse to med. Brownish grey). Varying dryness in stratigraphy: SICC 1 = 1.2-2m BGL, SICC 4 = 3.24-4m BGL.

6.2-6.8m	DA	ST	EL	SICC	UB
	3	0	0	4	3

As1, Ag1, Ga1, Sh1, Gg(min)+, Th+.
Organic dark grey silty clay. Buried topsoil?

6.8-7.6m	DA	ST	EL	SICC	UB
	3	0	0	4	4

As3, Ag1.
Silty clay with sand (medium to fine) band at 7.5-7.6m. Mid brownish grey. Alluvial.

7.6-8m	DA	ST	EL	SICC	UB
	3	0	0	4	4

As3, Ga1.
Mid brown clay sand band(?) in Alluvial.

8-9.1m	DA	ST	EL	SICC	UB
	4	3	0	4	4

Sh2, Dl1, Dh1, Ag1.
Dark organic rich almost pete. Bark? 1 leaf visible. Spongey with sand lenses. Visible strats of organic (Sh). Sand band at 8.8-8.9m BGL.
ES.09 recovered between 8.5-9m BGL.

9.1-12m	DA	ST	EL	SICC	UB
	2/3	0	0	2	4

Gg(maj)1, Gg(min)1, Gs2.
Medium coarse sand and gravels with clay band at 10.9-11m

BH 34 (sonic)

0-1.2m Inspection pit. Not recovered in core.

1.2-4.5m

DA	ST	EL	SICC	UB
2/3	0	0	3	-

Gs1, Gg(maj)1, Gg(min)1.
Mixed coarse sand and sub angular gravels. Mid brown embankment fill – redeposited gravels.

4.5-5.1m

DA	ST	EL	SICC	UB
3/4	0	0	4	2

Gs1, Gg(min)1, Gg(maj)2.
Mixed coarse sand and sub angular gravels. Dark grey brown embankment fill – redeposited gravels.

5.1-6.2m

DA	ST	EL	SICC	UB
3/4	0	0	4	4

As1, Ag2, Sh1.
Clay silt. Dark blue grey/brown grey alluvial. Organic clay.

6.2-7.1m

DA	ST	EL	SICC	UB
2/3	0	0	3	2/3

Gs2, Ga1, Gg(min)1
Gravelly sand, fine to medium mid. Brown.

7.1-11m

DA	ST	EL	SICC	UB
2/3	0	0	3	3

Gs2, Gg(maj)1, Gg(min)1.
Medium coarse sandy gravel (sub-rounded). Low cobble content – River terrace alluvial.

11-12.5m

DA	ST	EL	SICC	UB
2/3	0	0	4	-

Mudstone. No upper boundary – Gravels/mudstone compressed 07.
Sonic drilling.

BH 35

0-1.2m Inspection pit. Not recovered in core.

1.2-1.5m

DA	ST	EL	SICC	UB
3	0	0	3	-

Gg(maj)1, Gg(min)1, Ga1, Gs1.
Sandy gravel. Coarse sand. Sub rounded pebbles <60mm. Occasional cobbles <100mm. Embankment.

1.5-2m

DA	ST	EL	SICC	UB
2	0	0	4	4

Ga3, Gg(maj)1.

Gravely sand. Very dry. Medium to fine sand. Sub-rounded pebbles <29mm. Embankment?

2-3m

DA	ST	EL	SICC	UB
2	3	0	4	4

Gg(maj)2, Gg(min)1, Gs1.
Sandy gravels. Laminating sandy-gravels and gravely-sands. Embankment?

3-4m

DA	ST	EL	SICC	UB
2	0	0	4	4

Ga3, Gg(maj)1.
Gravel sand. Very dry. Medium-fine sand. Embankment fill.

4-4.4m

DA	ST	EL	SICC	UB
3/4	0	0	4	4

Gs2, Gg(maj)1, Gg(min)1, Ga+
Mixed clay and gravel.

4.4-6.2m

DA	ST	EL	SICC	UB
3	0	0	4	4

As3, Ag1, Sh+.
Mid grey brown silt clay with oxidisation. Occasional organics.

6.2-7m

DA	ST	EL	SICC	UB
2/3	0	0	2/3	2

Ga2, Ag2.
Silty sand. Middling grey. Merges with gravels bellow.

7-7.7m

DA	ST	EL	SICC	UB

Gs2, Gg(min)1, Gg(maj)1.
Coarse sand and gravels. Gravel frequency increased with depth.

7.7-7.85m

DA	ST	EL	SICC	UB
4	0	1	2	4

Sh2, Dg1, Dh/Dl1.
Visible reeds and twigs.
ES.08 recovered from the entirety to this context.

7.85-10m

DA	ST	EL	SICC	UB
2	4	0	4	4

Gg(maj)2, Gg(min)2, GS+
Gravel sequence. Coarse and fine alternate. River terrace gravels.

BH 36

0-1.2m Inspection pit. Not recovered in core.

1.2-4m

DA	ST	EL	SICC	UB

	2/3	2	0	0	-

Gg(maj)2, Gg(min)1, Gs1.
Coarse sand and gravels – increasing size with depth (1-60mm). Gravelly sand band at 1.8-2m

4-4.4m	DA	ST	EL	SICC	UB
	3/4	1	0	3	4

As2, Ag1, Gg(min)1.
Silt clay with gravel inclusions. Gravel frequency increases with depth. Dark grey.

4.4-4.9m	DA	ST	EL	SICC	UB
	3/4	1	0	3/4	3

Ga2, Ag2, Gg(maj)+.
Silty sand. Mid blueish grey – mid to fine alluvial with occasional gravels.

4.9-5.2m	DA	ST	EL	SICC	UB
	3	0	0	4	4

As2, Ag1 Ga1
Dark grey sandy clay.

5.2-6m	DA	ST	EL	SICC	UB
	2/3	2	0	4	4

Gg(maj)2, Gg(min)1, Gs1.
Sand and gravel laminations.

6-6.2m	DA	ST	EL	SICC	UB
	3	0	0	3	4

As2, Gg(maj)1, Ga1.
Mid grey sandy gravelly clay.

6.2-9.8m	DA	ST	EL	SICC	UB
	2/3	3	0	3	4

Gg(maj)2, Gg(min)1, Gs1.
Sandy gravel laminations. Gets darker with depth. Gravel increases in size with depth up to cobbles 100x60mm in size.

9.8-10m	DA	ST	EL	SICC	UB
	3/4	0	0	4	4

Gs3, Gg(maj)1.
Mid. Sand with occasional gravels. Dark.

BH 37

0-1.2m Inspection pit. Not recovered in core.

1.2-4m	DA	ST	EL	SICC	UB

	2/3	3	0	3	-

Gs2, Gg(maj)1, Gg(min)1.
Coarse sand and gravels. Orange brown with brown striations.

4-5m	DA	ST	EL	SICC	UB
	3/4	0	0	4	4

Ag1, As3.
Silt clay – blue grey with orange inclusions (oxidation).

5-6.5m	DA	ST	EL	SICC	UB
	3/4	0	0	4	4

Gg(maj)2, Gg(min)1, Gs1.
Grey coarse sand and gravels.

6.5-10m	DA	ST	EL	SICC	UB
	3	3	0	4	4

Gs2, Gg(maj)1, Gg(min)1.
Gravelly sand? – medium coarse. Subangular gravels.

BH 38 (Sonic)

0-1.2 Inspection pit. Not recovered in core.

1.2-5.7m	DA	ST	EL	SICC	UB
	2	0	0	0	4

Gg(maj)2, Gg(min)2.
Modern embankment. Yellowish brown sandy gravel (rounded and angular).

5.7-7.1m	DA	ST	EL	SICC	UB
	3	1	0	1	4

As3, Ag1.
Dark blue grey organic smelling silty clay. No organic particles. Sand band from 6.7-7.1m

7.1-12m	DA	ST	EL	SICC	UB
	2	0	0		4

Gg(Maj)3, Gg(min)1.
Coarse sand and gravels (10-20mm rounded). Orangish brown.

BH 42 (sonic)

0-1.2m Inspection pit. Not recovered in core.

1.2-10m	DA	ST	EL	SICC	UB
	4	0	0	3	-

Fuel ash – furnace waste. Embankment fill. No recovery from 8-9.8m – ran out of water.

BH 43 (Sonic)

0-0.35m	DA	ST	EL	SICC	UB
	/	/	/	/	/

Road Tarmac.

0.35-1.2m Inspection pit. Not recovered in core.

1.2-6.7m	DA	ST	EL	SICC	UB
	4	0	0	3	-

Ag4, Sh+ (Sandband = Gg(maj)1, Gg(min)1, Gs2).
Dark silt – made ground/embankment. Membrane at 6.7m between embankment and the natural gravels bellow. Occasional dark lenses – industrial? Rare slag inclusionary.

6.7-9.9m	DA	ST	EL	SICC	UB
	2/3	3	0	4	4

Gg(maj)1, Gg(min)1, Gs2, Ga+, Ag+.
Medium to coarse sand and (sub-rounded to sub-angular) gravels with fine slag sand and gravel band at 8.5-8.7m with assorted gravels.

9.9-10.4m	DA	ST	EL	SICC	UB
	3	0	4	4	4

Ag2, As2.
Silty clay with orange mottling – oxidisation (?). Very occasional lignite.

10.4-10.6m	DA	ST	EL	SICC	UB
	3/4	0	4	4	2

Ag2, As1, Sh1.
Dark blue grey silty clay merging with clay above. Slight organic odour.

10.6-11.1m	DA	ST	EL	SICC	UB
	2	0	0	4	4

Ag1, As3.
Orange brown silty clay with orange mottling and frequent lignite.

11.1-13m	DA	ST	EL	SICC	UB
	2	0	0	4	4

Gg(maj)1, Gg(min)1, Gs2.
Medium to coarse sand with rounded and sub-angular gravels. Medium cobble content.

13-13.9m	DA	ST	EL	SICC	UB
	3	0	0	4	4

Gg(maj)2, Gg(min)1, Gs1, Ag1, Sh+.
Dark grey brown clay sand containing gravels with high cobble contents. Possible organic band <2mm?

13.9-15m	DA	ST	EL	SICC	UB
	2/3	0	0	4	4

Mudstone.

BH 45

0-1.2m Inspection pit. Not recorded in core.

1.2-2m	DA	ST	EL	SICC	UB
	0/1	0	0	4	-

Ag3, Gg(min)1, As+, Gg(maj)+.
Very light brown yellow. Slightly clay silt with gravel inclusion – chalky. Road make-up?

2-5m No recovery. Stopped at 5m.

BH 45a (Sonic, Return)

0-1.2m Inspection pit. Not recovered in core.

1.2-2.65m	DA	ST	EL	SICC	UB
	4	0	0	1/2	-

As3, Ag1, Lf+.
Slash ash fill. Silty clay. Burnt coal inclusions.

2.65-3m	DA	ST	EL	SICC	UB
	2/3	1	0	1/2	2

As3, Ag1.
Dark brown grey silty clay. Very occasional rounded pebble inclusions.

3-4m	DA	ST	EL	SICC	UB
	1	1	0	4	3/4

Gg(min)2, Gg(maj)1, Gs1, Ga+.
Very light orangish yellow gravely sand. Fine sand. Small sub-angular <2mm gravels and 1-30mm rounded and sub-rounded pebbles. Dry.

4-5.85m	DA	ST	EL	SICC	UB
	2	2/3	0	2	½

Gg(maj)1, Gg(min)2, Gs1, Ga+, As+.
Orangish brown gravely sand. Coarse sand. Stratified: gravel band 4-4.15m and a clay band 4.9-5m. Rounded and sub-rounded stones (1-40mm). Striations of dark grey clay within the matrix.

5.85-7.75m	DA	ST	EL	SICC	UB
	3	1	0	1	4

As3, Ag1.
Dark blue grey, slightly silty organic clay. Organic odor/smell. Orange striations star ~6.85m BGL (oxidisation?).

7.75-8m	DA	ST	EL	SICC	UB

	3	0	0	2	2/3

Ga2, Gs2, As+.
Medium to fair coarse greyish brown sand.

8-9m

DA	ST	EL	SICC	UB
2	0	0	1/2	2/3

Gg(min)1, Gg(maj)1, Gs2, Ga+
Fine gravely sand. Angular and sub-angular gravels <20mm in size. Brownish orange colouration.

9-9.45m

DA	ST	EL	SICC	UB
2/3	0	0	½	3

Gg(maj)1, Gg(min)1, Gs2, Ga+, As+.
Reddish brown, fine to medium gravely sand. Angular and sub-rounded gravels <20mm in size. Clay inclusions and large cobbles as well.
Flint waster? ~9.2m BGL.

9.45-9.65m

DA	ST	EL	SICC	UB
4	0	3	2/3	4

Dl2, Th1, Gg(maj)1, As+.
Dark black organic deposit. Waterlogged with preserved wood. Peat? Large cobble present.
ES.13 100% Sampled.

9.65-10m

DA	ST	EL	SICC	UB
2/3	0	0	2/3	4

Gg(maj)2, Gg(min)1, Gs1, Ga+.
Coarse orangish brown sandy gravel with rounded and sub-rounded pebbles (5-30mm).

10->12m

DA	ST	EL	SICC	UB
2/3	2	0	3	4

Mudstone.

BH 46

0-1.2m Inspection pit. Not recovered in core.

1.2-4.5m CP Drill? Not recovered in core.

4.5-6.7m

DA	ST	EL	SICC	UB
3/4	2/3	0	3	-

Ag2, As2, Sh+
Alluvial clay. Blue grey – dark blue grey with depth. Orange oxidisation from 4.5-6m. Increased intensity up to 6m. Dark Blue grey from 6m.

6.7-7m+

DA	ST	EL	SICC	UB
3	0	0	3	4

Gg(maj)2, Gg(min)1, Gs1.
Red brown sand and gravel. Medium coarse.

BH 47

0-1.2m Inspection pit. Not recovered in core.

1.2-3m No recovery. Notes from drillers = Sand and gravel.

3-3.8m

DA	ST	EL	SICC	UB
3/4	0	0	4	-

As3, Ag1, Sh+, Th+, Tl+.
Silt clay. Occasional organics and roots. Becomes lighter with depth. Alluvium.

3.8-4.6m

DA	ST	EL	SICC	UB
2/3	0	0	1	0

As3, Ag1, Sh+, Th+, Tl+.
Blue grey silt clay with roots/organic. More silt from 3.8-4m. One large tap root.

4.6-4.9m

DA	ST	EL	SICC	UB
1/2	0	0	4	3

As2, Ag1, Ga1, Th+, Tl+.
Sandy clay. Mid orange brown. Weathered mudstone?

4.9-10m

DA	ST	EL	SICC	UB
2/3	4	0	3	3

Mudstone.

BH48

0-1.2m Inspection Pit. Not recovered in core.

1.2-1.8m

DA	ST	EL	SICC	UB
2/3	1	0	4	-

Ag2, As2, Sh+, Tl+.
Made ground. Bands of mudstone, silty sand turning to clay silt. Occasional coal flecks. Mixed Grey brown turning red brown with depth. Embankment. Glass fragment at 1.5m BGL.

1.8-3.55m

DA	ST	EL	SICC	UB
1/2	0	0	3	3

Gs2, Ga1, Gg(min)1, Gg(maj)+.
Sand and gravel. Sub-rounded pebbles (up to 50mm). Medium coarse. Band of pebbles at 1.8-1.83m (small <20mm).

3.55-7m

DA	ST	EL	SICC	UB
2	0	0	3	3

Mudstone. Starts weathered, becomes firmer with depth.

BH 49

0-1.2 Inspection pit. Not recovered in core.

1.2-2.7m No recovery

2.7-10m

DA	ST	EL	SICC	UB
2/3	4	0	4	-

Mudstone.

BH 50

0-1.2m Inspection Pit. Not recovered in core.

1.2-1.3m

DA	ST	EL	SICC	UB
0	0	0	4	-

White stone – Limestone and granite mix. Hardcore.

1.3-2.2m

DA	ST	EL	SICC	UB
3/4	2	0	4	4

Ga2, Ag1, Gg(min)1, Gg(maj)+, Sh+.
Mid-dark brown silty sand with occasional gravel inclusions and occasional charcoal, and striations of mudstone. Most likely made ground.

2.2-2.4m

DA	ST	EL	SICC	UB
2/3	0	0	4	4

Ga2, Ag1, Gg(min)1, Gg(maj)+, Sh+.
Yellow brown silty sand with gravel and charcoal inclusions.

2.4-2.5m

DA	ST	EL	SICC	UB
2	0	0	4	4

As4.
Degraded Mudstone.

2.5-2.7m

DA	ST	EL	SICC	UB
2/3	0	0	4	4

Ag2, Ga2.
Silt sand orange brown. Possible base layer of made ground. Possibly buried subsoil.

2.7-10m

DA	ST	EL	SICC	UB
2	0	0	4	4

Mudstone.

BH 51

0-1.2m Hand excavated. Not retained in core.

1.2-1.66m	DA	ST	EL	SICC	UB
	2	1	0	2	4

Clayey sand. Greyish brown colouration. Retaining water. Fine sand. Flaked/possibly mineralised material recovered.
ES.06 taken between 1.35-1.45m.

1.66-2.55m	DA	ST	EL	SICC	UB
	2	2	0	2	4

Gravelly sand. Mid greyish brown with small angular stones and rounded stone inclusions. Heavy gravel lense between 1.85-1.95m BGL and red clay band at 2m BGL.

2.55m-	DA	ST	EL	SICC	UB
	2	0	0	2/3	4

Coarse sand and gravel. Middling greyish brown. Large rounded and sub-rounded stones (10-50mm) and occasional small (<10mm) angular stones.

BH 53

0-0.4m Topsoil

0.4-2.6m	DA	ST	EL	SICC	UB
	2/3	2/3	0	0	-

As3, Ag1.
Orange brown silty clay.

2.6-7.2m	DA	ST	EL	SICC	UB
	2/3	2/3	0	1	/

Sand and gravel. Becomes coarse with depth. Water at 3.5m. Large cobble >100mm band at 4m approx. Sand gets finer at 5.5m.

7.2m+ Mudstone.

BH 65 (Sonic, BH 15 Return)

0-1.2m Inspection pit. Not recovered in core.

1.2-1.3m	DA	ST	EL	SICC	UB
	2	0	0	4	-

As2, Ga2, Gg(min)+.
Alluvium. Light greyish orange clayey sand with rare inclusions of rounded stones <10mm. Fine composition.

1.3-26+m	DA	ST	EL	SICC	UB
	2/3	3	0	2/3	2/3

Mudstone. Worn mudstone between 1.3-1.5m BGL.

BH 68 (Sonic, BH 17 Return)

0-1.2m Inspection pit. Not recovered in core

1.2-1.5m	DA	ST	EL	SICC	UB
	2	0	0	1/2	-

As1, Gs1, Ga2.
Mid orangish brown clayey sand. Fine to medium coarse.

1.5-2.4m Not Returned.

2.4-3.5m	DA	ST	EL	SICC	UB
	1	0	0	2/3	/

As2, Gs1, Ga1.
Light greyish brown clayey sand (coarse/medium). Wet. Colour transition with mudstone bellow is sharp. Compositional transition is gradual.

3.5-30+m	DA	ST	EL	SICC	UB
	2/3	3/4	0	2/3	4/3

Mudstone. Heavily stratified. Worn and solid.

TP 01

0-0.3m	DA	ST	EL	SICC	UB
	3	0	0	4	/

As2, Ga1, Gg(min)1, Tl+, Th+.
Topsoil – medium sandy silt. Occasional sub-rounded gravels.

0.3-0.4m	DA	ST	EL	SICC	UB
	3/4	0	0	4	3

Ag3, As1, Sh+.
Dark silty band. Buried topsoil? Occasional charcoal flecks.

0.4-1.1m	DA	ST	EL	SICC	UB
	2/3	0	0	4	4

Ag2, As2.
Red brown silty clay with mottled oxidisation. Occasional lignite.

1.1-1.6m	DA	ST	EL	SICC	UB
	3	0	0	2	4

Ag1, As3.
Blue grey silt clay with occasional oxidisation. Alluvial.

1.6-2.1m	DA	ST	EL	SICC	UB
	1/2	?	0	3	4

Gs2, Gg(maj)1, Gg(min)1, Ag+.
Light grey sand and gravel and silt? Possibly striated with sorting size. Medium coarse.

2.1-3m+	DA	ST	EL	SICC	UB
	1/2	?	0	1	2

Sand and gravel – orangish brown. Medium coarse. Hight cobble content.

TP 03

0-0.3m	DA	ST	EL	SICC	UB
	3/4	0	0	4	/

Topsoil.

0.3-0.7m	DA	ST	EL	SICC	UB
	2/3	0	0	3	4

As3, Ag1.
Mid orange brown silty clay with frequent oxidisation mottling.

0.7-1.1m	DA	ST	EL	SICC	UB
	3	0	0	3	2/3

As3, Ag1, Ga+.
Silt clay with manganese/lignite inclusions. Manganese/lignite and sand components increase with depth.

1.1-1.6m	DA	ST	EL	SICC	UB
	2	4	0	1	3

Ga3, Ag1.
Fine-medium brownish orange. Visible striations including occasional blue-grey clay. Alluvial sequence.

1.6-1.7m (approx.)	DA	ST	EL	SICC	UB
	2	0	0	1	?

Gs2, Gg(min)1m Gg(maj)1.
Sand and gravels (small sub-angular and sub-rounded). Medium coarse sand.

TP 05

0-0.3m	DA	ST	EL	SICC	UB
	3	0	0	4	/

As2, Ag1, Tl+, Tk+
Topsoil – sandy clay with roots.

0.3-1.1m	DA	ST	EL	SICC	UB
	2/3	0	0	4	3

As2, Ag1, Ga1.
Orange brown with orange mottled oxidisation. Becoming sandy with depth. Water at 1.1m.

1.1-1.6m	DA	ST	EL	SICC	UB
	2	4	0	3	2

Ga2, Gs1, Ag1.
Light brown grey sand with blue grey silty clay laminations.

1.6-2.1m	DA	ST	EL	SICC	UB
	3/4	4	0	1	1/2

Sh2, Th/Tl1, Dh/Dl1, Ga+.
Blue grey silty clay. Striated. Laminated organics and sand.
ES.10 recovered from this context.

2.1m+	DA	ST	EL	SICC	UB
	3	0	0	1	?

Gg(maj)1, Gg(min)1, Gs2.
Gravel? Light sand layer. As soon as base hit water rose rapidly. Possible base of Palaeo-channel?

TP 07

0-6.6m Cable percussive rig. No core recovery.

6.6-25m	DA	ST	EL	SICC	UB
	2/3	0	0	4	/

Mudstone. Starts degraded, becomes solid with depth. Inclusions of Gypsion strata.

TP 08

0-0.4m	DA	ST	EL	SICC	UB
	3/4	0	0	4	/

Topsoil: Modern Agricultural topsoil.

0.4-1.1m	DA	ST	EL	SICC	UB
	3	0	0	3	2

As3, Ga1
Sandy clay. Light greyish brown. Modern brick/CBM inclusions noted within.

1.1->1.8m	DA	ST	EL	SICC	UB
	1/2	2	0	1	1

As2, Sh+, Ga2.
Light brown yellow slightly clayey sand. Orange lenses with fine black organic matter within. Water table at ~1.25m BGL.

TP 09

0-0.3m	DA	ST	EL	SICC	UB
	3/4	0	0	4	/

Topsoil – Pasture with roots.

0.3-1.5m	DA	ST	EL	SICC	UB
	2/3	0	0	4	3

Ag3, As1, Th+
Mid reddish-brown clayey silt. Occasional rooting.

1.5-2m+

DA	ST	EL	SICC	UB
1/2	0	0	3	4

Gg(maj)1, Gg(min)1, Gs2.
Medium coarse sand and gravel. Not excavated beyond 2m due to gravel collapse.

TP 10

0-0.3m

DA	ST	EL	SICC	UB
3/4	0	0	4	/

Topsoil – pasture

0.3-0.7m

DA	ST	EL	SICC	UB

As2, Ag2.
Mid red brown silty clay. Sterile and homogenous.

0.7-1.4m

DA	ST	EL	SICC	UB
2/3	0	0	4	3

As2, Ag2, Sh+
Mid grey silty clay with frequent orange oxidisation. Infrequent charcoal (?) flecks. Roots?

1.4-2.5m

DA	ST	EL	SICC	UB
2	0	0	4	2

As3 Ag1
Blue grey silty clay. Occasional orange mottling (oxidisation). Alluvial. Water table at 2.35m.

2.5m+

DA	ST	EL	SICC	UB
2/3	0	0	1	2

Ga3, Ag1, Gg(maj)+.
Medium-fine sand with possible organic inclusions/bands. Increase of gravels with depth? Base of alluvial?

TP 11

0-0.3m

DA	ST	EL	SICC	UB
3	0	0	4	/

Topsoil – pasture. Frequent roots.

0.3-1.4m

DA	ST	EL	SICC	UB
3	0	0	4	2

Ag3, As1
Medium yellow-brown clayey silt.

1.4-1.8m

DA	ST	EL	SICC	UB
2	0	0	2	3

Ga2, Ag1, Gs1.

Yellow brown silty sand (fine-medium). Becomes coarser with depth.

1.8m+

DA	ST	EL	SICC	UB
2	0	0	1	2

Ga2, Gg(min)1, Gg(maj)1.
Sand and gravel (sub-angular and sub-rounded). Medium coarse.

TP 15

0-0.35m

DA	ST	EL	SICC	UB
3	0	0	4	4

Topsoil. Dark grey brown clayey sand (malible but not firm). Root inclusion – Modern field. Modern brick present.

0.35->1.2m

DA	ST	EL	SICC	UB
2	1/2	0	1	4

Sandy clay. Light orangish colouration. No inclusions. Slightly coarse.

TP 25

0-0.2m

DA	ST	EL	SICC	UB
4	0	0	4	4

Topsoil

0.2->1.2m

DA	ST	EL	SICC	UB
2	1	0	4	4

Sand. Light reddish-brown sand with occasional inclusions of rounded/sub-rounded stones (5-25mm).

TP 27

0-0.35m

DA	ST	EL	SICC	UB
3	0	0	4	4

Topsoil

0.35-0.95m

DA	ST	EL	SICC	UB
3	2	0	4	2

Made ground. Mid brownish-grey with orange laminations and sandstone. Concrete and plastic tarran webbing. Modern. Silty clay.

0.95-2.8m

DA	ST	EL	SICC	UB
2	1	0	3	4

Light to mid blueish grey organic clay. No organic inclusions. Pockets/lenses of silt ~2.5m BGL.

2.8->3.5m

DA	ST	EL	SICC	UB
2/3	0	0	0	4

Sandy gravels. Brownish orange sand. Rounded pebbles. Water table ~3m BGL.

TP 31

0-0.3m	DA	ST	EL	SICC	UB
	3/4	0	0	4	/

Gg(maj)2, Ag1, Ga1, Tl/Th+.
Topsoil – very gravelly. Ploughed soil. Silty sand (fine to medium). Roots from crops.

0.3-2m+	DA	ST	EL	SICC	UB
	2/3	0	0	4	3

Mudstone. Begins degraded with high gravel inclusions. Occasional sand pockets. Becomes more solid with depth. Rock by 2m.

TP 32

0-0.4m	DA	ST	EL	SICC	UB
	3/4	0	0	3	/

Sh1, Ag3, Tl/Th+
Modern agricultural topsoil.

0.4-0.6m	DA	ST	EL	SICC	UB
	3	0	0	4	4

Ag3, Gs1.
Subsoil. Sandy silt, medium coarse.

0.6-1m	DA	ST	EL	SICC	UB
	2	0	0	3	3

Gs2, Ga1, Gg(maj)1, Gg(min)+
Gravel and sand.

1-2.7m	DA	ST	EL	SICC	UB
	2/3	0	0	4	4

Mudstone. Weathered at 1m, Hard mudstone at 2.7m

TP 33

0-0.35m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Modern agricultural topsoil. Silty sand.

0.35->1.2m	DA	ST	EL	SICC	UB
	2/3	2	0	4	4

Mudstone bedrock. Dark red with blue grey laminations. Wore ~0.35-1.2m BGL.

TP 34

0-0.2m	DA	ST	EL	SICC	UB
	3/4	0	0	4	/

Topsoil: Dark grey brown silty sand, modern topsoil with roots and occasional rounded stones.

0.2-1m

DA	ST	EL	SICC	UB
2/3	1	0	4	4

Sand: middling orange-brown sand (fine sand) with occasional inclusions of rounded stones. Colouration changes from bright orange and a darker brown.

1->1.2m

DA	ST	EL	SICC	UB
3	1	0	3	3

Sand: Dark grey-brown to middling grey brown. Compressed sand with red inclusions. Slightly clayey. Occasional rounded pebble inclusion.

TP 35

0-0.5m

DA	ST	EL	SICC	UB
4	0	0	4	/

Topsoil: fine dark grey slightly silty sand with occasional rounded pebble/stone inclusions and rooting. Modern agricultural topsoil.

0.5->1.2m

DA	ST	EL	SICC	UB
2	2	0	3	4

Clayey sand: light greyish brown with red lenses which occasional contain black inclusions and orange lenses. Gravel pocket (small 1mm) identified at 1.1m BGL. Deposits colouration becomes redder/orange with depth and the clay thins out. Fine sand.

TP 36

0-0.4m

DA	ST	EL	SICC	UB
4	0	0	4	/

Topsoil: Fine dark grey slightly silty sand with occasional rounded pebble/stone inclusions and roots. Modern agricultural topsoil.

0.4->1.2m

DA	ST	EL	SICC	UB
2/3	1	0	3	4

Sand: mid orangish brown fine sand with occasional rounded pebble inclusions. Slag/industrial waste recovered from 0.4-0.9m BGL.

TP 37

0-0.2m

DA	ST	EL	SICC	UB
4	0	0	4	/

Topsoil: Dark grey brown silty sand, modern topsoil with roots and occasional rounded stones.

0.2-1.2m

DA	ST	EL	SICC	UB
2/3	0	1	4	4

Sand: middling to darkish orangeish brown fine sand with rounded stone inclusions in addition to modern service pipe ceramic fragments at 1.1m BGL. And a plastic waste bag at 0.3m BGL.

TP 38

0-0.5m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil: Fine dark grey slightly silty sand with occasional rounded pebble/stone inclusions and roots. Modern agricultural topsoil.

0.5->1.2m	DA	ST	EL	SICC	UB
	2/3	2	0	3	4

Clayey sand. Yellowish brown with lignite/manganese inclusions stratified with bands of clay and gravel (clay band at 1.1m BGL). Colouration becomes a darker brown with red and white clay inclusions with depth.

TP 39

0-0.2m	DA	ST	EL	SICC	UB
	3/4	0	0	4	/

Topsoil: Dark grey brown silty sand, modern topsoil with roots and occasional rounded stones.

0.2-0.6m	DA	ST	EL	SICC	UB
	3/4	0	0	4	0

Made ground. Dark grey brown silty sand with inclusions of sandstone fragments. Can be moulded into shape, but does not retain shape.

0.6m+	DA	ST	EL	SICC	UB
	2	4	0	4	4

Modern concrete associated with A46 road construction.

TP 40

0-0.5m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil: Fine dark grey slightly silty sand with occasional rounded pebbles/stone inclusions and roots. Modern agricultural topsoil.

0.5-1.2m	DA	ST	EL	SICC	UB
	2	1	0	4	3

Sand: fine light brownish orange with occasional rounded stone inclusions <50mm in size. Slight laminations with a darker shade of brown sand. Not a sharp interface with the above topsoil.

TP 41

0-0.5m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil: Fine dark grey slightly silty sand with occasional rounded pebbles/stone inclusions and roots, Modern agricultural topsoil.

0.5->1.2m	DA	ST	EL	SICC	UB

	2	1	0	4	3

Sand: fine light brownish orange with occasional rounded stone inclusions <50mm in size. Slight laminations with a darker shade of brown sand. Not a sharp interface with the above topsoil.

TP 42

0-0.5m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil: Fine dark grey silty sand with occasional rounded pebble/stone inclusions and roots. Modern agricultural topsoil.

0.5-1.2m	DA	ST	EL	SICC	UB
	2	1	0	4	4

Sand: Fine light brownish orange sand with occasional rounded stone inclusion <50mm in size. Slight laminations with darker shade or orange sand.

TP 43

0-0.2m	DA	ST	EL	SICC	UB
	3/4	0	0	4	4

Topsoil: Dark grey brown silty sand modern topsoil with roots and occasional rounded stones.

0.2-0.6m	DA	ST	EL	SICC	UB
	3/4	0	0	4	0

Made ground: Dark grey brown slightly silty sand with inclusions of sandstone fragments. Can be moulded into shape, but shape is not retained. Brick fragments present.

0.6-1.1m	DA	ST	EL	SICC	UB
	1	4	0	4	4

Concrete: Modern, associated with A46 rail guard.

TP 44

0-0.8m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil: Modern agricultural topsoil. Dark grey brown. Fine silty sand with root inclusions.

0.8->1.2m	DA	ST	EL	SICC	UB
	3	1	0	4	2

Sand: Slightly coarse orangish brown sand with occasional (<5%) inclusions of rounded stones/pebbles. Interface with topsoil not sharp, but not gradual either.

TP 45

0-0.2m	DA	ST	EL	SICC	UB

	3/4	0	0	4	/

Topsoil: dark brown silty sand, modern topsoil with roots and occasional rounded stone.

0.2-0.9m

DA	ST	EL	SICC	UB
3/4	0	0	4	0

Made ground: Dark grey brown silty sand with inclusions of sandstone fragments. Can be moulded into shape, but shape is not retained.

0.9-1.2m

DA	ST	EL	SICC	UB
2	0	0	4	4

Sand: mid brownish orange sands with occasional rounded stone inclusions. Fine sand.

TP 46

0-0.8m

DA	ST	EL	SICC	UB
4	0	0	4	/

Dark grey black modern agricultural topsoil. Silty sand. Root inclusions.

0.8-1.2m

DA	ST	EL	SICC	UB
3	1	0	4	4

Sand: Slightly brownish orange fine sand with yellow lenses and occasional inclusions of rounded pebbles/stones.

TP 47

0-0.3m

DA	ST	EL	SICC	UB
3/4	0	0	4	/

Topsoil: Modern dark greyish brown silty sand.

0.3-1.2m

DA	ST	EL	SICC	UB
2	1/2	0	4	4

Sand: mid brownish orange fine sand with frequent rounded pebble inclusions.

TP 48

0-0.4m

DA	ST	EL	SICC	UB
4	0	0	4	/

Topsoil: fine dark grey slightly silty sand with occasional rounded pebble/stone inclusions and roots. Modern agricultural topsoil.

0.4->1.2m

DA	ST	EL	SICC	UB
2	1	0	4	4

Slightly coarse sand: light reddish brown with frequent rounded stone inclusions. Colouration changes with an arrange lamination and pockets of darker brown. Dry and compact.

TP 49

0-0.5m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil: Fine dark slightly silty sand with occasional rounded pebble/stone inclusions and roots. Modern agricultural topsoil.

0.5-1.2m	DA	ST	EL	SICC	UB
	2	1	0	4	3

Sand: Fine light brownish orange with occasional rounded stone inclusions <50mm in size. Slight lamination with a darker shade of brown sand. Not a sharp interface with the topsoil.

TP 50

0-0.8m	DA	ST	EL	SICC	UB
	4	0	0	4	/

Topsoil: Modern agricultural topsoil. Dark grey-brown fine silty sand with root inclusions.

0.8->1.2m	DA	ST	EL	SICC	UB
	3	1	0	4	2/3

Clayey-sand: Orangish-brown slightly coarse with <1% 1-2mm angular gravel inclusions. Laminations result in brighter patches in the deposit.

Plates

Plate 1: BH03 1.00-4.00m BGL (left to right, top to bottom; Sampled 1.84-2.00m BGL)

Plate 2: BH03a 1.20-3.00m BGL (Sampled 1.45-1.55m BGL).

Plate 3: BH26: 1.20-4.00m BGL (Not sampled due to desiccation of organics; example of organic deposit likely truncated by the construction of the embankment)

Plate 4: BH26: 4.00-7.00m BGL (not sampled due to poor recovery; ex-situ oxidization)

Plate 5: BH27 4.00-7.00m BGL (Sampled 5.60-5.75m BGL)

Plate 6: BH28 6.00-8.00m BGL (Not sampled due to poor recovery / sand dominated).

Plate 7: BH30 14.00-16.00m BGL (Sampled 14.10-14.20m BGL; scale incorrect for depth)

Plate 8: BH33 8.00-10.00m BGL (Sampled: 8.50-9.00m BGL; deposit immediately overlying sand and gravel)

Plate 9: BH35 6.00-8.00m BGL (Sampled 7.70-7.85m BGL)

Plate 10: BH46 4.50-6.50m BGL (Not sampled due to geotechnical requirements)

Plate 11: BH47 1.20-5.00m BGL (not sampled due to geotechnical constraints)

Plate 12: BH51 1.20-3.00m BGL (Sampled 1.35-1.45m BGL; photo shows ex-situ oxidation)

Plate 13: WS13 1.20-2.00m BGL (Sampled 1.80-2.00m BGL)

Plate 14: WS15 2.00-3.00m BGL (Sampled 2.65-2.75m BGL)

Plate 15: WS23 2.45-3.00m BGL (Sampled 2.60-2.70m BGL).

Plate 16: WS28: 2.00-3.00m BGL (Sampled 2.90-3.00m BGL)

Plate 17: Window Sample 54 2.00-3.00m BGL (Not sampled due to geotechnical constraints)

Plate 18: Window Sample 54 3.00-4.00m BGL (Not sampled due to geotechnical constraints)

Appendix I: Regional Delivery Partnership A46 Newark Bypass. Geoarchaeological Desk Based Assessment

Regional Delivery Partnership A46 Newark Bypass. Geoarchaeological Desk Based Assessment

Prepared for Skanska Construction UK Ltd

By [redacted]

July 2023

TITLE PAGE

AMS Job No.:	J3063-A
Project Name:	Regional Partnership A46 Newark Bypass
Client Name:	Skanska Construction UK Ltd
Grid Reference (OSGB36):	
Report Status/Revision:	1.2
Revision Date:	29 May 2023
Report Author:	[redacted]
Technical Reviewer:	
Report Editor:	
Approved By:	
File Name:	A 46 Newark Bypass - Geoarchaeological Desk Based Assessment_v1.2_clean

AMS Cultural Heritage Consultancy Limited trading as Archaeological Management Solutions

Company Registration No. 721173

Fahy's Road, Kilrush, Co. Clare. V15 C780

T +353 (0)65 810 3001

www.ams-consultancy.com

Disclaimer

The results, conclusions and recommendations contained within this report are based on information available at the time of its preparation. Whilst every effort has been made to ensure that all relevant data have been collated, the author and AMS accept no responsibility for omissions and/or inconsistencies that may result from information becoming available subsequent to the report's completion.

© AMS Cultural Heritage Consultancy Limited 2023. The concepts and information contained in this document are the property of AMS Cultural Heritage Consultancy Limited trading as Archaeological Management Solutions (AMS). Use or copying of this document in whole or in part without the written permission of AMS constitutes an infringement of copyright.

Summary

This document is outlines the results of a geoarchaeological desk based assessment on the sedimentary sequences associated with the main elements of the proposed upgrade to the A46 Newark Bypass.

Table of Contents

1 Introduction 6
1.1 Project Background 6
1.2 Purpose and Scope of this Assessment 6
1.3 Site Location 6
1.4 Proposed Works ..... **Error! Bookmark not defined.**
2 Methodology 7
3 Findings 8
4 Conclusions and Recommendations ..... Error! Bookmark not defined.
5 Heading One ..... Error! Bookmark not defined.
5.1 Heading Two ..... **Error! Bookmark not defined.**
5.1.1 Heading Three ..... **Error! Bookmark not defined.**
References 16
Books ..... **Error! Bookmark not defined.**
Journal Articles ..... **Error! Bookmark not defined.**
Online Sources 16
Cartographic Sources ..... **Error! Bookmark not defined.**
Appendix 1 ..... Error! Bookmark not defined.

Abbreviations and Definitions

Abbreviation	Definition
AMS	Archaeological Management Solutions
EIA	Environmental Impact Assessment
GDBA	Geoarchaeological Desk Based Assessment
MIS	Marine Isotope Stage
OS	Ordnance Survey

Coordinate System

All grid coordinates in this report use the Ordnance Survey National Grid (OSGB36) coordinate reference system unless otherwise stated.

1 Introduction

1.1 Project Background

The A46 Newark Northern Bypass scheme is approximately 6km in length, passing the western and northern extents of Newark-on-Trent, Nottinghamshire, between Farndon and Winthorpe roundabouts. The aim of the scheme is to increase capacity and reduce traffic congestion on the A46 in the vicinity of Newark, improve connectivity from Lincolnshire to the national motorway network, and improve route standard consistency for the A46.

1.2 Purpose and Scope of this Assessment

Mott McDonald are undertaking the Environmental Impact Assessment (EIA) for the proposed scheme. As part of the data gathering exercise for the EIA a number of archaeological surveys are to be undertaken. This document outlines the results of the geoarchaeological desk based assessment (GDBA) forms a contribution to the data to be used in the EIA.

1.3 Site Location

The geoarchaeological desk based assessment covers a study area based on the extent of the proposed scheme (Figure 1).

2 Methodology

2.1 Study Area

The Study Area for the GDBA is the redline boundary of the proposed development, plus an area of up to 1km from the proposed redline boundary for the purposes of reviewing data sources such as historic mapping and LiDAR.

2.2 Sources

The principal data source for the GDBA is geotechnical investigation logs, mainly from recent investigations undertaken for the proposed development (Tetra Tech June 2022). Other data sources used include:

- Environment Agency LiDAR;
- Historic Mapping available on-line from the National Library of Scotland;
- Geological mapping.

The gathered data has then been contextualised in an interpretive framework based on readily available scholarly studies.

2.3 Deposit Model

The borehole logs have been used to create a deposit model. The different lithologies recorded in the logs have been compiled, and using these characteristics, topography and other information derived from the other sources correlated into sedimentological facies. The model is presented as a transect (figure 2), which extends along the length of the proposed scheme. The data have been used to identify areas of unusually deep soft deposits, potential preserved palaeochannels and buried soils, as well as place the sediments within the established Quaternary sequence.

3 Findings

3.1 Previous Archaeological Work

The length of the Trent Valley has been the subject of a considerable body of quaternary geological, geoarchaeological and landscape archaeological work, including largescale surveys such as Knight and Howard 2004 and Bridgland *et al.* 2014. While these have provided a valuable framework to place the findings of this assessment in, none of the research appears to have occurred within the footprint of the proposed scheme or its immediate vicinity. The previous work on the Trent Valley has resulted in the full reach of the river being divided approximately into three sections, Upper, Middle and Lower. While the definitions of these sections are not entirely uniform, the location of the proposed scheme can be placed within the Middle Trent, close to the transition to the Lower Trent.

Previous work on the section of the A46 connecting in the south to the proposed scheme included work on the geoarchaeological and quaternary geological aspects of the scheme (Cooke and Mudd 2009). These revealed scatters of Late Upper Palaeolithic artefacts at Farndon Fields, associated with the upper surface of the Holmes Pierrepoint Sand and Gravel Member and soils derived from this formation (Harding *et al.* 2009). Further work on the deposits has allowed a refinement of the local geological chronology, allowing the Holmes Pierrepoint Sand and Gravel Member to be dated to MIS1 (Howard *et al.* 2011), though this appears to be a local dating: in other parts of the Trent Valley this Member appears to be still assigned to MIS2 (Bridgland *et al.* 2014), potentially including the other part of this Member mapped within the proposed scheme (see 3.2). The section of the proposed scheme that is closest to Farndon Fields and is on the Holmes Pierrepoint Sand and Gravel Member forms a very small part of the scheme to the south of the Trent. As the route reaches the course of the river the superficial geology becomes alluvium.

The section of the proposed route that crosses the floodplain of the Trent is mapped as being alluvium. This is generally appears to be assumed to be of broadly Holocene date (see, however the review of geotechnical coring, 3.3). While the Holocene deposits have not been classified into discrete Formations in the same way that the Pleistocene deposits have been, this is not a reflection of a uniform set of sediments. Rather, the relatively fine scale variability of the sedimentary landscape is addressed by identifying the outlines of changes in depositional trends and possible contributory factors. In the Mesolithic period, rising relative sea-level and stable vegetation appear to have resulted in a relatively stable river system, with fine-material sedimentation predominating (Howard and Knight 2004b: 32). During the Neolithic to Early Bronze Age, the course of the Trent and tributary watercourses appear to enter a phase of lateral instability, with significant reworking of channels of the Middle Trent. Increasing signs of ground wetness are noted in the Lower Trent during this period,

possibly the result of hydrological changes in the upper reaches of the catchment (Knight and Howard 2004a: 49). Some of the changes noted may be climatically driven, others may reflect the impacts of human activity, particularly woodland clearance. Over the course of the Late Bronze Age and Iron Age, the impacts of climatic change and human activity contributed to change the fluvial landscape of the Middle Trent. The main channel of the Trent would have continued to be laterally mobile, but the impact of woodland clearance and agricultural intensification probably led to soil erosion, leading to redeposition of fine-grained sediments through colluviation and alluviation. This would have contributed to sediment accumulation in minor streams and abandoned channels. The resulting low energy environments would have also contributed to the accumulation of organic sediments in these environments. The increasing human activity around the river would also have included use of the river, and evidence of the larger scale elements of this may be preserved in sediments deposited as a result of the lateral mobility of the river, such as the logboats found at Holme Pierrepoint (Knight and Howard 2004b: 80-81). During the Romano-British period the continued deposition of fine-grained material contributed to the concentration of river flow into a limited number of major channels and the infilling of secondary channels, increasing the lateral stability of the river system. The increased alluviation combined with the reduction in the number of channels appears to have contributed to increased incidence of overbank flooding during this period, resulting in the burial of archaeological materials, as observed in the archaeological investigations at Kelham (Knight, Howard and Leary 2004: 117-8). Evidence for the Middle reaches of the Trent are relatively limited over the course of the Early Medieval and Medieval periods. In the part nearer to the Upper reaches there is evidence of a number of changes in the lateral stability of the Trent, starting with a stable single channel, changing to an unstable multi-channelled system around the 10th century, becoming a more stable multi-channelled system thereafter. During this period human intervention in the form of the river is recorded, and it is suggested that the splitting of the Trent into two channels that the proposed scheme cuts across dates to this period and reflects human intervention (Elliot, Jones and Howard 2004:155-156). During the Medieval period large-scale flood events destroyed structures such as bridges and mill dams, the remains of which have been discovered archaeologically, and also resulted in occasional significant water course changes through avulsion, leading to recorded changes in land ownership to take account of the new river course (Elliot, Jones and Howard 2004:156), though it should be noted that none of these archaeologically or historically recorded situations have been noted in the reach of the Trent Valley that lies within or close to the proposed scheme.

After this GDBA was drafted the results of monitoring by York Archaeology of early geotechnical works for the proposed scheme were made available (Lowther and Keyworth 2022). The broad conclusions of that monitoring and its associated review of published sources was similar to those outlined above.

Additional detail included the identification of more evidence of the survival of waterlogged organic sediment, particularly in the south of the scheme. It was posited that these organic sediments were preserved largely in palaeochannels and other riverine features resulting from the lateral migration of the Trent and its tributaries, together with occasional avulsions of the river course. These works generated a number samples of organic sediment that have been retained for potential future assessment.

3.2 Geological Mapping

Tracing the route of the proposed scheme from the south, the superficial deposits are initially mapped as Holme Pierrepoint Sand Gravel Member, a predominantly cold-phase sand and gravel river terrace deposit, conventionally dated to the Upper Pleistocene (MIS 2). Borehole 54 is located within this mapped area, though the sand and gravels within it were ascribed to alluvial deposits (Figure 1).

From the area immediately to the south of the crossing of the Trent (Borehole 01) until the A46 begins to curve towards the junction with Winthorpe Road (Borehole 47) the geological mapping indicates the superficial geology consists of alluvium. Between the locations of Boreholes 47 to 65, the geological mapping provides no information, though the coring results are consistent with alluvial deposits in these areas (see 3.2). The proposed route passes through an area mapped as Holme Pierrepoint Sand Gravel Member (Boreholes 63 and 16) (see above), but reverts to alluvial deposits close to the route of the A1 (Borehole 68 and 67), before passing through a narrow zone with no superficial deposits (Test Pit 31), before moving on to an area mapped as the Balderton Sand and Gravel Member. This is a predominantly cold phase sand and gravel unit appears to be relatively loosely dated, with upper deposits being dated to MIS5e (the Ipswichian) and lower deposits to MIS7 (the Aveley Interglacial) (BGS Lexicon Accessed 25/01/23 at BGS Lexicon of Named Rock Units - Result Details), with the main body of the Member being assumed therefore to belong to the MIS6 glacial.

3.3 Review of Geotechnical Logs

The current ground surface depicted in the transect (Figure 2), reflects the location of the geotechnical boreholes that are readily available: as these relate to the A46, they have frequently been drilled through engineered ground, including substantial embankments: the ground surface therefore does not accurately reflect the historical local topography.

The transect, and proposed route, divides into two main areas: the historic floodplain of the Trent (which forms the majority of the routes), which then transitions in the area of BH67 (Figure 2) via a rock ridge (found in TP31, Figure 2) to the Pleistocene sand and gravel terraces from BH19.

3.3.1 Floodplain Area

Within the floodplain area, the basal section of the sequence is generally composed of sands and in particular gravels. The geotechnical logs indicate that the gravel deposits are often moderately to poorly sorted, containing a range of sediments of other grades, in particular frequent sand and clay components, both closely mixed with the gravels and as discrete pockets. This pattern of deposition is consistent with deposition in a braided river environment associated with glacial outwash. The sand deposits are more frequently better sorted, sometimes with upward fining apparent, with the upward fining pointing towards overbank flooding as a depositional mechanism. While these deposits do not geomorphologically form a terrace, the lithology and pattern of deposition appears to resemble that of the Holme Pierrepoint Sand and Gravel Member, conventionally assigned to MIS2 (26ka BP) (Knight and Howard 2004a: 12). These deposits have been categorised as Facies 4 Pleistocene Alluvial Deposits.

Within the floodplain area the upper deposits are generally composed of silts and clays. The change to lower a somewhat lower energy pattern of deposition probably reflects the effect or relative sea level rise, which effectively reduced the gradient of the Trent, leading to lower transport capacity, partial infilling of channels and an increased tendency to flooding, a situation noted in a number of major rivers on the eastern coast of England (Knight and Howard 2004b: 32). The river form would have changed to an anastomosing environment, that is a river system with multiple discrete and relatively stable channels (Knight and Howard 2004b: 33). While anastomosing rivers have more stable channels than braided systems, these may still change whether through channel shift or avulsion events. The degree of stability may be dependent on a number of environmental factors such as relative sea level change, changes in vegetation coverage, particularly woodland within the catchment, and climatic/hydrological changes, especially in the upper part of the river's catchment (Knight and Howard 2004c: 51). These deposits, generally composed of finer sediments, and occupying the upper part of the sequence have been classified as Facies 2, Holocene Alluvium. Changes in channel course may be reflected in the presence of palaeochannels within the floodplain area. Lithological changes, particularly the presence of coarser sediments located within fine sediment units, that may be indicative of potential palaeochannel deposits have been noted in BH29, 30, 11 and 43, though corroborative indications in aerial photography and LiDAR have not been observed (see section 3.3). At two locations within the transect organic clays have been recorded, one within Facies 2 (BH26) and one within Facies 4 (BH35). The fine mineral component and organic content of these sediments are indicative of slow or still water, potentially areas that were only periodically wet, potentially including features such as oxbow lakes, or depressions left in the outwash surfaces, particularly with regard to the Pleistocene period.

3.3.2 Terraces

The ground level at the northeastern end of the scheme rises to approximately 18-19 mOD, forming part of one of the terraces recorded along the Trent. Within the borehole and test pit logs from BH18 to BH22 (Fig 1) the recorded deposits are predominantly of sands and gravels. In one of the logs (BH21) these have been identified as belonging to the Balderton Sand and Gravel Member (BGS Lexicon Accessed 25/01/23 at BGS Lexicon of Named Rock Units - Result Details). The deposits described in the other logs in this area are consistent with this record, and accord with the geological mapping of the area. In geomorphological terms the deposit is ascribed an origin as a terrace deposit. The majority of deposits assigned to this formation are assigned to MIS6 (195 KYA) (Knight and Howard 2004a), a cold phase deposit, and the descriptions given for the cores in this area appear to be consistent with the typical deposits of the Member.

3.4 LiDAR

LiDAR data gathered as part of the National LiDAR Programme has been examined. The data gathered is the processed Digital Terrain Model, which has been used in order to reduce masking by vegetation and reduce visual interference by modern buildings. The data has been obtained in the form of geotifs and examined in GIS. Geotif tiles covering the entire proposed route were examined (see References).

Although LiDAR data across the wider area around the proposed scheme does appear to show a number of features relating to palaeochannels and other fluvial features relating to the tributaries of the Trent, only one of these features appears to extend within the redline boundary of the scheme. One of the loops of the Old Trent Dyke appears to have potentially three palaeochannels on the inner, southern side of the current course of the watercourse, and one of these extends within the proposed redline boundary at NGR 478678 354207. This feature does not coincide with any of the previous geotechnical investigations that have been examined in the preparation of this assessment. The identified potential palaeochannels correspond to those identified in Trent Catchment Palaeochannel Mapping Project (Malone and Stein 2017).

3.5 Historic Mapping

Historic mapping available on-line from the National Library of Scotland has been consulted. The map series used is the 6-Inch Ordnance Survey (OS), covering the extent of the proposed scheme. The mapping covers the period 1883-1938. During this period, the maps do not reveal any changes that would have clear and significant geoarchaeological consequences. The main watercourses, specifically the Trent, do not change course. Major changes to the layout of agricultural land might indicate changes to ground drainage that could have implications for the survival of any organic deposits within the alluvial floodplain: however, over this period no such changes occur. Smaller scale features that

might have geoarchaeological potential include the Old Trent Dyke, which despite its name appears to be a natural watercourse. The proposed development intersects the Old Trent Dyke (NGR 478727, 354255). There is a limited potential for waterlogged deposits, including possible former channels, associated with this feature as noted in the LiDAR data consulted (see above).

4 Potential

In this assessment, the geoarchaeological potential is examined: potential for other types of archaeological remains are only discussed in as far as the understanding of their potential is rooted in specifically geoarchaeological concerns.

For the area of the proposed scheme that is located south of the Trent crossing immediately north east of Farndon, the identification of the superficial deposits as belonging to the Holme Pierrepoint Sand and Gravel Member, combined with the nearby discovery of Late Upper Palaeolithic tools (Harding *et al.* 2009) indicates that this small area does have the potential to contain similar archaeological materials.

Across the area of the current floodplain, the lower alluvial deposits dominated by sands and gravels, interpreted as the remains of a braided river outwash system of broadly Pleistocene date, means that the potential for *in situ* remains of human activity are low. Coarse sediments of this type generally preserve palaeoenvironmental material poorly, and much material is likely to be re-worked.

The upper alluvial deposits, dominated by fine grained sediments have for the most part probably been subject to frequent re-working, and therefore little material of archaeological or palaeoenvironmental potential is likely to survive in most deposits. There are, however, two main situations where material of archaeological or palaeoenvironmental significance may survive. The first would be the survival of large organic artefacts or sections of structural elements such as bridges or mill dams. While these may not be strictly in situ, the intrinsic informational value of such items would still be high. The relatively thin depth of the fine-grained deposits, combined with the fluctuating water table suggests that the potential for such items to survive within the area of the proposed scheme is relatively low, but such remains would be of notable significance. The other situation would be where surviving discrete palaeochannels or other infilled fluvial features are found. These have the potential to preserve considerable palaeoenvironmental material, including pollen, molluscs and insects that can be used to reconstruct the local environments, including potentially detecting the impact of human activity on the environment. Such features may also contain organic artefacts if anoxic conditions obtain within them. Both the geotechnical borehole logs (3.3) and LiDAR data have revealed potential palaeochannels within the footprint of the proposed scheme. While the upper parts of the Holocene alluvial deposits may have been subject to periodic desiccation and oxidation, there is still the potential for some of the more robust palaeoenvironmental material such as pollen to survive, and within deeper parts of this facies more anoxic conditions may preserve more organic material, both in areas where it has been recorded (BH 26 and BH35) and where deposits are notably

deep (e.g. BH9 to BH11). The findings of the monitoring of the geotechnical coring have similarly identified these areas as having the greatest potential (Lowther and Keyworth 2022).

The northeastern most part of the proposed scheme (BH18-22, Figure 1) runs over an area mapped as Balderton Sands and Gravels Member. This is a geological formation generally assigned to MIS6, a period generally thought not to have seen human occupation in Britain. There are no indications of features such as palaeochannels within this part of the proposed scheme, either in the borehole logs, LiDAR or historic mapping. It is therefore assessed that this section of the scheme has no specifically geoarchaeological potential.

References

Bridgland, D., Howard, A.J., White, M.J. and White, T.S. 2014 *Quaternary of the Trent*, Oxbow Books, Oxford

Cooke, N and Mudd, A., 2009 *A46 Nottinghamshire: The Archaeology of the Newark to Widmerpool Improvement Scheme*, Cotswold Wessex Archaeology

Howard, A.J., Carney, J.N, Greenwood, M.T., Keen, D.H., Mighall, T., O'Brien, C., Tetlow, E. 2011, 'The Holme Pierrepoint sand and gravel and the timing of Middle and Late Devensian floodplain aggradation in the English Midlands.' *Proceedings of the Geologist's Association*, Vol 122, Issue 3, pp. 419-431.

Harding, P., Ellis, C. and Grant, M.J., with contributions by Bates, M.R., Crowther, J. Macphail, R.I. and Schwenninger, J-L. *Late Upper Palaeolithic Farndon Fields* pp 12-70 in Cooke and Mudd eds. 2009.

Howard, A.J. and Knight, D., 2004a *The Pleistocene Background*., pp 9-29 in eds. Knight, D., and Howard, A.J. 2004

Howard, A.J. and Knight, D., 2004b *Mesolithic Hunter Gathers*., pp 31-45 in eds. Knight, D., and Howard, A.J. 2004

Knight, D., and Howard, A.J. 2004 *Trent Valley Landscapes*, Heritage Marketing and Publications Ltd, Great Dunham

Lowther, R. and Keyworth, T. 2022 *A46 Newark North Bypass, Newark, Nottinghamshire, Archaeological and Geoarchaeological Monitoring of Ground Investigations.* Unpublished report, York Archaeology, York,

Malone, S., Stein, S. (2017) *Mapping the Palaeochannels of the Trent Catchment. Stage 2. Derbyshire, Leicestershire, Lincolnshire, North Lincolnshire, Staffordshire and Warwickshire* Trent & Peak Archaeology: Nottingham

Online Sources

British Geological Survey. *BGS Geology Viewer*. [Accessed: 23 May 2023]. Available from: BGS Geology Viewer - British Geological Survey

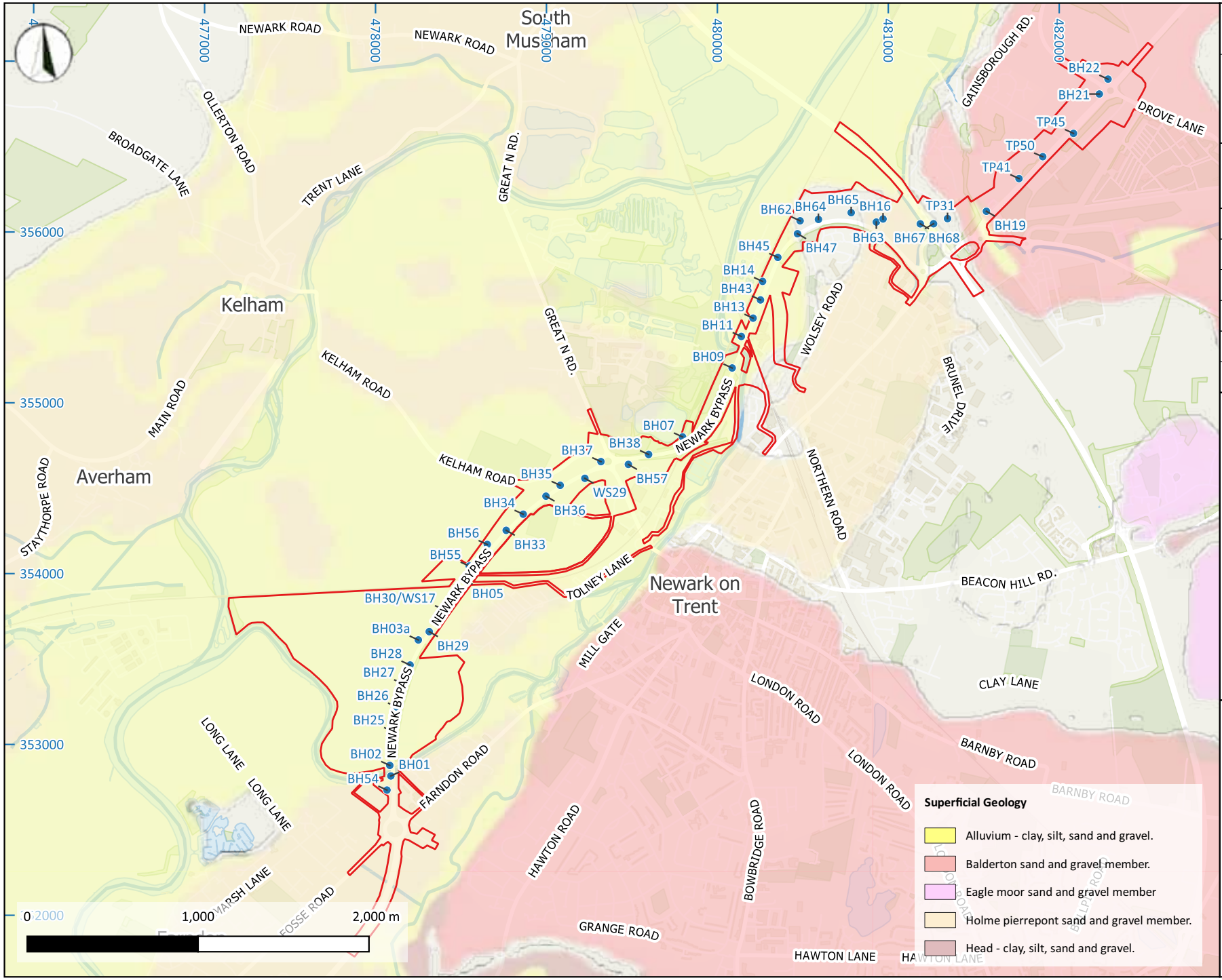


FIGURE 01

Title: Location of Geotechnical Boreholes and Test Pits selected for the Transect

Project: A46 Newark Bypass

Client: Skanska

Job No: J3063-A

Scale: 1:30,000 @A4

Date: 03/02/2023

Drawn by: RZ

Revision: 1.0

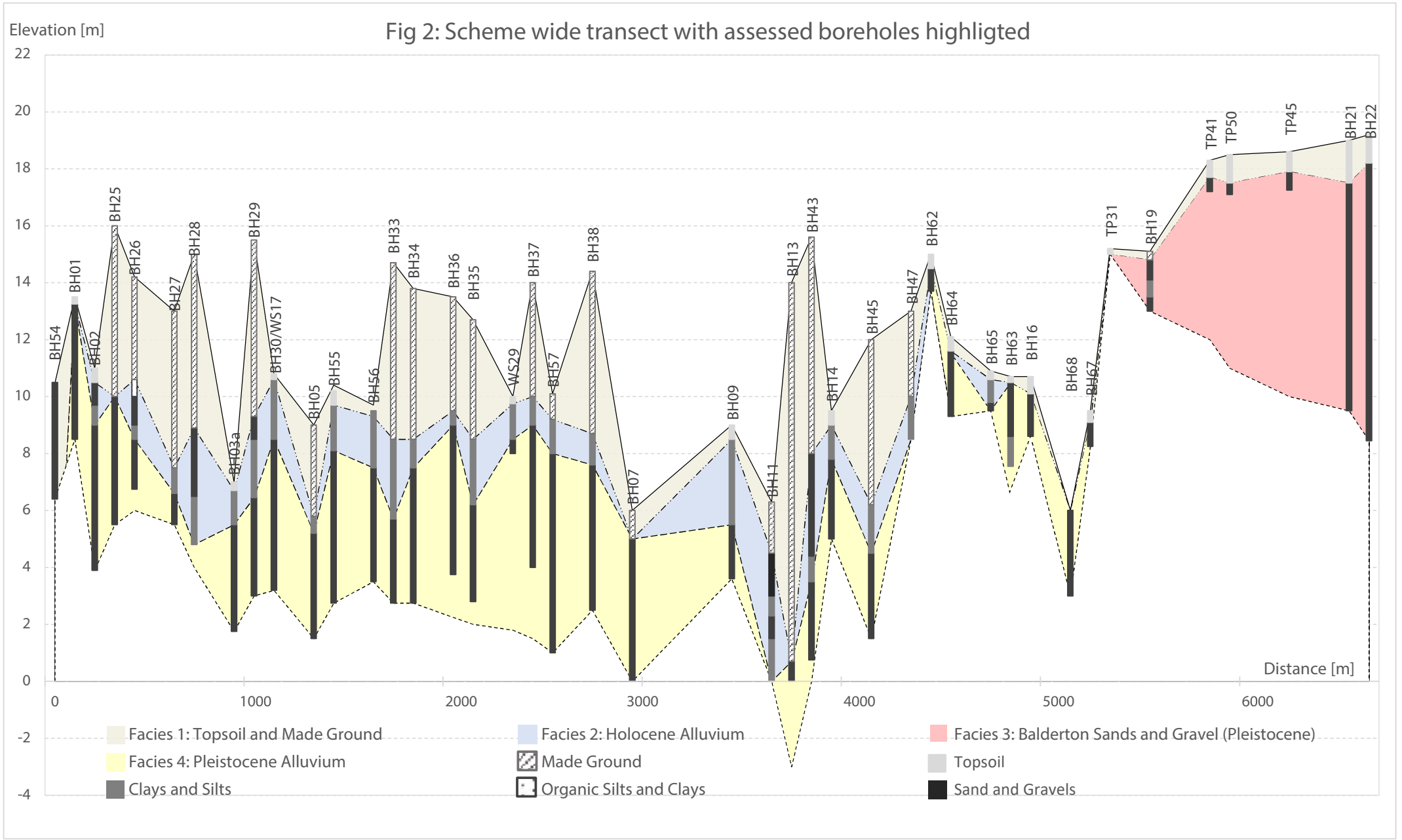
Legend

- Site Boundary
- Borehole

Notes:
© MapTiler © OpenStreetMap contributors.
British Geological Survey website.

AMS

Fig 2: Scheme wide transect with assessed boreholes highligted



Appendix J: A46 Newark Bypass, Nottinghamshire: Written Scheme of Investigation for Archaeological Watching Brief of Ground Investigation Works

A46 Newark Bypass, Nottinghamshire: Written Scheme of Investigation for Archaeological Watching Brief of Ground Investigation Works

Prepared for Skanska Construction UK Ltd on behalf of National Highways Regional Delivery Partnership Framework

B [redacted]

05 May 2023

TITLE PAGE

AMS Job No.:	J3063-A
Project Name:	Regional Delivery Partnership A46 Newark Bypass
Grid Reference (OSGB36):	478807 / 354376
Revision:	Final
Revision Date:	5 May 2023
Document Author:	[redacted]
Technical Reviewers:	
Document Editor:	
Approved By:	
File Name:	A46 Newark Bypass Nottinghamshire_WSI_Archaeological_Watching_Brief_of_GI_Works_Final

AMS Cultural Heritage Consultancy Limited trading as Archaeological Management Solutions

Company Registration No. 721173

Fahy's Road, Kilrush, Co. Clare, V15 C780

York Hub, Popeshead Court Offices, Peter Lane, York, YO1 8SU

T: +44 1904 404849

www.ams-consultancy.com

Disclaimer

The results, conclusions and recommendations contained within this report are based on information available at the time of its preparation. Whilst every effort has been made to ensure that all relevant data have been collated, the author and AMS accept no responsibility for omissions and/or inconsistencies that may result from information becoming available subsequent to the report's completion. All AMS deliverables are subject to quality assurance.

© AMS Cultural Heritage Consultancy Limited 2023. The concepts and information contained in this document are the property of AMS Cultural Heritage Consultancy Limited trading as Archaeological Management Solutions (AMS). Use or copying of this document in whole or in part without the written permission of AMS constitutes an infringement of copyright.

NSAI ENVIRONMENT NSAI Certified HEALTH & SAFETY NSAI Certified QUALITY NSAI Certified

Table of Contents

Introduction **6**
Project Background 6
Previous Archaeological Works 6
Purpose and Scope of this Written Scheme of Investigation 6
Site Location 7
Archaeological Background **9**
General Archaeological Background 9
Palaeolithic 9
Mesolithic 9
Neolithic and Early Bronze Age 9
Later Bronze Age and Iron Age 9
Romano-British Period 10
Early Medieval 10
Medieval 10
Post-medieval Period 10
Modern (AD 1750–present) 11
Results of the Metal Detecting Survey 11
Results of the Field Walking Survey 11
Results of the Geophysical Survey 12
Specification for an Archaeological Watching Brief **13**
Scope of Work 13
Method for Archaeological Watching Brief 13
Investigation and Recording of Archaeological Remains 13
Contingency Arrangements 15
Site Archive 15
Post-Excavation Assessment and Reporting **17**
Key Personnel and Project Team **19**
Programme **19**

Safety, Health & Welfare at Work **19**
Reporting **20**
Archive Storage and Curation **21**
Copyright **22**
References **23**
Figures **25**

List of Tables

Table 1: GI Trial Pits 8
Table 2: Project Team 19

List of Figures

Figure 1: Site Location **25**
Figure 2: Locations of Trial Pits at Kelham 26
Figure 3: Locations of Trial Pits between A46 and the A1 ..... **27**

Abbreviations

Abbreviation	Definition
AMS	Archaeological Management Solutions
CIfA	Chartered Institute for Archaeologists
CP	Civil Parish
EAR	Environmental Assessment Report
GI	Ground Investigation
HER	Historic Environment Record
OASIS	Online Access to Index of Archaeological Investigations
OSGB36	Ordnance Survey Great Britain 1936 coordinate system
PEA	Post-Excavation Assessment
SM	Scheduled Monument
PCF	Project Control Framework
TP	Trial Pit
WSI	Written Scheme of Investigation

Coordinate System

All grid coordinates in this document use the OSGB36 coordinate reference system unless otherwise stated.

Introduction

Project Background

This Written Scheme of Investigation (WSI) has been prepared by Archaeological Management Solutions (AMS, the Archaeological Contractor) on behalf of Skanska Construction UK Ltd (Skanska) on behalf of National Highways Regional Delivery Partnership Framework in advance of an archaeological watching brief of the ground investigation (GI) works on lands forming part of the A46 Newark Bypass, Nottinghamshire (Figure 1–Figure 3).

The A46 Newark Bypass scheme is approximately 6km in length, passing the western and northern extents of Newark-on-Trent, Nottinghamshire, between Farndon and Winthorpe roundabouts. The aim of the scheme is to increase capacity and reduce traffic congestion on the A46 in the vicinity of Newark, improve connectivity from Lincolnshire to the national motorway network, and improve route standard consistency for the A46.

The scheme has been subject to a PCF Stage 2 Environmental Assessment Report (EAR) undertaken by Atkins in 2021 (Highways England 2021), which found archaeologically sensitive areas across the route.

Previous Archaeological Works

AMS have already carried out archaeological works for a Metal Detection Survey, a Walkover Survey and a Geophysical Survey on behalf of Skanska on lands forming part of the A46 Newark Bypass in September 2022, January and February 2023. A programme of geoarchaeological coring is ongoing. Further works relating to each of these surveys will be carried out in 2023.

Purpose and Scope of this Written Scheme of Investigation

The purpose of this WSI is to provide a detailed specification for the archaeological watching brief, and the methods and standards that will be employed. It conforms to current best practice, as well as to the guidance outlined in the Chartered Institute for Archaeologists' (CIfA) *Standard and Guidance for an Archaeological Watching Brief* (CIfA 2020a). The CIfA guidance defines the purpose of an archaeological watching brief as follows:

> *"[...] to allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works […]*;
>
> *…to provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment to a satisfactory and proper standard"* (CIfA 2020a).

The aims of the archaeological watching brief are:

- to identify the presence or absence of any buried archaeological remains;
- to identify, investigate and record any archaeological remains discovered during GI works to the extent possible by the methods put forward in this WSI;
- to determine (so far as is possible) the stratigraphic sequence and dating of features identified;
- to establish the preservation of any buried archaeological remains and provide a chronology of the archaeological phasing;
- to identify the need for, nature, scope and scale of further recording works that may be required; and,
- to disseminate the results through deposition of an ordered archive at the local museum, the deposition of a report at the local Historic Environment Record (HER), and completion of the Online Access to Index of Archaeological Investigations (OASIS) Project website.

The archaeological watching brief shall conform to current best practice and shall be planned, managed, and undertaken in accordance with the requirements of this Specification and based on the guidance provided by:

- *Standard and Guidance for an Archaeological Watching Brief* (CIfA 2020a);
- *Standard and Guidance for the Collection, Documentation, Conservation, and Research of Archaeological Materials* (CIfA 2014b);
- *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (CIfA 2014c);
- *Code of Conduct: Professional Ethics in Archaeology* (CIfA 2014d); and
- *CIfA Policy: Use of Volunteers and Students* (CIfA 2021).

The work will be carried out in accordance with the agreed methodology detailed in this WSI. Any variations to this working practice will be agreed in advance with the Client. The specification details how the archaeological watching brief, and subsequent reporting and archiving, shall be undertaken.

The results of the archaeological watching brief will help inform the EIA to be submitted as part of the Development Consent Order application for the proposed development. The results will also aid future archaeological trial trenching along the scheme.

Site Location

The archaeological watching brief will be implemented over two distinct areas (Figure 1) along the proposed A46 Newark Bypass - in Kelham Lands (Figure 2) located to the north of the River Trent in Averham CP and; the area between the A46 and the A1 (Figure 3) to the south-east of the River Trent in Newark CP (Table 1; Figure 2 and Figure 3).

Table 1: GI Trial Pits

Trial Pit (TP)	Survey Area (Figures 2 & 3)
S3TP35	50
S3TP36	49
S3TP37	48
S3TP38	48
S3TP39	36
S3TP40	35
S3TP41	51
S3TP42	20
S3TP43	20
S3TP44	21

The underlying bedrock comprises Mercia Mudstone Group. All these formations are early Triassic in age. Bedrock of this type is of fluvial, lacustrine, and marine origin (British Geological Survey 2022).

The superficial deposits in the area of Trial Pits S3TP35 to S3TP41 are the Holme Pierrepont Sand and Gravel Member. The superficial deposits at S3TP42 to S3TP44 are on alluvium. Both formations date to the Quaternary.

Archaeological Background

The following is an adapted summary of the archaeological background given in the EAR (Highways England 2021) and succeeding surveys. The surveys undertaken consisted of geophysical survey over the northern section of the Scheme, and fieldwalking and metal detecting surveys in the southern section of the Scheme where it had been assessed that geophysical survey was unlikely to produce useful results. Please refer to the EAR (Highways England 2021) for location figures depicting sites mentioned in the wider area of the scheme.

General Archaeological Background

Palaeolithic

An Upper Palaeolithic site was identified through field walking in 1991 at Farndon Fields (M3571) near the southern end of the scheme (Harding *et al*. 2014). This is a very rare site type, and the survey team will be made aware of its presence and the potential for related remains.

Mesolithic

There are no known Mesolithic sites within the area of the scheme; however, excavations to the Staythorpe Power station—*c.*2.5km to the west alongside the River Trent—have revealed Mesolithic remains (Cooper 2006).

Neolithic and Early Bronze Age

Neolithic and Bronze Age flints (L11808) and burnt stone have been recovered from Farndon Fields and a Neolithic mortuary enclosure (M3612) was identified through aerial photography and subsequent excavation near the northern end of the scheme. A Neolithic and Early Bronze Age occupation site (L12214 and M18427) was identified under the Roman Fosse Way near Langford (L12214 and M18427). Bronze Age remains, including a possible burnt mound, have recently been uncovered in the vicinity of Kelham.

Later Bronze Age and Iron Age

Remains of this period are considered rare in Nottinghamshire and are mainly known from isolated finds of bronze objects, such as palstaves from the River Trent (L8514 & L3039): while these are not close to the area of the proposed coring, finds of this type may be expected within the flood plain area, given the known practice of depositing metalwork in bodies of water and wetlands during this period. Settlement evidence, such as the Late Bronze Age and Iron Age pottery recovered from excavations at Farndon Fields (L11810) and further Iron Age sherds recovered at Crankley Point sewage works (L11013), are more indicative of human activity off the floodplain. Finds of Bronze Age and Iron Age date have recently been uncovered in the area of Kelham.

Romano-British Period

The Fosse Way Roman Road is presumed to have run along the same alignment as the current A46. It ran from Exeter to Lincoln, marked the limits of early Roman settlement and connected settlements and production centres. Concentrations of Roman material have been recorded at Farndon Fields and Newark Northgate, and trial trenching near Langford revealed the remains of the original Roman Road (L3737). A small amount of Roman material has been recovered from the flood plain area during the metal detecting survey.

Early Medieval

Archaeological finds are rare; however, placename evidence attests to Anglo-Saxon settlements throughout the area of the scheme. A high-status female burial (M18359) was found south of the scheme at a cropmark on Winthorpe Road (Newmark-on-Trent) and another inhumation was found in a possible Neolithic barrow (M3612). Excavations of enclosures alongside the Roman road to the south (Newark-on-Trent to Widmerpool) suggest continued use into the Anglo-Saxon period.

Medieval

Newark-on-Trent emerged as a market town in the medieval period. The castle (1003474) in its centre was built in the early twelfth century by the Bishop of Lincoln and sits on the site of an earlier motte-and-bailey. There is also a medieval hospital and cemetery (St Leonard's: M3691), a moated site (near Dairy Farm: 1016051), a medieval settlement (Osmondthorpe at Northgate: M18367), a medieval road (M3093), a medieval bridge (M3214), a medieval building (at Northgate allotments: M3690) and many finds have been identified within the town during minor development works.

Post-medieval Period

There are many standing buildings, agricultural and industrial remains from the post-medieval period within the area of the scheme. However, the most significant remains are those relating to the English Civil War. Newark-on-Trent was subjected to three separate sieges from 1643 to 1646 during the Civil War and a series of defences and forts were built around the town. Following the Civil War, the castle was destroyed, and Newark-on-Trent returned to its role as a merchant town.

Newark-on-Trent was particularly known for its beer. Warwicks and Richardsons began brewing in 1766 and the Northgate Brewery (M3717) was built in 1871. The Brewery Office (1277425), Maltings (1196413) and almshouses (M3262) still stand, and the locations of others are known. Many improvements were made to the river and wharfs and warehouses were constructed. Newark Town Wharf (M3274) and Cow Lane Wharf (M3291) likely served the breweries. There are nine Grade II listed warehouses within the area of the scheme.

Post-medieval buildings and structures illustrating the development of Newark during the seventeenth to twentieth centuries are present. The construction of the Great North Road causeway arches (a Grade II listed building) was carried out from the 1760s and completed in 1770.

Modern (AD 1750–present)

Industrial uses continued and more breweries and warehouses were built post-1750. For example, the Kelham Home Grown Sugar refinery along Great North Road (now operating as British Sugar) was built in 1920.

The earliest Ordnance Survey map of the area of the proposed scheme depicts land use in 1883. Most of the land northwest of the River Trent is regular field systems, typical of enclosure-era land divisions. Comparison with current satellite imagery indicates little amalgamation of fields has occurred since.

Results of the Metal Detecting Survey

The metal detecting survey was undertaken in two phases. The first phase in September 2022 comprised the survey of fourteen fields, three under arable and eleven under pasture. The second phase was carried out in January 2023 and comprised two fields under arable.

A total of 115 significant metal finds were retrieved from the survey.

The earliest item identified within the area to be subject to geoarchaeological coring consists of the end of a possible Roman period solid copper alloy bracelet or bangle (Area 7).

Some objects, such as a large bulbous copper alloy vessel rim fragment (Area 2), other copper alloy vessel fragments (Area 2 and 3), a lead weight (Area 7), lead waste (Area 9, 14, 18) and a folded lead disc (Area 6) could be of medieval date.

Most objects recovered are well-preserved post-medieval items. Some such as seven musket-calibre balls (Area 7, 9, 10, 18) and a single pistol ball (Area 12) are likely to have been associated with the English Civil War and the sieges of Newark between 1642 and 1646. Several personal items, such as belt buckles (Area 7), may also originate from this period. The remainder of the material was eighteenth to twentieth century in date. All the coins recovered, 29 in total, were eighteenth to twentieth century in date.

Results of the Field Walking Survey

The fieldwalking survey was carried out in January 2023, immediately after the completion of the Phase 2 metal detecting survey (Gethin and Appleby 2023). Of the areas subject to geoarchaeological coring, it was only possible to survey Area 6.

The survey recovered a small quantity of medieval pottery, thirteenth to fourteenth century in date, a few fragments of clay tobacco pipe and a large amount of late eighteenth to the early twentieth-century pottery. Many of the artefacts are likely to have been spread over the fields along with manure from nearby farms or Newark itself.

The finds assemblage did not indicate the presence of any early underlying archaeological sites, nor did it include any significant concentration of finds with the potential to date to the English Civil War period.

Results of the Geophysical Survey

The geophysical survey comprised high-resolution magnetic gradiometry undertaken in two phases. During the first phase, undertaken in early September 2022, ten areas (20–24 & 29–32) encompassing c.36 ha surveyed (Dowling 2022). A second phase was undertaken in late February 2023 concentrating on the northern end of the Scheme (Areas 25–27, 29, 30, 33 & 34) and on potential flood compensation areas (Areas 48, 49 & 51). During the first phase, features of archaeological and potential archaeological interest were identified in at least seven areas. These include evidence for potential settlement and relict field systems in Areas 20, 21, 22 and 30, as well as a range of potential features and structures of possible archaeological interest in Areas 22, 28 and 29. Potential pits, ditches, drains and other tentative features were also mapped by the survey in some of the other areas investigated. During the second phase a series of small, conjoined enclosures (Area 48) were found in the Kelham area, which may correspond to an HER record. An additional rectilinear enclosure was mapped 75m5 west of this. To the south (Areas 51) also contained potential evidence of archaeological features. Many possible ditches/drains (Areas 25–27, 29, 30, 48, 49 & 51) and pit-type features (Areas 28, 48 & 51) were also detected, though natural, ferrous or agricultural origins for at least some of these features cannot be ruled out.

Specification for an Archaeological Watching Brief

Scope of Work

The works covered in this WSI relate to the archaeological monitoring of ten Trial Pits (TP) in advance of the A46 Newark Bypass (Figure 2 and Figure 3). AMS will undertake archaeological inspection works of this programme of trial pits. This archaeological watching brief will incorporate the following elements:

- The archaeological watching brief will take place during the machine excavation of ten Trial Pits (S3TP35 - S3TP44) (See Table 1).
- Monitoring the GI excavations and recording any archaeological observations as necessary.

Method for Archaeological Watching Brief

Stripping of topsoil and other overburden shall be undertaken by the GI Contractor operating under the continuous observation of a member of the Archaeological Contractor's archaeological staff.

Stripping of topsoil and other overburden shall remain subject to the oversight of the Archaeological Contractor and no GI operations may commence until they have issued in writing a 'clearance to proceed' to the GI Contractor in any specific area, defined by reference to plans. The Archaeological Contractor may issue such clearance in any of the following circumstances:

- they are satisfied that no remains of archaeological interest are present in the specified trial pit;
- they are satisfied that all remains of archaeological interest in the specified trial pit have been identified, investigated and recorded in accordance with the requirements of the WSI; or
- they are satisfied that, although there remains a possibility that unidentified archaeological remains are present in the specified trial pit, no further ground disturbance will take place that would result in the exposure or disturbance of those remains; and
- where written clearances to proceed are issued these will be kept on file and copies provided to the Client.

Investigation and Recording of Archaeological Remains

Where archaeological remains are identified which in the judgment of the Archaeological Contractor are of low density or complexity, and where they can reasonably do so without compromising the ongoing watching brief, the Archaeological Contractor shall investigate and record the remains according to the methodology in this section. Where this is not feasible because the remains are too complex or extensive to be investigated with the available resources or without compromising the ongoing watching brief, then the contingency arrangements set out below shall be implemented.

Unless otherwise agreed with the Skanska/Mott MacDonald, the Archaeological Contractor shall undertake archaeological excavation by hand of any archaeological remains identified in accordance with the following strategy:

- discrete negative features (less than 1m diameter): at least 50% by area in addition to all stratigraphic relationships;
- discrete negative features (more than 1m diameter): at least 50% by area in addition to all stratigraphic relationships;
- discrete negative features containing good assemblages: 100%;
- linear negative features: at least 50% by area within the GI trial pit;
- 100% of all cremations; and
- all wall lines and other similar features shall be recorded by plan and section. A section through wall and foundation trenches shall be excavated and recorded where feasible.

Hand-cleaning of features or selected areas shall be undertaken to clarify the extent of, or relationship between, features/deposits, as far as possible within the trial pit. Relationships between intersecting features shall be determined by hand-excavation. All hand-excavation shall be carried out in a stratigraphic manner.

All excavated contexts shall be fully recorded by a descriptive written context record for each stratigraphic unit, together with full photographic records and drawn plans and sections at appropriate scales.

All excavated features and deposits shall be recorded photographically using high resolution digital photography. Additional illustrative photographs shall be taken as appropriate. A high-resolution digital camera with a minimum resolution of ten megapixels shall be used for the production of colour images. Digital images shall be supplied in uncompressed TIFF format for long-term storage and accessibility.

All finds shall be recorded by context as a minimum, and significant finds shall be recorded individually. Soil or other samples for potential palaeoenvironmental analysis or scientific dating shall be collected from suitable contexts, including any waterlogged deposits, deposits visibly rich in charred or other organic materials or other deposits as appropriate, in accordance with best practice.

If any human remains are encountered, the Consultant, Client, the coroner and the local police shall be notified. Excavation and removal of the remains shall only occur after obtaining an appropriate licence from the Ministry of Justice. The Archaeological Contractor shall notify the Client within 24 hours of such a discovery. Any conditions in the Ministry of Justice Licence affecting the future deposition and curation of human remains shall be discussed with the Client and the recipient repository at the earliest opportunity.

All finds of potential archaeological value shall be retained and removed from the site; cleaned, catalogued and appropriately packaged. All recording, cleaning, storage and conservation of finds shall be in accordance with CIfA's *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (CIfA 2014b).

Should the need arise for environmental samples to be undertaken, then all aspects of the collection, selection, processing, assessment and reporting on those environmental samples shall be undertaken in accordance with the principles set out in *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (English Heritage 2011).

Subject to this strategy and the agreement of the Client, samples to be collected from suitable deposits shall include:

- If possible, a sample from suitable deposits which will be as large as GI works permit up to a limit of 40–60l, though it is envisaged in a watching brief that the volume will be less. This sample will be used for wet-sieving;
- Where deposits of particular potential interest are identified, and on the advice of the relevant specialist, additional special samples shall be collected. These could include additional monoliths, or other small samples for other special analyses. Where waterlogged deposits are identified, more intensive sampling shall be undertaken subject to the agreement of the Client and on the advice of the relevant specialist.

Contingency Arrangements

Where archaeological remains are identified which, for whatever reason, cannot be properly investigated and recorded with the resources available on site without compromising the ongoing watching brief, then the Archaeological Contractor shall mark out the relevant trial pit in an appropriate manner and notify the Consultant. Further work shall not be permitted within the trial pit except if given clearance to do so by the Archaeological Contractor. All works within the marked-out area shall be suspended until completion of the archaeological investigation in that area.

Notification of discoveries as set out above shall be made within one working day of the discovery, and shall include a brief outline of what has been discovered. This notification will be issued to the Client who will inform the Curator.

After such notification, the Archaeological Contractor will initiate a call with the Client to determine the need for, nature and scope of any further archaeological investigation and recording works.

Site Archive

Adequate resources shall be provided during fieldwork to ensure that all records are checked and internally consistent. Archive consolidation shall be undertaken immediately following the conclusion of fieldwork. The site record shall be checked, cross-referenced and indexed as necessary. All retained

finds shall be cleaned, conserved, marked and packaged as necessary to maintain the archive prior to transfer. All retained finds shall be assessed and recorded using pro-forma recording sheets, by suitably qualified and experienced staff. Initial artefact dating shall be integrated with the site matrix. The archiving and post-excavation work shall be undertaken in accordance with the requirements of CIfA's *Standard and Guidance for an Archaeological Watching Brief* (CIfA 2020a). The integrity of the primary field records shall be preserved and the Archaeological Contractor shall create security copies in digital format of all primary field records.

Post-Excavation Assessment and Reporting

A Post-Excavation Assessment (PEA) will be produced. Where no additional phases of investigations are required it is possible that the PEA may be adequate to disseminate the results of the investigations. This shall be agreed with the Curator, Consultant and Client.

The PEA shall clearly acknowledge the role of the Consultant and Client and show the logo of the Client on the front cover. The report shall be prepared in line with CIfA *Standard and Guidance for an Archaeological Watching Brief* (CIfA 2020a) and shall include as appropriate:

- a non-technical summary;
- site code and project number;
- planning reference number;
- dates when the investigations took place;
- a description of the background to and circumstances of the work;
- a brief description of the previously known archaeology of each site;
- a description of the methodology used;
- an objective description of the results;
- a specialist assessment of each category of data;
- details of archive location and destination (with accession number, where known), together with a catalogue of what is contained in that archive;
- an assessment of the archaeological significance of the deposits identified, in relation to other sites in the region;
- a conclusion with recommendations for further post-excavation work, if required;
- a statement of the storage and curation requirements for each category of data;
- general and detailed plans at appropriate scales, showing the location of each site accurately positioned on an up-to-date Ordnance Survey base;
- plans of each site at appropriate scales, with keys and north points;
- detailed plans and sections of individual features where necessary;
- all scales used on any drawings should be standard scales such as would appear on a normal scale ruler;
- a complete matrix for each site;
- a copy of the specification and/or project design, and
- references and bibliography of all sources used.

Each category of data and material recovered by the investigations (site records/stratigraphic data, each category of artefact or other find, each category of palaeoenvironmental/economic evidence, any other data) shall be examined and assessed by a suitably qualified and experienced archaeologist

or specialist. During the assessment specialists shall make recommendations regarding the discard and retention of material.

The assessment of all samples shall be undertaken in accordance with the guidance provided by English Heritage (2011). After instruction from the Consultant, the Archaeological Contractor shall start processing and assessing samples as soon as the investigation works starts to both inform the onsite sampling strategy and also to reduce the number of samples to be processed after the investigations. Any samples remaining after the investigations shall be prioritised (such as those from key deposits) for processing and assessment.

If necessary and possible to achieve the aims and objectives of the PEA, dating evidence shall be obtained by the application of radiocarbon, dendrochronological or other scientific dating techniques.

One copy of a complete draft assessment report, or additional appendix, shall be submitted in the first instance for review/checking by the Consultant. In finalising the report, the Archaeological Contractor shall take into account any comments and remedy any faults identified by the Consultant or Curator. The finalised assessment report shall be submitted to the Consultant within five working days of receipt of the comments on the draft report.

Immediately upon completion of the finalised assessment report, the report and any data or other documentation produced during the post-excavation process shall be integrated into the site archive. The Archaeological Contractor shall store the archive in suitable conditions in a secure location until instructions are received from the Consultant for its deposition in an agreed final repository or other transfer.

Five bound copies and a digital copy in PDF format of the final PEA shall be issued to the Client. After instruction from the Consultant, copies of the report (and digital copies of the archive) will be issued by the Archaeological Contractor as detailed below:

- A hard copy and a digital copy of the report and archive in PDF format to the HER.
- Copies of all reports in Microsoft Word.
- All drawings generated by the Archaeological Contractor will be georeferenced, and digitised archaeological trial pit plans shall be provided to the Consultant as AutoCAD drawings (.dwg) and in an ArcView compatible format.

Where further archaeological investigations are required, the Consultant will agree the scope and programme with the Client and Curator.

Key Personnel and Project Team

The archaeological watching brief will be conducted an experienced member of AMS field staff.

Table 2: Project Team

Name	Role	Contact Details
[redacted]	Project Manager	[redacted]
	AMS Project Officer	

Programme

The GI works for the A46 Newark Bypass are due to commence 9 May 2023. The programme for excavation of trial pits requiring an archaeological watching brief is anticipated to take between 3 to 4 days to complete.

Safety, Health & Welfare at Work

The archaeological watching brief will be carried out in accordance with current health and safety legislation and the requirements of the GI Contractor and Client. A project-specific Risk Assessment Method Statement (RAMS) will be in place at the commencement of on-site services. All staff will wear appropriate Personal Protective Equipment (PPE).

AMS site staff shall be Construction Skills Certification Scheme (CSCS) cardholders.

Reporting

A draft preliminary report on the watching brief will be completed within two weeks of completion of the fieldwork. This report will be submitted for a two-cycle review by the Client before finalisation. A first draft will be reviewed by Skanska, who will then forward the draft to the client and curator for comments. The finalised report will be compiled, with any resulting comments accounted for and errors remedied. After instruction from Skanska, a hard and digital (in pdf. format) copy of the final archaeological watching brief report will be issued to Skanska. Skanska will forward the report to ECC and Place Services. The digital copy will be in pdf. format and contain all text, images and plans present in the hard copy in a single file.

The report will include the following information at a minimum:

- Executive summary (300 words maximum);
- Introduction and project background;
- Archaeological background;
- Aims and objectives;
- Methodology (equipment, data collection, processing and interpretation);
- Results and discussion;
- Conclusions;
- Bibliography;
- Illustrations;
- Archive Location; and
- Appendices (technical detail and supporting information).

The report will be subject to AMS's internal quality control procedures, which include technical review and copyediting.

Upon completion and approval of the final report, copies of the report will be issued to the Client, as well as the relevant Historic Environment Record, local authority Planning Officer and/or Conservation Officer, following instruction from the Client. An OASIS online record will be created, and a PDF version of the final report submitted. Subject to contractual obligations on confidentiality, copies of the report will be provided to relevant local and national records and published through the Archaeology Data Service.

Archive Storage and Curation

All finds, photographs, drawings and paper archive records will be compiled into a comprehensive and fully cross-referenced archive in accordance with recognised best practice and the requirements of the local authority and/or museum (Historic England 2015, CIfA 2020b, Brown 2011). AMS will seek to secure the transfer of the ownership of artefacts to the receiving museum and inform the Client of the process.

The site archive will be prepared in accordance with relevant national guidelines (Walker 1990, Brown 2011, CIfA 2020b) and with any specific requirements of the Principal Historic Environment Consultant at Place Services. AMS will liaise with the local archive and museum service to ensure the service are aware of the work and to obtain an accession code for the project from the archive and museum service. The archive will be deposited within 6–12 months of project completion, following instruction from the Client. The Archaeological Contractor will be required to confirm when the deposition of the archive has been completed.

Copyright

The copyright of the report and archive will be retained by AMS under the *Copyright, Designs and Patents Act 1988*, with all rights reserved. The Client will be licensed to use each report for the purposes for which it was produced in relation to the project as described in the specification. The archive repository, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the *Copyright and Related Rights Regulations 2003*.

Information relating to the project will be deposited with the Historic Environment Record where it can be freely copied with reference to AMS for the purposes of archaeological research or development control within the planning process.

Where the project documentation or archive contains material that is non-AMS copyright, or the intellectual property of third parties, which AMS are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable users remain bound by the conditions of the *Copyright, Designs and Patents Act 1988* regarding copying and electronic dissemination of such material.

References

British Geological Survey. 2022. Geology of Britain viewer [online]. Available at: https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/ [Accessed 05 May 2022].

Bonsall, J. 2022. A46 Newark Bypass, Nottinghamshire: Written Scheme of Investigation for Archaeological Metal Detecting. Unpublished WSI by Archaeological Management Solutions for Skanska Construction UK Ltd.

Brown, D. H. 2011. *Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer and Curation*. Second edition. Archaeological Archives Forum.

Chartered Institute for Archaeologists. 2014a (updated 2020). *Standard and Guidance for Archaeological Field Evaluation*. [online]. Available https://www.archaeologists.net/sites/default/files/CIfAS&GFieldevaluation_1.pdf [Accessed 5 August 2022].

Chartered Institute for Archaeologists. 2014b (updated 2020). *Standard and Guidance for Collection, Documentation, Conservation and Research of Archaeological Materials*. [online]. Available https://www.archaeologists.net/sites/default/files/CIfAS%26GFinds_2.pdf [Accessed 5 August 2022].

Chartered Institute for Archaeologists. 2014c (updated 2020). *Standard and Guidance for Creation, Compilation, Transfer and Deposition of Archaeological Archives*. [online]. Available https://www.archaeologists.net/sites/default/files/CIFAS%26GArchives_4.pdf [Accessed 5 August 2022].

Chartered Institute for Archaeologists. 2014d (updated 2020). *Code of Conduct: Professional Ethics in Archaeology*. [online] https://www.archaeologists.net/sites/default/files/CodesofConduct.pdf [Accessed 5 August 2022].

Chartered Institute for Archaeologists. 2020a. *Standard and Guidance for an Archaeological Watching Brief.* [online]. Available at: https://www.archaeologists.net/sites/default/files/CIfAS&GWatchingbrief_2.pdf [Accessed 30 August 2022].

Chartered Institute for Archaeologists. 2020b. *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives.* [online]. Available at: https://www.archaeologists.net/sites/default/files/CIFAS%26GArchives_4.pdf [Accessed 30 August 2022].

Chartered Institute for Archaeologists. 2021. *Policy Statement: Use of Volunteers and Students*. [online]. Available https://www.archaeologists.net/sites/default/files/Policy%20statements%20revised%20Jan%202022.pdf [Accessed 5 August 2022].

Cooper, L., 2006. 'Archaeological assessment of the Trent-Soar confluence zone'. *Transactions of the Leicestershire Archaeological and Historical Society*, 80, p. 1.

Dowling, G. & Lancaster, S. 2022. A46 Newark Bypass, Nottinghamshire: Written Scheme of Investigation for an Archaeological Geophysical Survey. Unpublished WSI by Archaeological Management Solutions for Skanska Construction UK Ltd.

English Heritage 2011. *Environmental Archaeology: a Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation.* [online]. Available at https://historicengland.org.uk/images-books/publications/environmental-archaeology-2nd/environmental_archaeology/ [Accessed 5 August 2022].

Harding, P., Ellis, C. & Grant, M. 2014. *Late Upper Palaeolithic Farndon Fields*. In, Cooke, Nicholas and Mudd, Andrew (eds.) A46 Nottinghamshire: The Archaeology of the Newark to Widmerpool Improvement Scheme, 2009. Salisbury, GB. Wessex Archaeology, pp. 12-70.

Highways England. 2021. Regional Investment Programme A46 Newark Northern Bypass Environmental Assessment Report PCF Stage 2, Volume I, Main Chapters. 28/05/21.

Historic England. 2015. *Management of Research Projects in the Historic Environment* (MoRPHE).

Mott Macdonald. 2022. Regional Delivery Partnership A46 Newark Bypass: Archaeological Specification Document. PCF Stage No 3. Unpublished specifications by the MMHT (Mott MacDonald Heritage Team) for Skanska and National Highways.

Walker, K. 1990. United Kingdom Institute for Conservation's Guidelines for the Presentation of Excavation Archives for Long Term Storage, Guidelines 2. United Kingdom Institute for Conservation.

Figures

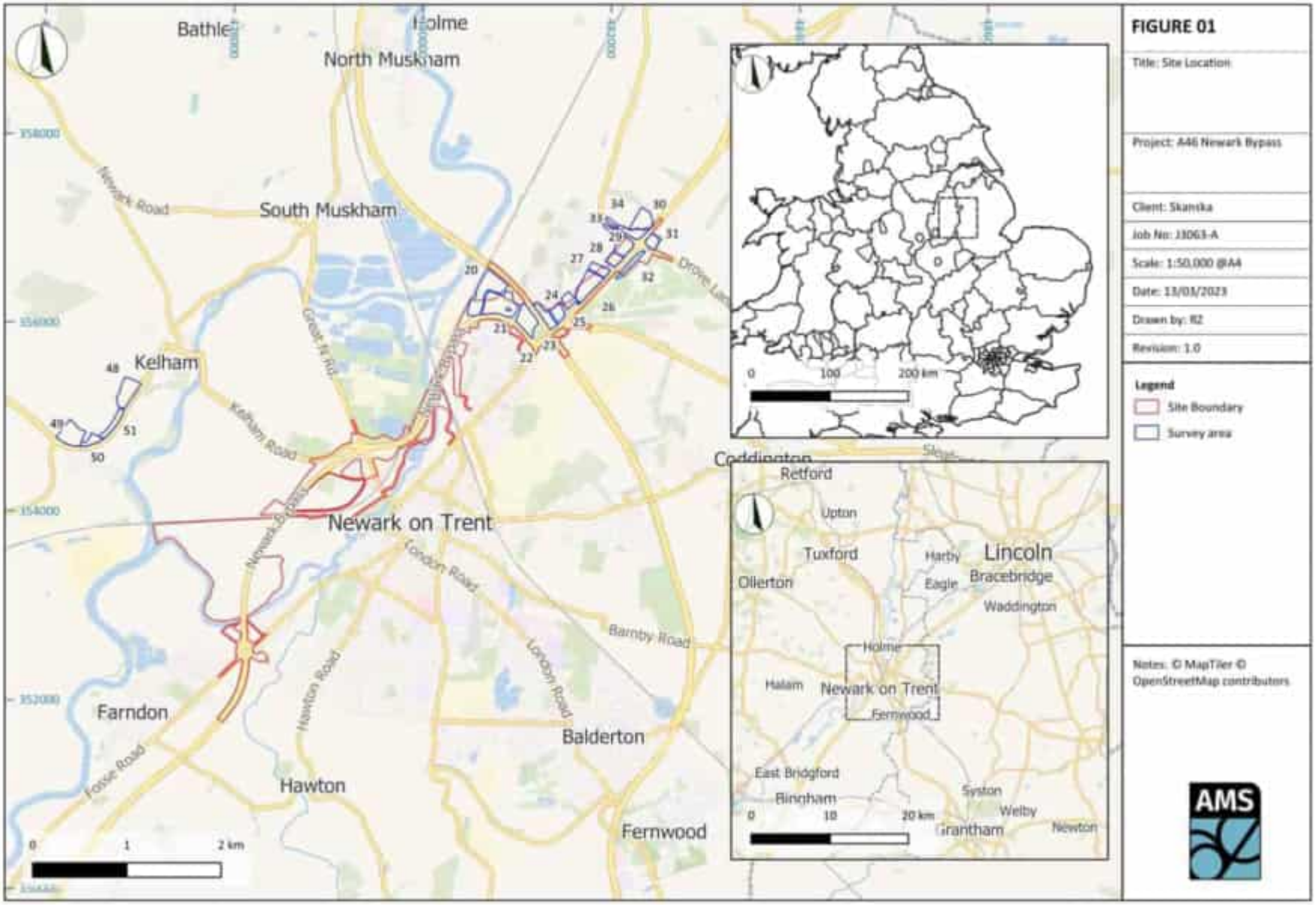


Figure 1: Site location map.

© Crown copyright and database rights 2021 OS 100030649

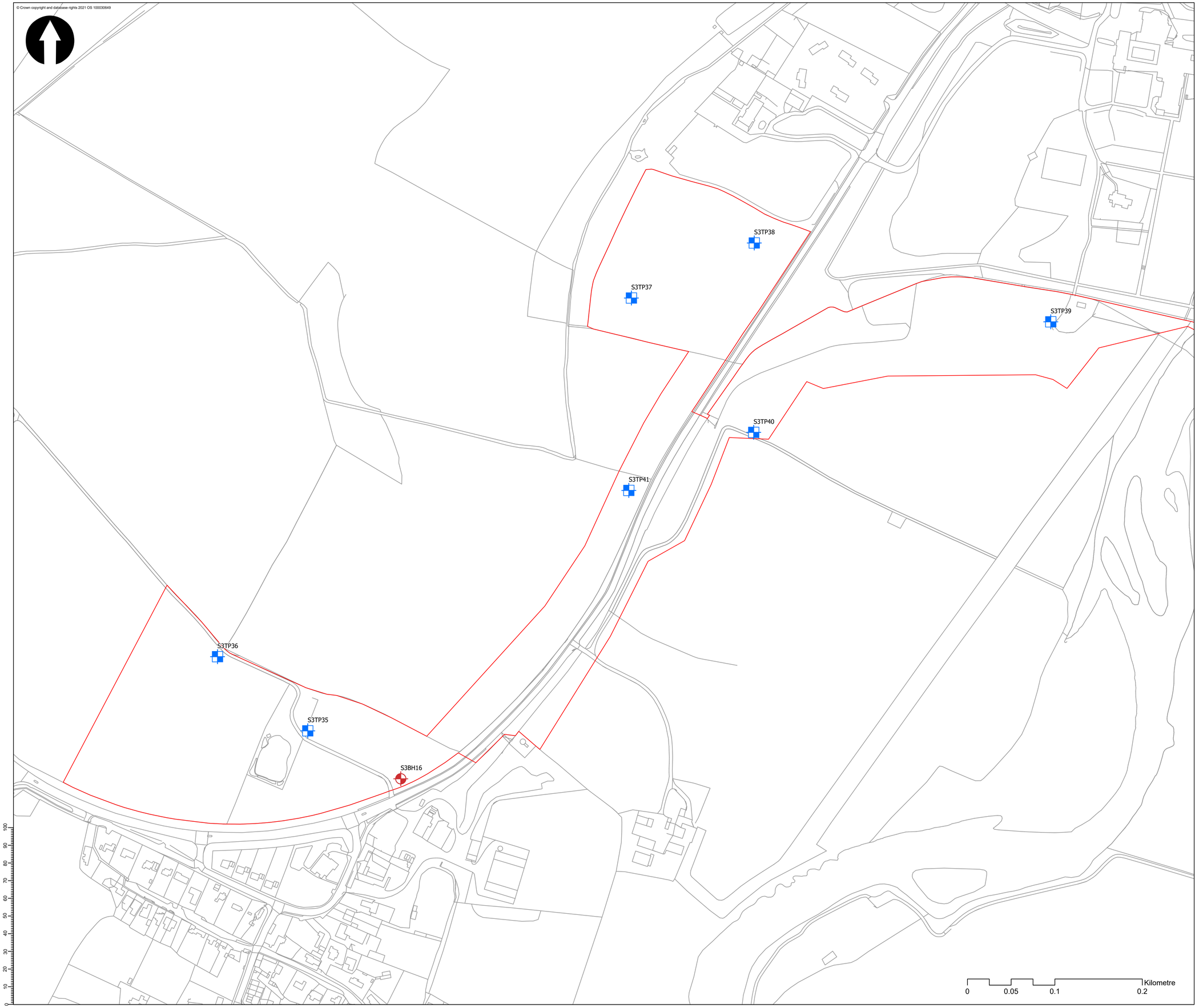


Figure 2: Trial Pit locations Kelham.

Notes

Location Map

Key to Symbols

LocationType

BH

TP

Drawing References

Location Map: os_open_greyscale_no_labels: Contains OS data © Crown Copyright and database right 2020

REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
P01	15/03/23	PHASE 3 GI	AC	AW	

SKANSKA

Denham Way
Maple Cross
Rickmansworth
WD3 9SW

Tel: +44 (0)19 2377 6666
www.skanska.co.uk

MOTT MACDONALD

Mountbatten House
Grosvenor Square
Southampton
SO15 2JU

Tel: +44 (0)23 8062 8800
www.mottmac.com

Client

national highways

Drawing Status: Suitable for Stage Approval

Status: S4

Project Title: A46 Newark Bypass

Drawing Title: Stage 3 Phase 3 Ground Investigation Exploratory Hole Location Plan Sheet 2 of 3

Scale	Designed	Drawn	Checked	Approved
1:1000				
Original Size	**Date**	**Date**	**Date**	**Date**
A1				

Drawing Number: HE PIN | Originator | Volume | Location | Type | Role | Number

Project Ref. No.: 100103345

Revision: P01

© Crown copyright and database rights 2021 OS 100030649

S3TP42

S3TP43

S3TP44

0 0.03 0.05 0.1 Kilometre

Notes

Location Map

Key to Symbols

LocationType

BH

TP

Drawing References

Location Map: os_open_greyscale_no_labels: Contains OS data © Crown Copyright and database right 2020

REV.	DATE	AMENDMENT DETAILS	ORIG	CHK'D	APP'D
P01	15/03/23	PHASE 3 GI	AC	AW	

SKANSKA

Denham Way
Maple Cross
Rickmansworth
WD3 9SW

Tel: +44 (0)19 2377 6666
www.skanska.co.uk

MOTT MACDONALD

Mountbatten House
Grosvenor Square
Southampton
SO15 2JU

Tel: +44 (0)23 8062 8800
www.mottmac.com

Client

national highways

Drawing Status: Suitable for Stage Approval

Status: S4

Project Title: A46 Newark Bypass

Drawing Title: Stage 3 Phase 3 Ground Investigation Exploratory Hole Location Plan Sheet 3 of 3

Scale	Designed	Drawn	Checked	Approved
1:1000				
Original Size	**Date**	**Date**	**Date**	**Date**
A1				

Drawing Number: HE PIN | Originator | Volume | Location | Type | Role | Number

Project Ref. No.: 100103345

Revision: P01

Figure 3: Trial Pit locations between A46 and A1

Appendix K: A46 Newark Bypass Geoarchaeological Coring Interim Report

A46 Newark Bypass Geoarchaeological Coring Interim Report

Prepared for Skanska/National Highways

B [redacted]

July 2023

TITLE PAGE

AMS Job No.:	J3063-A
Project Name:	A46 Newark Bypass
Client Name:	Skanska Construction UK Ltd/National Highways
Civil Parish Name(s):	Averham CP, Newark CP
Grid Reference (OSGB36):	478807 / 354376
Report Status/Revision:	1.0
Revision Date:	
Report Author:	[redacted]
Technical Reviewer:	
Report Editor:	
Approved By:	
File Name:	A46_geoarchaeological_coring_assessment_report_v1.0

AMS Cultural Heritage Consultancy Limited trading as Archaeological Management Solutions

Company Registration No. 721173

Fahy's Road, Kilrush, Co. Clare. V15 C780

T +353 (0)65 9062 878

www.ams-consultancy.com

Disclaimer

The results, conclusions and recommendations contained within this report are based on information available at the time of its preparation. Whilst every effort has been made to ensure that all relevant data have been collated, the author and AMS accept no responsibility for omissions and/or inconsistencies that may result from information becoming available subsequent to the report's completion.

© AMS Cultural Heritage Consultancy Limited 2023. The concepts and information contained in this document are the property of AMS Cultural Heritage Consultancy Limited trading as Archaeological Management Solutions (AMS). Use or copying of this document in whole or in part without the written permission of AMS constitutes an infringement of copyright.

Table of Contents

Abbreviations and Definitions **6**

1 Introduction **7**

1.1 Project Background 7

1.2 Purpose and Scope of Coring 7

1.3 Site Location and Geology 8

1.4 Works Undertaken 8

2 Geoarchaeological and Archaeological Background **11**

2.1 1.1 General Archaeological Background 11

2.1.1 1.1.1 Palaeolithic and Mesolithic 11

2.1.2 1.1.2 Neolithic and Early Bronze Age 11

2.1.3 1.1.3 Later Bronze Age and Iron Age 11

2.1.4 1.1.4 Romano-British period 12

2.1.5 1.1.5 Early Medieval and Medieval 12

2.1.6 1.1.6 Post-medieval period 12

2.1.7 1.1.7 Modern (AD 1750–present) 13

2.2 1.2 Geoarchaeological Background 13

2.3 1.3 Results of the Metal Detecting Survey 14

2.4 1.4 Results of the Field Walking Survey 15

3 Project Aims and Objectives **16**

3.1 1.1 General Archaeological Background ..... **Error! Bookmark not defined.**

3.1.1 1.1.1 Palaeolithic and Mesolithic ..... **Error! Bookmark not defined.**

3.1.2 1.1.2 Neolithic and Early Bronze Age ..... **Error! Bookmark not defined.**

3.1.3 1.1.3 Later Bronze Age and Iron Age ..... **Error! Bookmark not defined.**

3.1.4 1.1.4 Romano-British period ..... **Error! Bookmark not defined.**

3.1.5 1.1.5 Early Medieval and Medieval ..... **Error! Bookmark not defined.**

3.1.6 1.1.6 Post-medieval period ..... **Error! Bookmark not defined.**

3.1.7 1.1.7 Modern (AD 1750–present) ..... **Error! Bookmark not defined.**

3.2 1.2 Geoarchaeological Background ..... **Error! Bookmark not defined.**

3.3 1.3 Results of the Metal Detecting Survey..... **Error! Bookmark not defined.**

3.4 1.4 Results of the Field Walking Survey ..... **Error! Bookmark not defined.**

4 Project Team 16

5 Methodology..... 19

5.1.1 Standards 19

5.1.2 Pre-commencement 19

5.1.3 Coring methodology..... 19

5.1.4 Recording 20

6 Results 21

6.1 Summary 21

6.2 Trent to Old Trent Dyke 21

6.3 Nottingham to Lincoln Line to the Great North Road and A46 Roundabout 23

6.4 Kelham 25

7 Modelling..... 27

7.1 Introduction 27

7.2 Results..... 27

8 Discussion 29

8.1 Overview of Deposit Sequence 29

9 Significance and Potential Impacts 32

10 Recommendations 34

References..... 37

11 Appendix 1 38

Abbreviations and Definitions

Abbreviation	Definition
AMS	Archaeological Management Solutions
BGS	British Geological Survey
CIfA	Chartered Institute for Archaeologists
DBA	Desk-Based Assessment
DCO	Development Consent Order
EAR	Environmental Assessment Report
EIA	Environmental Impact Assessment
H & S	Health and Safety
OSGB36	Ordnance Survey Great Britain 1936 coordinate system
PPE	Personal Protective Equipment
RAMS	Risk Assessment Method Statement
RTK DPGS	Real Time Kinematic Differential Global Positioning System
SM	Scheduled Monument
WSI	Written Scheme of Investigation

Coordinate System

All grid coordinates in this report use the Ordnance Survey National Grid (OSGB36) coordinate reference system unless otherwise stated.

1 Introduction

1.1 Project Background

This Assessment Report has been prepared by Archaeological Management Solutions (AMS) on behalf of Skanska Construction UK Ltd, on behalf of National Highways Regional Delivery Partnership Framework. It presents an interim statement for the geoarchaeological borehole investigations carried out as part of the works undertaken to inform the EIAR for the A46 Newark Bypass, Nottinghamshire (Figure 1).

The A46 Newark Bypass scheme is approximately 6km in length, passing the western and northern extents of Newark-on-Trent, Nottinghamshire, between Farndon and Winthorpe roundabouts. The aim of the scheme is to increase capacity and reduce traffic congestion on the A46 in the vicinity of Newark, improve connectivity from Lincolnshire to the national motorway network, and improve route standard consistency for the A46.

The scheme has been subject to a PCF Stage 2 Environmental Assessment Report (EAR) undertaken by Atkins in 2021 (Highways England 2021), which found archaeologically sensitive areas across the route.

Prior to this phase of assessment, geophysical (Dowling 2022 and 2023), fieldwalking (Gethin 2023) and metal detection surveys (Bartlett & McKenna 2022) and a geoarchaeological desk-based assessment (Lancaster 2023) were carried out. A programme of archaeological trial trenching is to be carried out and this will also have a geoarchaeological component. A interim report on the geoarchaeological coring works has already been issued (May 2023).

The geoarchaeological coring took place during May 2023, and comprised 38 boreholes within the footprint of the scheme.

1.2 Purpose and Scope of Coring

The geoarchaeological coring was implemented across the section of the proposed scheme that crosses the flood plain of the Trent, and a limited part of the flood compensation areas in the vicinity of Kelham. The coring was undertaken to assess the archaeological and palaeoenvironmental potential of the alluvial deposits that form the superficial geological deposits of this area (Lancaster 2023a). The coring will be complemented by geoarchaeological test pitting that will be undertaken, as part of the trial trenching, on soils derived from the Holme Pierrepoint Sands and Gravels. The coring work was carried out in accordance with the agreed methodology detailed in the WSI (Lancaster 2023b).

The results of the survey will help inform the Environmental Impact Assessment (EIA), to be submitted as part of the Development Consent Order (DCO) application for the proposed development. The results will also aid future archaeological trial trenching along the scheme.

1.3 Site Location and Geology

The geoarchaeological coring will be implemented over 15 fields (designated as Areas 2, 3, 6, 7-12, 14-16, and 18 (Table 1; Figures 2–3). Areas 2, 3, 6-12, 14-16, 18 are located in the flood plain of the Trent. Areas 51 and 48 are located in areas of alluvium between Kelham and Averham. The alluvial deposits in Areas 51 and 48 are probable palaeochannels, constrained within Pleistocene terrace material.

The underlying bedrock of the locality comprises Mercia Mudstone Group, an early Triassic lithostratigraphic group that is widespread in the English Midlands. The bedrock of this type is of fluvial, lacustrine and marine origin (BGS 2022). Over most of the areas to be trenched this geological unit is not further differentiated (Areas 9-12, 14-16, 18, 40 and 48). Where it has been differentiated consists either of Gunthorpe Member mudstones (Areas 3, 6-8) or Edwalton Member mudstones (Area 2). Within the floodplain of the River Trent the superficial deposits are alluvium - clay, silt, sand, and gravel, dating to the Quaternary period. The broad trend of the alluvial deposits is for silts and clays to form the upper part of the deposit sequence and sands and gravels to form the lower part. The geoarchaeological desk-based assessment has tentatively assigned the upper deposits to the Holocene and the lower deposits to the Pleistocene.

1.4 Works Undertaken

This phase of the geoarchaeological work comprised 38 boreholes (typically 2m – 10m deep). These have been positioned on the basis of two purposes. One set are located in order to record sedimentary sequences at an appropriate level of coverage of the alluvial deposits and to allow for their characterisation and to identify any trends of variation over the area of the flood plain, such as prevalence of more deeply buried palaeochannels that may either not be visible in lidar data or underly the already identified palaeochannels, within the proposed development. The other set have been selected order to sample potential palaeochannels that have been identified during the geoarchaeological desk-based assessment, including those identified in a large scale mapping exercise previously undertaken in the region (Malone and Stein 2015), which have been re-examined to check the identifications. For all boreholes an additional point of recording is to identify possible archaeological material, potentially including preserved wood, either from naturally fallen trees or

worked wood from boats or structures. The boreholes and their principal purpose for investigation are given in Table 1.

Table 1: Boreholes and principal purpose for investigation

Borehole Number	Area Number	Final drilling depth (M)	Principal Purpose
ABH01	2	6.20	Palaeochannel (lidar)
ABH02	2	6.20	Flood plain sequence
ABH03	2	7.20	Palaeochannel (lidar)
ABH04	2	4.00	Flood plain sequence
ABH05	2	2.00	Flood plain sequence
ABH06	2	6.12	Flood plain sequence
ABH07	3	3.00	Flood plain sequence
ABH08	3	3.00	Palaeochannel (lidar)
ABH09	3	4.40	Palaeochannel (lidar)
ABH10	6	3.00	Flood plain sequence
ABH 11	6	7.50	Flood plain sequence
ABH 12	6	6.00	Flood plain sequence
ABH 13	6	4.20	Flood plain sequence
ABH 14	6	6.20	Palaeochannel (lidar)
ABH 15	6	9.08	Flood plain sequence
ABH 16	6	2.00	Flood plain sequence
ABH 17	8	7.50	Flood plain sequence
ABH 18	8	7.50	Flood plain sequence
ABH 19	9	9.00	Flood plain sequence
ABH 20	10	11.05	Flood plain sequence

ABH 21	11	9.70	Palaeochannel (lidar)
ABH 22	12	9.08	Flood plain sequence
ABH 23	14	8.72	Flood plain sequence
ABH 24	15	11.2	Flood plain sequence
ABH 25	16	9.70	Palaeochannel (lidar)
ABH 26	18	8.20	Palaeochannel (lidar)
ABH 27	18	10.00	Flood plain sequence
ABH 28	48	10.50	Palaeochannel (lidar)
ABH 29	48	1.20	Palaeochannel (lidar)
ABH 30	48	9.00	Palaeochannel (lidar)
ABH 31	51	7.50	Palaeochannel (lidar)
ABH 32	51	7.50	Palaeochannel (lidar)
ABH 33	6	6.00	Palaeochannel (lidar)
ABH 34	6	6.00	Palaeochannel (lidar)
ABH 35	6	4.50	Flood plain sequence
ABH 36	7	6.00	Flood plain sequence
ABH 37	7	6.00	Palaeochannel (lidar)
ABH 38	7	6.00	Palaeochannel (lidar, GI data)

2 Geoarchaeological and Archaeological Background

The following is an adapted summary of the archaeological background given in the EAR (Highways England 2021) and succeeding surveys. The surveys undertaken consisted of geophysical survey over the northern section of the Scheme, and fieldwalking and metal detecting surveys in the southern section of the Scheme where it had been assessed that geophysical survey was unlikely to produce useful results. Please refer to the EAR (Highways England 2021) for location figures depicting sites mentioned in the wider area of the scheme.

2.1 General Archaeological Background

2.1.1 Palaeolithic and Mesolithic

There are no known sites of Palaeolithic or Mesolithic age within the area of the scheme subject of the geoarchaeological coring: it is probable that materials of this age are either deeply buried or have been eroded away/reworked by the action of the river, with the greatest potential for finds consisting of stone tools incorporated into gravel deposits. Outside of the floodplain area there are known Late Upper Palaeolithic finds, notably at Farndon Fields, as well as Mesolithic finds there and at Flintham and Bingham. Areas potentially affected by the scheme that may have potential for similar remains will be addressed in the Trial Trenching and Geoarchaeological Test Pitting works.

2.1.2 Neolithic and Early Bronze Age

There are no known sites from this period within the floodplain section of the scheme, though Neolithic and Bronze Age material has been recovered from higher ground in the area. Flints (L11808) and burnt stone were recovered from Farndon Fields and sites such as a Neolithic mortuary enclosure (M3612) near the north end of the scheme, as well as a Neolithic and Early Bronze Age occupation site (L12214 and M18427) was identified under the Roman Fosse Way near Langford (L12214 and M18427). Outside of the floodplain, near the probable palaeochannels near Kelham, there have been recent finds of Neolithic pits.

2.1.3 Later Bronze Age and Iron Age

Remains of this period from comparable environments in Nottinghamshire are mainly known from isolated finds of bronze objects, such as palstaves from the River Trent (L8514 & L3039): while these are not close to the area of the proposed coring, finds of this type may be expected within the flood plain area, given the known practice of depositing metalwork in bodies of water and wetlands during this period. Evidence for settlement during the Late Bronze Age and early Iron Age is largely absent from the scheme study area. This does not, however, mean that this landscape was unoccupied. Occupation across the East Midlands at this time is characterised by open settlement, which is not

readily identifiable, though has been pottery recovered from excavations at Farndon Fields (L11810) and further Iron Age sherds recovered at Crankley Point sewage works (L11013), are more indicative of human activity off the floodplain. During the middle Iron Age there is a transition to enclosed settlement within the Trent Valley, with an abundance of cropmark sites that may date to this period being recorded. These are generally distributed across the higher ground rather than the floodplain. Finds of Bronze Age and Iron Age date have recently been uncovered in the area of Kelham, including a possible burnt mound, in the near vicinity of the coring at Kelham, as well as enclosure complexes thought to date to the Iron Age.

2.1.4 Romano-British period

The Fosse Way Roman Road is presumed to have run along the same alignment as the current A46. It ran from Exeter to Lincoln, and marked the limits of early Roman settlement and connected settlements and production centres. Concentrations of Roman material have been recorded at Farndon Fields and Newark Northgate, and trial trenching near Langford revealed the remains of the original Roman Road (L3737). A small amount of Roman material has been recovered from the flood plain area during the metal detecting survey (See 2.3).

2.1.5 Early Medieval and Medieval

Early Medieval archaeological finds are rare; however, place-name evidence attests to Anglo-Saxon settlements throughout the area of the scheme. Some sites have been found in nearby areas off the flood plain: a high-status female burial (M18359) was found south of the scheme at a cropmark on Winthorpe Road (Newmark-on-Trent) and another Anglo-Saxon inhumation was found inserted in a possible Neolithic barrow (M3612). Excavations of enclosures alongside the Roman road to the south (Newark-on Trent to Widmerpool) suggest continued use into the Anglo-Saxon period.

Newark-on-Trent emerged as a market town in the medieval period. Assets from this period include the castle (1003474) hospital and cemetery (St Leonard's: M3691), a moated site (near Dairy Farm: 1016051), a medieval settlement (Osmundthorpe at Northgate: M18367), a medieval road (M3093), a medieval bridge (M3214), a medieval building (at Northgate allotments: M3690) and many finds that have been identified within the town during minor development works. Medieval finds were recovered during the fieldwalking and metal detecting surveys (see 2.2 and 2.3 below).

2.1.6 Post-medieval period

While there are many standing buildings, agricultural and industrial remains from the post-medieval period within the area of the scheme, relatively few of these are located on the alluvial deposits associated with the floodplain of the Trent. Of those that are, the most notable are the remains

relating to the three sieges Newark was subjected to in the First English Civil War. These consist of five Civil War redoubts - 550m south-east of Valley Farm (SM1016046), 680m north-west of Dairy Farm (SM 1016048), 580m ENE of sugar refinery (SM 1016152) and two on Crankley Point (SM 1016049 and SM 1016050), as well as the Earthworks and line of First Circumvallation (M8401/L10511/L8470/L8442).

2.1.7 Modern (AD 1750–present)

Industrial uses continued and more breweries and warehouses were built. The Kelham Home Grown Sugar refinery, along Great North Road, (now operating as British Sugar) was built in 1920. The earliest Ordnance Survey map of the area of the proposed scheme depicts land use in 1883. Most of the land northwest of the River Trent is regular field systems, typical of enclosure-era land divisions. Comparison with current satellite imagery indicates little amalgamation of fields has occurred since.

2.2 Geoarchaeological Background

Across the area of the current floodplain, the alluvial deposits can be broadly divided into two elements. The lower alluvial deposits dominated by sands and gravels. The origins of these deposit may include both reworked terrace material, deposited during the Holocene, and the remains of a braided river outwash system of broadly Pleistocene date, means that the potential for *in situ* remains of human activity are low. Coarse sediments of this type generally preserve palaeoenvironmental material poorly, and much material, artefactual and palaeoenvironmental, is likely to be re-worked.

The other element is the upper alluvial deposits, dominated by fine grained sediments. These are more likely to be of Holocene date in their initial deposition. The change to a somewhat lower energy pattern of deposition during the Holocene probably reflects the effect of relative sea level rise, which effectively reduced the gradient of the Trent, leading to lower transport capacity, partial infilling of channels and an increased tendency to flooding. The river form would have changed to an anastomosing environment, that is having multiple semi-permanent channels. While anastomosing rivers have more stable channels than braided systems, these may still change whether through channel shift or avulsion events, i.e when changing hydrological conditions force a rapid and complete change of channel route. Changes in channel course may be reflected in the presence of palaeochannels within the floodplain area, which may be identified by lithological changes, such as the presence of coarser sediments located within fine sediment units. The fine mineral component and organic content of these sediments are indicative of slow or still water, potentially areas that were only periodically wet, potentially including features such as oxbow lakes, or depressions left in the outwash surfaces. These have probably, for the most part, been subject to frequent re-working and therefore little material of archaeological or palaeoenvironmental potential is likely to survive in most

deposits. There are, however, two main situations where material of archaeological or palaeoenvironmental significance may survive. The first would be the survival of large organic artefacts or sections of structural elements such as bridges or mill dams. While these may not be strictly *in situ*, the intrinsic informational value of such items would still be high. The relatively thin depth of the fine-grained deposits, combined with the fluctuating water table suggests that the potential for such items to survive within the area of the proposed scheme is relatively low, but such remains would be of notable significance. The other situation would be where surviving discrete palaeochannels or other infilled fluvial features are found. These have the potential to preserve considerable palaeoenvironmental material, including pollen and insects that can be used to reconstruct the local environments, including potentially detecting the impact of human activity on the environment. Such features may also contain organic artefacts if anoxic conditions obtain within them. The geoarchaeological desk-based assessment (DBA) has identified potential palaeochannels within the footprint of the proposed scheme, and this information has been supplemented by the Trent Palaeochannel Mapping Project (Malone and Stein 2015). While the upper parts of the Holocene alluvial deposits may have been subject to periodic desiccation and oxidation, there is still the potential for some of the more robust palaeoenvironmental material such as pollen to survive, and within deeper parts of this facies more anoxic conditions may preserve more organic material. Monitoring work on the early geotechnical coring for the proposed scheme has made similar findings, including the presence of organic deposits, especially in the areas near Old Trent Dyke (Lowther and Keyworth 2022).

The area around Kelham consists of Holme Pierrepoint Sands and Gravels, a river terrace formation dating to MIS2 or early MIS1.

2.3 Results of the Metal Detecting Survey

The metal detecting survey was undertaken in two phases. The first phase in September 2022 comprised the survey of fourteen fields, three under arable and eleven under pasture. The second phase was carried out in January 2023 and comprised two fields under arable.

A total of 115 significant metal finds were retrieved from the survey.

The earliest item identified within the area to be subject to geoarchaeological coring consists of the end of a possible Roman period solid copper alloy bracelet or bangle (Area 7).

Some objects, such as a large bulbous copper alloy vessel rim fragment (Area 2), other copper alloy vessel fragments (Area 2 and 3), a lead weight (Area 7), lead waste (Area 9, 14, 18) and a folded lead disc (Area 6) could be of medieval date.

Most objects recovered are well-preserved post-medieval items. Some such as seven musket-calibre balls (Area 7, 9, 10, 18) and a single pistol ball (Area 12) are likely to have been associated with the English Civil War and the sieges of Newark between 1642 and 1646. Several personal items, such as belt buckles (Area 7), may also originate from this period. The remainder of the material was eighteenth to twentieth century in date. All the coins recovered, 29 in total, were eighteenth to twentieth century in date.

2.4 Results of the Field Walking Survey

The fieldwalking survey was carried out in January 2023, immediately after the completion of the Phase 2 metal detecting survey (Gethin and Appleby 2023). Of the areas subject to geoarchaeological coring, it was only possible to survey Area 6.

The survey recovered a small quantity of medieval pottery, thirteenth to fourteenth century in date, a few fragments of clay tobacco pipe and a large amount of late eighteenth to the early twentieth-century pottery. Many of the artefacts are likely to have been spread over the fields along with manure from nearby farms or Newark itself.

The finds assemblage did not indicate the presence of any early underlying archaeological sites, nor did it include any significant concentration of finds with the potential to date to the English Civil War period.

3 Project Aims and Objectives

3.1 Project Aim

The work is intended to provide data to inform the Environmental Impact Assessment, and to feed into any consequent mitigation strategy. The principal aim of the geoarchaeological coring is to characterise, as far as reasonably possible, the deposit sequence within the floodplain section of the scheme and the alluvial deposits near Kelham. This will concentrate on nature, extent, date, and potential significance of any palaeoenvironmental or geoarchaeological materials within the development area.

This aim will enable the potential value of the deposits in addressing some of the overarching agenda themes presented in the East Midlands Historic Environment Research Framework to be assessed (East Midlands Historic Environment Research Framework - East Midlands Historic Environment Research Framework (researchframeworks.org)). Those identified as relevant include:

- Pleistocene and Holocene climatic change;
- Changes in sea level, the configuration of sea and land, the drainage network and the spatial extent of wetlands;
- The impact of human activity upon soil development and geomorphic processes (notably alluviation, colluviation and aeolian deposition);

Few of the specific strategic research objectives closely relate to the evidence types that coring is likely to produce, though Strategic Objective 1D 'Further Investigate Upper Palaeolithic (Period 5) open-air sites in the East Midlands' is relevant. This latter Strategic Objective is also relevant to the other geoarchaeological investigations that will take place as part of the archaeological trial trenching.

3.2 Project Objectives

The test trenching objectives include:

- to identify, characterise and quantify sub-surface geoarchaeological units;
- undertake detailed descriptions of the sedimentary sequence;
- assess the potential recover samples to provide dates and environmental evidence;
- update the deposit model for the scheme;
- incorporate all of the above in a report to the Client; and
- create a physical and digital site archive.

The planned geoarchaeological cores will be taken under the supervision of an experienced geoarchaeologist. The boreholes will be drilled to the base of the alluvial sequence where possible.

4 Project Team

The geoarchaeological coring was be overseen by AMS. The fieldwork was led by AMS [redacted] assisting geoarchaeologists, [redacted] e Research and Management. Survey assistance was [redacted] of Skanska. The drilling crews were provided by Strata (percussion rig and rotary rig) and Geofirma (sonic rig). Expert advice on the geoarchaeology of the region was provided b [redacted] of Landscape Research and Management, and [redacted] of York Archaeology.

5 Methodology

5.1.1 Standards

All work has been conducted in accordance with the Chartered Institute for Archaeologists' *Code of Conduct and Standard and Guidance for Archaeological Field Evaluations*, and has taken cognizance of Historic England's guidance for geoarchaeology and environmental archaeology (2015a and 2015b) and *Deposit Modelling and Archaeology* (2020).

5.1.2 Pre-commencement

Borehole locations were marked out by a surveyor with a Leica GS07. Prior to groundbreaking in each area, service plans were checked and coring locations scanned using a CAT4+ and Genny to ensure that groundworks were conducted safely. Works were undertaken in accordance with landowner agreements, and a photographic record of pre-commencement ground conditions was taken of each area and access points prior to commencement in that area.

The precise locations for drilling were determined by the geoarchaeologist in the field, and any changes of location surveyed in.

5.1.3 Coring methodology

The outline location of all boreholes have been agreed with the consultant, Martyn Cooper of Mott MacDonald (See Figure 3). These have been determined on the basis of achieving a sufficient spread of cores to characterise the sedimentary sequence within the coring area, including the targeting of known or suspected palaeochannels. These have been identified through the desk-based assessment undertaken by AMS (Lancaster 2023). A few core locations were changed slightly in order to avoid both overhead and buried services, though where these were targeting a feature best endeavours were made to still core that feature. The cores are summarised in Table 1.

Work at each boring location commenced with the excavation a narrow hand dug spade pit dug to a depth of 1.2m at the coring location to ensure no buried services were present. The hand excavation was undertaken under archaeological supervision, with the spoil being checked for artefacts as well as being geoarchaeologically recorded.

Boreholes were drilled with an appropriate scale rig, from the current ground surface to the top of the underlying bedrock geology or refusal. The type of rig used varied according to availability and suitability for the predicted sediment sequence. Sediment cores were recovered either in plastic liners (percussion and rotary rigs) or by continuous feed into sample trays. Continuous cores were taken as

far as possible through the deposit sequence. The cores were approximately 100mm in diameter, though narrower cores were retrieved where deposit density or stoniness prevented the use of a 100mm diameter cutting edge: this generally occurred in the lower gravel deposits. The number of cores and a record concerning the level of recovery that was observed was made on site by the attending geoarchaeologist.

5.1.4 Recording

While it was originally envisaged that detailed recording of cores would occur off-site, the pace of coring was such that it was practical to record all cores on-site, with only sub-samples being retained.

The units of the sedimentary sequence recorded in each core were described following the principles established by the Soil Survey of England and Wales (Hodgson 1976), suitably modified for geoarchaeological work. Characteristics described include matrix colour and colour variation, soil texture, including the presence and character of coarse and very coarse clasts, which may include components such as stone, ceramic, wood and bone, deposit structure and degree of structural development, and lower boundary form and distinctiveness.

The photographic record is by digital photography, consisting of detailed photographs of individual cores and overlapping core sections to ensure sufficient detail and resolution. Images of at least 10MPx will be generated and will be of sufficient quality and in non-proprietary formats to ensure they are suitable for archive purposes.

All cores were checked for possible artefacts after full description.

A limited number of sediment sub-samples have been taken, as well as environmental material and possible artefacts. These are outlined below.

5.1.5 Deposit Modelling

The descriptions of the separate deposit units have been categorised according to their lithological characteristics, such as texture class and organic content. The depths of the units within each category have been entered into GIS in order to produce transects showing the variation in altitude and thickness of the different deposit categories, and to model by interpolation the surfaces of these units.

6 Results

6.1 Summary

Thirty eight borehole locations were investigated, thirty three within available sections of the main floodplain area and five (Boreholes ABH28-32) in the Kelham area. Borehole location ABH 29 was only investigated by hand excavation, as comparison to Borehole ABH28 indicated that the location was not within the potential palaeochannel, but was within the area of the Holme Pierrepoint Terrace sands and gravels. Boreholes ABH 4, 5, 7, 8, 10, 15, 16 and 22 did not reach bedrock before obstruction or borehole collapse: in all cases the gravel deposits were attained.

Transects of selected boreholes have been prepared for the length of the floodplain area that was cored (Transect 1, Figure 6) and crossing this in the southern part of the proposed scheme where there has been the greatest spread of borehole locations (Transect 2, Figure 7).

Possible finds were recovered from ABH 6, 3.56-3.90 M BGL, in the form of a possible flint core, and ABH 21, 4.10 M BGL, in the form of a possible flint flake.

Wood was recorded from ABH 10, 2.72M BGL and ABH 14 4.58-4.62 M BGL, in these cases as part of gravel deposits, and in ABH 23, 6.99-7.15 M BGL, incorporated as finely comminuted fragments within an organic silt deposit.

For ease of description the geoarchaeological works are divided into three areas: the southernmost area, bounded by the current course of the Trent and the Old Trent Dyke (Areas 2, 3 and 6), the section of the proposed development between the Nottingham to Lincoln Line and the Great North Road and A46 Roundabout, and the proposed flood compensation area around Kelham.

The full descriptions of the boreholes are given in Appendix 1.

6.2 Trent to Old Trent Dyke

Area 2 (Boreholes ABH 1-6), Area 3 (Boreholes ABH 7-9) Area 6 (Boreholes ABH 10-16, 33-35) (Figures 6 and 7).

Within this area the majority of the boreholes reached the top of the bedrock, which in all cases was Mercia Mudstone. All the boreholes at least penetrated the top of the sands and gravels. All the locations recorded mainly fine grained (with occasional coarser grained) mineral alluvial deposits. There were deposits of organic deposits, consisting of minerogenic sediments with an organic component, rather than being organic sediments such as peat (Table 3). The organic component appears low in many of these deposits, and the deposits are generally rather thin. Of these organic deposits, six were located where LiDAR data indicated the potential presence of a palaeochannel or

associated fluvial landform in the floodplain (ABH 9, 14, 35). In contrast three organic deposits were in borehole locations not indicated as being in palaeochannels (ABH 2, 4, 10). Six other suspected palaeochannels in this area that were targeted for coring did not produce organic deposits (ABH 3, 8, 9, 15, 33, 34)

Table 2 Borehole results summary Trent and the Old Trent Dyke

BH ID	Easting	Northing	Elevation (m OD)	Total Depth	Bedrock (m bgl)	Bedrock (m OD)	Sand and Gravel (m BGL)	Sand and Gravel (m OD)
ABH01	477764.067	352954.993	11.10	6.20	6.08	5.02	2.75	8.35
ABH02	477989.98	352906.026	11.09	6.20	6.20	4.89	1.87	9.22
ABH03	477874.879	353257.956	11.11	7.20	6.80	4.31	0.90	10.21
ABH04	477814.05	353426.002	11.44	4.00	-	-	3.82	7.62
ABH05	477940.97	353260.017	11.31	2.00	-	-	1.45	9.86
ABH06	478048.019	353068.026	10.87	6.12	6.12	4.75	2.22	8.65
ABH07	478057.488	353153.448	10.88	3.00	-	-	1.18	9.70
ABH08	478092.958	353363.984	10.56	3.00	-	-	1.15	9.41
ABH09	478160.971	353479.002	10.33	4.40	4.40	5.93	1.79	8.54
ABH10	478199.025	352944.96	10.87	3.00	-	-	2.33	8.54
ABH11	478385.995	353114.896	11.05	7.50	5.70	5.36	1.60	9.45
ABH12	478482.955	353342.006	10.79	6.00	5.20	5.59	2.00	8.79
ABH13	478471.932	353509.009	10.64	4.20	4.05	6.59	1.74	8.90
ABH14	478301.245	353531.19	10.08	6.20	5.75	4.33	2.71	7.37
ABH15	478268.967	353189.943	10.43	9.08	9.08	1.35	1.61	8.82
ABH16	478139.073	353017.532	10.85	2.00	6.08	5.02	1.35	9.50
ABH33	478291.93	353332.973	10.34	6.00	4.50	5.84	9.34	3.50
ABH34	478472.034	353246.045	10.63	6.00	4.50	6.13	9.13	3.00
ABH35	478288.948	353357.031	10.21	4.50	3.68	6.53	7.91	1.38

Table 3 Borehole results – organic deposits summary, Trent and the Old Trent Dyke

BH ID	Easting	Northing	Organic Deposit Top (m BGL)	Organic Deposit Base (m BGL)	Description
ABH02	477989.98	352906.026	1.83	1.87	Organic silt
ABH04	477814.05	353426.002	3.74	3.82	Organic silt
ABH09	478160.971	353479.002	1.70	1.79	Organic silt
ABH10	478199.025	352944.96	1.48	2.00	Organic silt
ABH14	478301.245	353531.19	2.16	2.71	Organic silt
ABH35	478288.948	353357.031	1.45	2.30	Organic silt

6.3 Nottingham to Lincoln Line to the Great North Road and A46 Roundabout

Area 7 (Boreholes ABH36-38), Area 8 (Boreholes ABH17-18), Area 9 (Borehole ABH19), Area 10 (Borehole ABH20), Area 11 (Borehole ABH21), Area 12 (Borehole ABH22), Area 14 (Borehole ABH23), Area 14 (Borehole ABH24), Area 16 (Borehole ABH25), Area 18 (Borehole ABH26-27) (Figure 7).

Within this area the majority of the boreholes reached the top of the bedrock, which in all cases was Mercia Mudstone. All the boreholes penetrated the sands and gravels. All the locations recorded mainly fine grained (with occasional coarser grained) mineral alluvial deposits. Organic deposits were observed, mainly consisting of minerogenic sediments with an organic component. The organic component appears low in many of these deposits, and the deposits are generally rather thin, usually being less than 0.5m, and in many cases 0.1m or less. In contrast with the findings of the geotechnical monitoring work, the proportion of cores containing organic sediments is higher than the preceding area (Table 5). Of these organic deposits, three were located where LiDAR data indicated the potential

presence of a palaeochannel or associated fluvial landform in the floodplain (ABH 17, 25, 38) (Malone and Stein 2015). In contrast four organic deposits were in borehole locations not indicated as being in palaeochannels (ABH 18, 23, 24, 27). Two other suspected palaeochannels in this area that were targeted for coring did not produce organic deposits (ABH 26, 37).

Table 4 Borehole results summary Nottingham to Lincoln Line to the Great North Road and A46 Roundabout

BH ID	Easting	Northing	Elevation (m OD)	Total Depth	Bedrock (m bgl)	Bedrock (m OD)	Sand and Gravel (m BGL)	Sand and Gravel (m OD)
ABH17	478907.043	354434.968	10.21	7.50	6.50	3.71	4.30	5.91
ABH18	478798.999	354383.981	10.34	7.50	6.70	3.64	3.13	7.21
ABH19	478906.721	354434.991	10.16	9.00	8.20	1.96	1.50	8.66
ABH20	478896.031	354513.999	10.26	11.05	11.05	-0.79	1.76	8.50
ABH21	478991.743	354520.792	10.08	9.70	9.42	0.66	1.58	8.50
ABH22	479134.966	354587.96	10.01	9.08	9.08	0.93	1.60	8.41
ABH23	479039.99	354430.673	10.24	8.72	8.58	1.66	2.45	7.79
ABH24	479178.017	354519.992	10.11	11.2	11.17	-1.06	1.97	8.14
ABH25	479336.953	354583.991	9.60	9.70	9.45	0.15	2.93	6.67
ABH26	479359.972	354763.988	9.46	8.20	7.30	2.16	1.92	7.54
ABH27	479606.963	354766.005	9.60	10.00	9.80	-0.20	4.30	5.91
ABH36	478428.664	353989.812	10.25	6.00	5.50	4.75	2.20	8.05
ABH37	478577.982	354096.853	10.04	6.00	5.10	4.94	2.10	7.94
ABH38	478670.161	354210.906	9.86	6.00	5.60	4.26	2.75	7.11

Table 5 Borehole results – organic deposits summary, Nottingham to Lincoln Line to the Great North Road and A46 Roundabout

BH ID	Easting	Northing	Organic Deposit Top (m BGL)	Organic Deposit Base (m BGL)	Description
ABH17	478907.043	354434.968	2.55	4.30	Organic silt
ABH18	478798.999	354383.981	2.35	3.17	Organic silt
ABH23	479039.99	354430.673	2.40	2.45	Organic silt
			6.99	7.15	Organic silt
ABH24	479178.017	354519.992	1.30	1.40	Organic silt
ABH25	479336.953	354583.991	2.15	2.93	Organic silt
ABH27	479606.963	354766.005	2.79	2.89	Organic silt
ABH38	478670.161	354210.906	2.05	2.75	Organic silt

6.4 Kelham

Area 48 (Borehole 28-29), Area 51 (Borehole 30-32) (Figure 3).

The boreholes at Kelham were intended to locate and sample branching palaeochannels. Four of the boreholes reached the upper surface of the underlying bedrock (Mercia Mudstone). Borehole ABH 28 was not completed as it was evident that the sequence uncovered was the terrace gravels, which were completely recovered in Borehole ABH 29, rather than a palaeochannel fill. The sequence in Borehole ABH 29 is consonant with the gravel terraces of the Holme Pierrepoint Sands and Gravels formation.

A single core (ABH 31) containing a thin layer of silty humified peat (0.40-0.75m) was recorded. This overlay a number of units of well sorted sand. The hand excavated pit of the initial borehole observed the peat layer, but was not possible to easily sample. A core was taken next to the hand dug pit, but recording this indicated that there was a significant degree of compression in the mechanically bored core. The coring results in Boreholes ABH 30 and 32 indicate no surviving organic deposits in these areas of the palaeochannels, and that the clearly attributable palaeochannel deposits are relatively shallow.

Table 6 Borehole results summary, Kelham

BH ID	Easting	Northing	Elevation (m OD)	Total Depth	Bedrock (m bgl)	Bedrock (m OD)	Sand and Gravel (m BGL)	Sand and Gravel (m OD)
ABH28	476847.005	355405.974	11.73	10.50	9.75	1.98	0.40	11.33
ABH29	476792.995	355297.932	11.64	1.20	-	-	0.35	11.29
ABH30	476768.921	355100.024	11.88	9.00	8.10	3.78	0.40	11.48
ABH31	476740.024	354986.98	10.98	7.50	6.50	4.48	0.85	10.13
ABH32	476758.947	354920.968	11.14	7.50	6.50	4.64	0.80	10.34

7 Modelling

7.1 Introduction

Using the available data, modelled surfaces of both the mudstone bedrock (Figure 4) and sand and gravel (Figure 5) have been produced. The data used for the surface modelling includes both the data from the geoarchaeological coring previously reported (AMS May 2023) and data generated by York Archaeology while monitoring geotechnical investigations for the proposed scheme (Lowther and Keyworth 2022). Additionally two transects have been produced, Transect One (Figure 6) covering the full length of the geoarchaeological coring work undertaken by AMS, and Transect Two (Figure 7) using a different orientation to demonstrate the deposit sequence over wider area of the footprint of the proposed scheme towards its southern end.

Surfaces have been modelled using the data set with the most information for each surface: as more of the geotechnical and geoarchaeological interventions attained the top of the sands and gravels than the top of the bedrock, the sands and gravel surface model is based on a greater number of data points.

7.2 Results

Viewed in conjunction with the transects (Figures 4-7) it can be seen that the elevation of the sand and gravel surface and the mudstone are somewhat correlated, though there is considerable variability, particularly towards the southern part of the proposed scheme footprint in Areas 2, 3 and 6. The correlation with modern surface elevations appears to be weaker. The monitoring report on the geotechnical investigations notes that the mudstone bedrock appears not to have been truncated by the construction of the current A46 Bypass embankment (Lowther and Keyworth 2022).

By contrast, the soft alluvial sediments and sands and gravels have been truncated within the areas of the embankment of the current A46, but not beyond (Lowther and Keyworth 2022). The results of the geoarchaeological coring would appear to confirm this conclusion.

The northern edge of the floodplain can be seen on the modelled bedrock surface. Shallower elevations occur further south, in the area of the Old Trent Dyke as well as at the Great North Road / A46 roundabout, and at the northern extent of the floodplain. It is possible that fluvial lateral reworking of the sands and gravels in addition to incision has resulted in truncations to the mudstone surface in the Old Trent Dyke area. The mudstone surface appears to be largely undisturbed, as seen across the transects. Notably low bedrock elevations have been recorded near the Great North Road / A46 roundabout. The reason for this remains uncertain and may possibly represent a former area of the River Trent. In both the modelling undertaken for the programme of works reported here and the

earlier monitoring works the interpolated modelled surface exceeds the recorded depths of the bedrock, potentially indicating the presence of a modelling artefact. A noted in the geotechnical monitoring report, there appears to be a depression towards the northern edge of the floodplain, where organic deposits were previously recorded. This may represent a former channel of the Trent itself (Lowther and Keyworth 2022).

The previous investigations identified a number of areas of lower elevation for the sand and gravel surfaces. These mainly consisted of the area near to the Old Trent Dyke, the area close to the junction of the Great North Road and the A46, and areas at the northern edge of the floodplain (Lowther and Keyworth). The modelling undertaken with the geoarchaeological coring results incorporated has generally confirmed this for the areas where coring was undertaken. Within the area relating to the Old Trent Dyke this has been interpreted as resulting from the lateral movement of the channel, which can be related to the ridge and swale pattern of palaeochannels identified in LiDAR imagery (Malone and Stein 2015) (Figure 3.2-3.3). A possible additional swale channel may have been identified during coring (See Discussion). The area of lower lying elevation related to the Great North Road / A46 roundabout is likely to originate with the depression the underlying bedrock, noted above. The depressions in the sand and gravel sub-surface shown at the northern extent of the floodplain are probably related to a previous course of the Trent (Lowther and Keyworth 2022).

8 Discussion

8.1 Overview of Deposit Sequence

The geoarchaeological DBA has identified two main facies within the floodplain area, Holocene alluvial deposits and Pleistocene alluvial deposits. The potential for palaeochannel deposits, which would form a third minor facie or sub-facie has also been noted (Lancaster 2023). Within the Kelham area geological mapping and LiDAR data indicates the presence of the Holme Pierrepoint Sands, and potentially palaeochannel deposits, likely to be similar enough in character to be classified as the same sub-facie as those in the floodplain area.

Underlying the Quaternary deposit sequences both within the floodplain area and at Kelham is bedrock of the Mercia Mudstone Group. The depth of the surface of the bedrock varies, probably largely in response to the long term changes in the incised and aggrading Trent floodplain south and east of Newark, rising at the edge of the floodplain to the north of Newark.

Further research on the known sedimentary sequences of the middle Trent and discussions with Andy Howard have led to a re-categorisation of the facies.

The Pleistocene alluvial deposits are now categorized as alluvial sands and gravels. While the lower part of these deposits largely date to the Pleistocene, reworking of the gravel terraces that border the floodplain is thought to have occurred: geological mapping of the area divides into two main units, The Holme Pierrepoint Sands and Gravels dating to the later Pleistocene and the Hemington Member, formed of the reworked Pleistocene deposits during the Holocene. While large exposures of these sands and gravels, such as may be found in a gravel quarry, may allow these Pleistocene and Holocene deposits to be identified on the basis of the larger scale structural features that may be observed and matched to the precise formation processes thought to be in operation at different periods, these features cannot be identified by coring (A. Howard per comm).

Table 7 Facies 2 Sands and Gravels

Facies measurement	Top of Facies M AOD	Top of Facies M bgl	Facies Thickness M
Mean	1.87	8.71	4.93
Max	3.82	11.48	9.29
Min	0.35	5.91	0.85

The Holocene alluvial deposits are now categorised as the Holocene alluvial soft sediments: these consist largely of silts and clays, though limited thicknesses of soft sands, potentially associated with lateral meander migration are also included within this unit. The silts and clays are consonant with deposition by overbank flooding.

Table 8 Facies 1 Holocene Soft Sediments

Facies measurement	Top of Facies M AOD	Top of Facies M bgl	Facies Thickness M
Mean	10.15	0.33	1.66
Max	11.04	0.40	3.42
Min	9.21	0.20	0.45

Organic deposits have been observed in various cores taken in the flood plain area: these are generally associated with palaeochannels and associated features.

The other organic deposits from the flood plain area are summarised below

Table 9 Sub-Facies Organic Deposits

Facies measurement	Top of Facies M AOD	Top of Facies M bgl	Facies Thickness M
Mean	8.17	2.20	0.50
Max	9.26	3.74	1.75
Min	6.81	0.4	0.08

All these deposits were minerogenic sediments with an organic component, rather than being organic sediments such as peat. The organic component appears low in many of these deposits, and the deposits are generally rather thin. Of these organic deposits, six were located where LiDAR data indicated the potential presence of a palaeochannel or associated fluvial landform in the floodplain (ABH 9, 14, 17, 25, 35, 38). In contrast seven organic deposits were in borehole locations not indicated by LiDAR data as being in palaeochannels (ABH 2, 4, 10, 18, 23, 24, 27). Detailed consideration of the logs from these boreholes allows the tentative identification of the organic deposits in Boreholes ABH 10, 18 and 27 as being deposits in previously unidentified palaeochannels. The basal form of the units

and the underlying mineral deposits (generally well sorted sands) are consonant with deposition in a palaeochannel. The location of Borehole ABH 10 in the close vicinity of the current main channel of the Trent increases the probability that the identification of the location as being that of a palaeochannel is correct. The location of Borehole ABH 18 would also be consistent with the known set of ridge and swale features to the west, which appear to form a series of channel/oxbow lake features associated with the Old Trent Dyke (Figure 3). The evidence from the other borehole logs is not as readily interpretable, but it is more likely that the organic deposits in Boreholes ABH 2, 4, 23 and 24 represent either localised thin layers of organic silts deposited during overbank flooding, or shallow wetter locations where organic plant material decayed more slowly, in both cases being preserved by being covered by subsequent overbank flooding.

At Kelham a single core (ABH 31) containing a thin layer of silty humified peat (0.40-0.75m) was recorded. The hand excavated pit of the initial borehole observed the peat layer, but was not possible to easily sample. A core was taken next to the hand dug pit, but recording this indicated that there was a significant degree of compression in the mechanically bored core. Boreholes ABH 28, 29, 30, 31 and 32 were positioned to attempt to sample palaeochannels. Boreholes ABH 28 and 29 were through sands and gravels that are consonant with the Holme Pierrepoint Sands and Gravels rather than palaeochannel fills, indicating the edge of channel lies further to the west, possibly under the current woodland. The coring results in Boreholes ABH 30 and 32 indicate no surviving organic deposits in these areas of the palaeochannels, and the that the clearly attributable palaeochannel deposits are relatively shallow.

9 Significance and Potential Impacts

Just under half of the palaeochannels identified from map sources and LiDAR were found to have organic sediments, and those that do have generally thin deposits, frequently with relatively low organic content, and sediment types that are unlikely to preserve good high resolution sequences of environmental material such as pollen or plant macrofossils as a result of mixing during deposition. The presence of potential palaeochannels that have not been detected by LiDAR has been discussed. The organic deposits associated with Borehole ABH 27 are not of great thickness, and appear to have a low organic content, indicating that there would be little palaeoenvironmental potential within these deposits. By contrast, the organic deposit sequences in Borehole ABH 10 and 18 have reasonable thicknesses and preservation of organic matter, which would allow sampling and assessment for palaeoenvironmental remains. The greatest potential of the palaeochannels in general is mainly limited to understanding their spatial relationships with any archaeological remains in their proximity, particularly if it is possible to date them with any precision. Those elements of the palaeochannels that lie within the footprint of the scheme works would probably be partially or fully removed, but would for the most part form only part of each palaeochannel. The exception would be the palaeochannels within Areas 2, 3 and 6, where some palaeochannels would be completely removed and more substantial proportions of a palaeochannel complex would be removed. However, the organic sediment content of these channels is generally limited, so the potential loss of palaeoenvironmental information would also be limited. The main possible exception are the organic deposits in Boreholes ABH 10 and 18, which have the potential to contain sufficient well preserved palaeoenvironmental material to enable palaeoecological analysis and dating. The possible extent of these deposits are unknown, as they do not relate to features traceable from the available LiDAR data. These deposits are relatively deeply buried, and the potential for impacts would be highly design dependent, but direct impacts might include partial truncation, complete removal, or compression/distortion due to increased loading resulting from construction of an embankment over the location. Changes to drainage caused by the proposed development may impact the preservation of organic sediments.

The degree of oxidation of the Holocene soft sediments is quite variable, with signs of reducing conditions occurring between 0.70m to 6.15m. The frequently recorded mottling in these deposits further indicates that the groundwater levels may be quite variable. This would suggest that organic preservation within these sediments is likely to be relatively poor outside of the palaeochannel deposits, though there may be limited potential for preservation of organic archaeological material in the lower parts of these sediments.

The sands and gravels only contained a single organic sediment sequence (BH18) within them, suggesting the palaeochannel deposits that would preserve organic material are unlikely to be encountered in these deposits.

The sands and gravels will not in themselves preserve sequences of organic material that may be of use in palaeoenvironmental analysis. A limited amount of fragmentary wood has been noted in two boreholes in this facies, indicating the potential for wood to be preserved elsewhere in this facies, potentially including structural or artefactual wood. The wood recovered so far is fragmentary and has clearly undergone significant water transport, so the dating potential is limited.

The channel at Kelham has preserved less organic material than expected, but is still of some value. The proposed works would remove a limited proportion of the palaeochannel. The ground reduction may, however, lower the local water table further, potentially accelerating the oxidation and decay of the peat deposit found in the palaeochannel (ABH 31).

10 Recommendations

Given the current state of preservation and depth of the majority of the palaeochannels identified by LiDAR, the most archaeologically useful information would probably be derived from the evaluation trenching work which can be used to more precisely establish channel width, channel fill forms and processes of deposition, and form and spatial relationships with archaeological features in the vicinity. The more extensive sections available would also allow for more detailed deposit description and sampling for at least the upper deposits. This approach should also be employed with the palaeochannel at Kelham, in the vicinity of ABH31. Sampling from a trench section would allow the peat deposit to be sampled without the problem of sample compression that was observed in coring.

For this approach to yield the most valuable results it would be best for dates to be obtained from the palaeochannels. The nature of channel depositional processes, and the potential input sources of organic material means that organic materials carry a potential for reworking. Through consultation with Kris Krawiec of York Archaeology the following approach to dating the palaeochannels has been formulated. In order to understand the formation processes of the organic deposits pollen assessment of selected samples would be used. Assessment of both the range of pollen types and the state of preservation, in particular traces of re-working and sediment transport in the form of grain crumpling and abrasion, would be used to identify whether deposits were suitable for dating. Where suitable deposits are identified, radiocarbon dating could be undertaken. As noted above, the evaluation trenching will allow the opportunity to investigate palaeochannels: in addition to more detailed recording of sedimentary features and sampling for radiocarbon dating, suitable sand deposits within the palaeochannel fills could also be sampled for Optically Stimulated Luminescence (OSL) dating. Suitable exposed sections of paleochannel deposits could be relatively easily sampled in opaque metal or plastic tubing to enable the deposition of sediments to be directly dated.

The previous work undertaken in the area took a number of samples. It was recommended that these should be subject to radiocarbon dating and assessment for plant macrofossil remains (Lowther and Keyworth 2022). It is suggested that this recommendation should be followed through, using a formally structured approach, with pollen assessment being used as described above prior to undertaking radiocarbon dating and plant macrofossil assessment. This will depend on the condition of the samples. Recent consultation with York Archaeology suggests that these samples are probably in a viable condition for this work to be undertaken. These samples are listed in Table 4:

Table 4: Samples recommended for further assessment from the 2022 Ground Investigations Monitoring

GI ID	Depth of Sample (M bgl)	Sampled Deposit	Recommended Assessment
BH03	1.84-2.00	Organic clay	Pollen, C14, ?plant macrofossils
BH03A	1.45-1.55	Organic clay silt with observable plant macrofossils	Pollen, C14, ?plant macrofossils
BH35	7.70-7.85	Preserved organic material	Pollen, C14, bulk
TP05	1.60-2.10	Organic laminated silt clay	Pollen, C14, ?plant macrofossils
WS28	2.90-300	Organic clay deposit	C14, ?plant macrofossils

A number of organic deposits have been sampled: the following are recommended for further assessment.

Table 5: Samples recommended for further assessment from geoarchaeology coring

Borehole ID	Depth of Sample (M bgl)	Sampled Deposit	Recommended Assessment
ABH 10	1.30-1.32	Organic silt	Pollen - C14
ABH 10	1.88-1.89	Organic silty sand	Pollen - C14
ABH 10	2.71	Wood fragment (gravel)	C14
ABH 14	4.58	Wood fragment	C14
ABH 17	2.55-4.30	Organic silt and clay	Pollen - C14
ABH 18	2.34-3.11	Organic clay silt	Pollen - C14
ABH 23	6.99-7.15	Organic silt	Pollen - C14, ?plant macrofossils
ABH 25	2.15-2.37	Organic silt	Pollen - C14, ?plant macrofossils

As noted in 8.1, coring cannot distinguish between the depositional processes that have emplaced the sand and gravel deposits found across the floodplain. Recording of more fully exposed sections would permit this. While may be relatively few opportunities to do this across the floodplain, the excavation of the proposed borrow pits would allow such an opportunity. It is therefore recommended that where safe access can be arranged an experienced geoarchaeologist or quaternary geologist should undertake detailed descriptions of suitable sections should these become available during the excavation of the borrow pits for the scheme.

References

Chartered Institute for Archaeologists. 2010, amended 2014. Standard and guidance for archaeological field evaluation. [online]. Available https://www.archaeologists.net/sites/default/files/CIfAS&GFieldevaluation_1.pdf [Accessed 20 March 2023].

Historic England, 2015 Geoarchaeology. Using Earth Sciences to Understand the Archaeological Record.

Historic England, 2020 Deposit Modelling and Archaeology Historic England Guidance Series, HEAG272, Swindon.

Hodgson, J., 1976. Soil Survey Field Handbook. Soil Survey Technical Monograph 5. Harpenden: Rothamstead Experimental Station.

Lancaster, SJ. 2023a. Regional Delivery Partnership A46 Newark Bypass. Geoarchaeological Desk Based Assessment. Unpublished report prepared by AMS for National Highways.

Lancaster, SJ. 2023b. A46 Newark Bypass. Written Scheme of Investigation for Geoarchaeological Coring. Unpublished report prepared by AMS for National Highways.

Lowther, R, and Keyworth, T. 2022. A46 Newark North Bypass, Newark, Nottinghamshire. Archaeological and Geoarchaeological Monitoring of Ground Investigations. Unpublished report prepared by York Archaeology for TetraTech.

Malone, S., and Stein, S. 2015 *Enhancing the Paleaochannel Database of the Trent Catchment*. Stage 1 Nottinghamshire Pilot Study.

11 Appendix 1

Table A1: Core 1

Rotary, SL

Depth (M BGL)	Unit Description
0-00-0.38	Dark yellow brown sandy silt loam, weakly developed crumb to massive structure. Lower boundary flat, clear.
0.38-2.34	Yellow brown to grey brown with yellow brown reticulated mottles. Sandy clay loam, weakly to moderately developed crumb. Transitions to grey at 1.65m. Frequent ferro-organic nodules, 3-4mm. Lower boundary flat, clear to diffuse.
2.34-2.49	Mid to dark grey soft organic silty clay. Fine rippled laminar structure. Lower boundary flat, sharp.
2.49-2.75	Dark grey to grey brown organic silt. Fine rippled laminar structure. Rare laminae of sand (1-2mm), pockets of silty sand, concentrated at the base of unit, interleaved with organic fragments.
2.75-3.05	Dense buff sandy gravel. Clasts sub-rounded to rounded, 5-45mm, randomly distributed and oriented.
3.05-3.40	No recovery.
3.40-3.51	Buff grey slightly silty sandy gravel. Gravel concentrated to top. Clast sub-rounded to rounded, 12-25mm, , randomly distributed and oriented. Lower boundary flat, sharp.
3.51-3.62	Gravel, bi-phasic sizes: sub-rounded to rounded, 20-60mm and rounded 5-7mm, distributed in pockets. Lower boundary flat, clear.
3.62-4.08	Yellow brown sandy gravel, with grit in sand. Gravel, sub-rounded to rounded, 10-20mm. Lower boundary flat, clear.
4.08-4.20	Yellow brown loose gritty gravel. Gravel sub-rounded to rounded, 15-40mm.
4.20-4.50	Yellow brown sandy, gritty, gravel. Clasts sub-rounded to rounded, 30-70mm. Clast distribution and orientation random. Lower boundary flat, sharp.
4.50-4.66	Yellow sandy gravel. Clasts sub-rounded to rounded, 15-20, weak horizontal orientation. Lower boundary flat, sharp.
4.66-4.78	Yellow orange brown gravel, sub-rounded to rounded, 7-22mm. Clast distribution and orientation random. Lower boundary flat, clear to sharp.
4.78-5.20	Yellow orange brown gritty gravel. Clasts sub-rounded to rounded, 10 (25) – 40mm, weak horizontal orientation. Gravel coarsens with depth (35-55mm).
5.20-5.70	No recovery.
5.70-5.85	Loose pebbles and gravel, sub-angular to rounded, 20-70mm. Lower boundary flat, clear.
5.85-6.00	Red brown sandy gravel. Clasts sub-rounded to rounded, 20-40mm. Clast distribution and orientation random. Lower boundary flat, sharp.
6.00-6.08	Red brown banded medium sand. Lower boundary flat to undulating, diffuse.
6.08-6.20+	Red and grey weathered mudstone.

Table A2: Core 2

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.36	Dark yellow brown clay silt loam. Weakly to moderately developed fine blocky structure. Lower boundary flat, clear.
0.36-1.77	Grey brown sandy silt loam, with yellow brown reticulated mottling. Weakly developed crumb to fine blocky structure. Transitions to silty sand with depth. Colour changes to grey at 1.54m. Massive structure. Lower boundary flat, sharp.
1.77-1.83	Grey silt sand, with 10mm of well sorted medium sand at top of unit. Massive structure. Lower boundary flat, sharp.
1.83-1.87	Grey slightly organic clay silt, fine rippled laminar structure. Lower boundary flat to slanted, clear.
1.87-1.94	Buff yellow coarse sand, massive structure. Lower boundary flat, sharp.
1.94-2.07	Buff grey medium sand, with grey clay silt laminae (1.96m, 7mm thickness, 2.00m, 15mm thickness, 2.03 20mm thickness). Lower boundary flat, sharp.
2.07-2.20	Grey sandy gravel, clasts 10-35mm, sub-angular to rounded. Distribution and orientation random. Silt at the top of the unit.
2.20-2.65	No recovery.
2.65-2.74	Grey sandy gravel, clasts 10-35mm, sub-angular to rounded. Distribution and orientation random. Lower boundary flat, sharp.
2.74-2.96	Yellow brown well sorted medium to coarse sand. Massive structure. Lower boundary flat, clear.
2.96-3.07	Yellow brown gravelly sand. Clasts sub-angular to rounded, 10-25mm, concentrated to top of unit. Lower boundary flat, clear.
3.07-3.20	Yellow brown sandy, gritty, gravel. Grit sub-angular to sub-rounded 4-7mm, gravel, sub-rounded to rounded 10-25mm. Recovery loose, distribution and orientation random.
3.20-4.50	No recovery.
4.50-4.70	Buff yellow gravelly medium-coarse sand. Clasts sub-rounded to rounded 10-20mm. Massive structure. Lower boundary flat, sharp.
4.70-4.98	Dense, slightly sandy gravel. Clasts sub-rounded to rounded, 15-50mm. Lower boundary unclear (loose recovery).
4.98-5.04	Gravel/pebbles, sub-rounded to rounded, 40-65mm.
5.04-5.20	No recovery.
5.20-6.20	Corer lost – driller description indicates bedrock reached.

Table A3: Core 3

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.30	Dark yellow brown humic slightly sandy silt loam. Weakly developed crumb structure. Lower boundary flat, clear to diffuse.
0.30-0.90	Red brown to grey brown sandy clay loam to sandy silt loam. Weakly to moderately developed crumb structure. Rare manganese nodules (3-5mm) and very rare coal fragments (2-3mm).
0.90-1.85	Yellow brown slightly silty medium sand, becoming coarser from 1.55m. Frequent aggregates of manganese nodules, particularly dense 1.60-1.72m. Lower boundary flat, sharp.
1.85-2.10	Yellow to orange brown banded coarse sand, with band of buff clay sand 1.85-1.89m and grey silty clay sand 1.99-2.02m, both with ripple/fine laminar structure. Frequent bands of dark orange brown to black sand, often over clayey bands. Lower boundary flat, sharp to clear.
2.10-2.20	Dark yellow – orange brown coarse slightly gritty sand. Massive structure.
2.20-2.70	Poor recovery. Yellow brown sand, rare sub-angular to rounded clasts, 5-7mm.
2.70-3.20	Yellow brown sands and gravels, clasts sub-rounded to rounded, 15-50mm, possible bands/pockets of sandy clay.
3.20-4.35	No recovery
4.35-5.10	Yellow brown dens sandy gravel. Clasts 15-55mm, sub-rounded to rounded, randomly distributed. Massive structure. Band of gravel, 10-20mm, well packed.
5.10-5.42	No recovery.
5.42-5.53	Yellow brown coarse sand and gravel, loose consistency. Clasts 10-30mm sub-rounded to rounded. Lower boundary flat, clear.
5.53-5.57	Yellow brown sandy gravel. Gravel dense. Clasts 20-50mm, sub-rounded to rounded. Possible horizontal orientation/imbrication. Lower boundary flat, sharp.
5.57-6.04	Yellow brown coarse sand and gravel, loose consistency. Clasts 10-30mm sub-rounded to rounded. Lower boundary flat, clear.
6.04-6.15	Yellow brown gravel, clasts 7-40mm, sub-rounded to rounded. Lower boundary flat, sharp.
6.15-6.20	Grey soft clay silt to clay silt loam. Ripple/fine laminar structure.
6.20-6.80	No recovery.
6.80-7.20	Poor recovery. Blue grey heavily weathered mudstone.

Table A4: Core 4

Percussive, SL

Depth (M BGL)	Unit Description
0.0-0.40	Dark yellow brown humic clay silt loam. Weakly developed crumb structure. Rare clasts consisting of ceramic drain and modern pottery fragments. Lower boundary flat, clear.

Depth (M BGL)	Unit Description
0.40-1.70	Red brown clay silt loam, with more clay and sand than unit above. Weakly to moderately developed crumb structure. Clast free. Greyer with depth, (from 0.6m) still abundant reticulated yellow brown mottling. Structure trends to massive with depth. Manganese nodules from 1.2m, mostly occasional, locally frequent with diffuse manganese mottling. Lower boundary flat, diffuse. No recovery 1.0-1.2m.
1.70-2.80	Yellow grey brown silt clay. Stone free. Increase in sand with depth. Massive to weakly developed block structure. Occasional manganese nodules, 2-3 mm. Lower boundary flat, clear. No recovery 2.0-2.40m.
2.80-3.30	Grey brown clay silt with occasional grit, 2-4 mm, sub-angular. Occasional to frequent manganese nodules. Massive structure. Red brown pore centred mottling. Lower boundary flat, clear.
3.30-3.35	Grey clay silt to silt. bands of yellow silt 1-3 mm at 3.44-3.50. Metal fragment at 3.44. Otherwise massive structure. Lower boundary flat, clear.
3.55-3.74	Grey clay silt. Frequent yellow orange diffuse mottling. Massive structure. Lower boundary undulating, clear.
3.74-3.82	Dark grey brown organic silt loam. Finely laminated 1mm. No identifiable plant fragments. Lower boundary undulating, sharp.
3.82-3.88	Mixed layer interleaving unit above and below.
3.88-3.92	Buff coarse to medium sand, massive, Lower boundary flat, sharp.
3.92-4.00	Grey buff sandy gravel poorly sorted, clasts 20-65 mm. Obstruction at 4.00m.

Table A5: Core 5

Percussive, SL

Depth (M BGL)	Unit Description
0.00-0.40	Dark yellow brown humic clay silt loam. Weakly developed crumb structure. Lower boundary flat, clear.
0.40-1.45	Sandy clay loam. Sand content increases with depth. Weakly to moderately developed crumb structure. Clast free. Lower boundary flat, clear.
1.45-1.57	Yellow brown gravelly sand, clasts 5-15mm, sub-angular to sub- rounded. Rare manganese mottling. Massive structure. Lower boundary flat, clear.
1.57-1.80	Yellow orange coarse sand with occasional grit, 2-3 mm. Massive structure. Occasional manganese nodules and mottling. Lower boundary flat, clear.
1.80-1.95	Yellow buff sandy gravel. Clasts rounded, 15-35 mm. Massive structure.
1.95-2.00	No recovery.

Table A6: Core 6

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.38	Dark yellow brown humic clay silt loam. Weakly developed crumb to massive structure. Lower boundary flat, clear

Depth (M BGL)	Unit Description
0.38-0.90	Yellow to red brown sandy clay loam. Weakly to moderately developed crumb structure. Rare manganese nodules, 2-3mm. Lower boundary slanting, diffuse.
0.90-1.59	Yellow orange medium to coarse sand. Occasional bands of dark orange red sand (1.14-1.22m, 1.47-1.49). Lower boundary flat, sharp.
1.59-1.70	Grey sandy silt. Massive structure except for rare pockets of buff grey sand (5-6mm).
1.70-2.12	Red brown coarse sand, rare clasts, sub-rounded, 2-4mm. Sand fines to medium toward base. Lower boundary flat, sharp.
2.12-2.22	Grey sandy silt, rare laminae of buff grey organic silt, 1-2mm. Lower boundary flat, sharp.
2.22-2.33	Grey silty, sandy gravel. Clasts sub-rounded to rounded, 5-30mm, random distribution. Lower boundary flat, sharp.
2.33-2.70	Buff yellow to yellow sandy gravel. Horizontal orientation 2.45-2.54m, random distribution elsewhere.
2.70-3.28	No recovery.
3.28-3.56	Yellow dense sandy gravel. Clasts sub-rounded to rounded, 20-60mm (mainly 40-60mm).
3.56-3.70	Loose gravel, 5-20mm, rounded. Includes possible flint core.
3.70-4.40	No recovery.
4.40-4.70	Coarse gravel and pebbles, clasts 3-12mm, sub-angular to sub-rounded and 20-60mm, sub-rounded to rounded.
4.70-6.12	Gravel and pebbles, 20-60mm, sub-rounded to rounded. Very loose recovery.
6.12+	Heavily weathered mudstone.

Table A7: Core 7

Percussive, SL

Depth (M BGL)	Unit Description
0.01-0.39	Mid to dark yellow brown stiff humic slightly clay silt loam. Weakly developed crumb structure. Lower boundary flat, clear.
0.39-0.69	Mid yellow to red brown slightly silty sand clay. Weakly to moderately developed crumb structure. Frequent yellow to orange reticulated mottling. Rare to occasional heavily impregnated manganese nodules. Lower boundary flat, clear to diffuse.
0.69-1.0	Mid yellow brown sandy clay, transitioning with depth to clay sand. Massive structure. Occasional manganese nodules in top 0.20m of unit.
1.00-1.06	No recovery
1.06-1.18	Yellow brown soft silt clay sand. Massive structure. Rare clasts, rounded, 2-5mm. Lower boundary flat, sharp.
1.18-1.90	Mid yellow brown sandy gravel. Massive structure. clasts rounded to sub-rounded, 10-35mm. Black manganese staining 1.37-1.46.

Depth (M BGL)	Unit Description
1.90-2.25	No recovery
2.25-2.55	Grey yellow brown mid to coarse sand. Lower boundary flat, clear to sharp.
2.55-2.90	Grey yellow brown sandy gravel. Clasts sub rounded to rounded, 5-40mm.
2.90-3.00	No recovery

Table A8: Core 8

Percussive, SL

Depth (M BGL)	Unit Description
0.01-0.40	Mid to dark yellow brown stiff slightly humic clay silt. Weakly developed crumb structure. Occasional grit, sub-angular, 2-3mm. Lower boundary flat, clear to diffuse.
0.40-1.15	Grey brown, slightly sandy clay silt. Abundant reticulated red brown mottling. Weakly developed crumb/fine block structure. Mottling reduces with depth. Rare manganese nodules, 1-2mm. Lower boundary flat, sharp.
1.15-1.45	Grey, turning to orange brown (1.40), coarse to medium sand. Massive structure. Lower boundary flat to gently sloped, sharp.
1.45-1.79	Yellow orange changing with depth to buff, well sorted coarse sand. Rare clasts, rounded, 2-4mm
1.79-1.84	Orange brown sandy gravel. Clasts 3-5mm, rounded. Lower boundary flat, sharp.
1.84-2.00	Yellow brown, gravelly sand. Massive structure, except band of grey fine sand (1.94).
2.00-2.54	Orange and grey sandy gravel. Massive structure. Lower boundary flat, clear.
2.54-2.74	Buff to yellow, well sorted medium sand. Massive structure.
2.74-3.00	No recovery.

Table A9: Core 9

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.38	Mid to dark yellow brown stiff slightly humic clay silt to clay silt loam. Ripple to laminated structure. Occasional grit, sub-angular, 2-3mm. Lower boundary flat, clear to diffuse.
0.38-0.90	Red brown and grey brown mottled clay silt loam. Massive structure. Clasts consists of coal fragments (2-25mm). Lower boundary flat, clear to diffuse.
0.90-1.36	Red brown and grey brown mottled sandy silt loam to silty sand loam. Massive structure. Frequent Manganese nodules, 2-4mm. Lower boundary flat, clear.
1.36-1.58	Buff grey sandy silt. Massive structure. Lower boundary flat, diffuse, grading into unit below.

Depth (M BGL)	Unit Description
1.58-1.70	Buff grey fine sandy clay silt. Occasional lenses of dull orange brown sand, and similar band (25mm thickness) at 1.65m. Lower boundary flat, clear.
1.70-1.79	Grey black clay silt, ripple/laminar structure with rare pockets/lenses of organic silt/heavily humified peat (4-8mm). Lower boundary flat, sharp.
1.79-2.00	Mottled grey/black and buff slightly silty sand. Massive structure, locally laminar (0.5-1mm).
2.00-2.50	No recovery.
2.30-2.89	Medium to coarse sand, black grading through grey (around 2.60m) to yellow brown (around 2.85m). Massive structure.
2.89-2.95	Mixed/poorly recovered mid brown sand and gravel
2.95-3.53	No recovery.
3.53-3.92	Grey to yellow brown sand, with rare pockets of dark grey silty sand. Massive structure. Sand content becomes coarser around 3.70m and finer around 3.80m.
3.92-4.00	No recovery.
4.00-4.40	Poor recovery – loose gravel/cobbles, 20-80 mm. No sand. Concentration of finer gravel at base. Lower boundary undulating, sharp.
4.40+	Grey and red weathered mudstone.

Table A10: Core 10

Percussive, SL

Depth (M BGL)	Unit Description
0.00-0.36	Dark yellow brown humic slightly sandy clay silt loam. Transitions to sandy clay loam with depth. Colour becomes more grey with depth. Pore centred grey mottling. Weakly developed crumb structure. Lower boundary flat, clear.
0.36-1.15	Mid to dark red brown sandy loam. Weakly developed crumb structure. Clast free. No recovery 1.00-1.08.
1.15-1.30	Grey brown to grey yellow sandy clay with occasional bands of sand (2-4mm), rare degraded sandstone, rounded, 3-6mm.
1.30-1.32	Black organic silt, laminae/lenses of grey brown silt, 1-2mm thick. Lower boundary flat, sharp.
1.32-1.48	Alternating bands of well sorted grey brown silt and fine buff grey sand. Lower boundary flat, sharp.
1.48-2.00	Grey brown laminated organic silty sand to sandy silt. Bands of fine sand (10mm thick, slanted orientation at 1.80 and 1.95). Band of organic silt (1.58-1.61), slanted orientation. Fine grey brown silt lenses (1-2mm), slanted orientation. Occasional plant fragments (random orientation and distribution) in lower 150mm.
2.00-2.33	No recovery
2.33-2.72	Black well sorted medium coarse sand. Massive structure, except band of sandy slightly organic silt (2.49-2.52m and 2.62-2.66m), slanted orientation. Lower boundary flat, sharp.

Depth (M BGL)	Unit Description
2.72-2.90	Grey brown sandy gravel. Massive structure, random distribution and orientation. Round wood fragment at top of unit. Clasts 25-35mm, sub-rounded to rounded.
2.90-2.98	Grey brown well sorted medium sand, massive structure.
2.98-3.00	No recovery.

Table A11: Core 11

Sonic, AH

Depth (M BGL)	Unit Description
0-0.30	Reddish brown friable silty clay. Occasional fine modern roots, but otherwise devoid of organic content, stoneless, slightly moist.
0.30-1.20	Reddish brown clay. Moist and sticky, stoneless, occasional fine modern rootlets but otherwise devoid of organic content.
1.20-1.60	Reddish brown sandy silt with common manganese and iron pan, stoneless, devoid of organic content
1.60-1.80	Orange brown, silty, fine to medium sand, stoneless
1.80-2.00	Grey black fine to medium sand with occasional fine clasts, dominated by quartzite and quartz, matrix-supported.
2.00-3.00	Orange brown medium to coarse, clast-supported sand and gravel, quartzite and quartz dominated. Appears more clayey with depth but this may be a function of extrusion.
3.00-5.70	Grey brown medium to coarse, clast-supported sand and gravel. Some slight size variation. Appears clean and largely devoid of matrix but probably reflects water ingress during sonic drilling. Clast quartzite and quartz dominated, occasional sub-angular flint (glacially derived)
5.70-6.00	Light grey, plastic to firm silt with deeper red colour in patches (weathered bedrock, MMG).
6.00-7.50	Deep red, stiff, clayey silt with occasional light grey bands of silt (skerries) (Bedrock, MMG).

Table A12: Core 12

Sonic, AH

Depth (M BGL)	Unit Description
0.00-0.30	Dark brown silty clay, friable. Stoneless with occasional small modern roots, otherwise devoid of organic material, slightly moist.
0.30-0.95	Reddish brown silty lay, friable. Stoneless with very occasional small modern rootlets. Slightly moist.
0.95-1.20	Grey brown (gleyed) clay, moist and sticky. Stoneless.

Depth (M BGL)	Unit Description
1.20-2.00	Stiff grey brown silty clay, slightly moist, common manganese and iron pan, devoid of organic content.
2.00-2.75	Orange brown medium to coarse sand, massive, blackened in basal 010m from underlying unit.
2.75-3.00	Grey brown fine to medium, clast-supported sand and gravel with coarse sand matrix. Clasts quartzite and quartz dominated.
3.00-3.85	Black, medium to coarse silty sand.
3.85-4.50	Grey brown, fined to medium, clast-supported sand and gravel, becoming medium to coarse sand and gravel in basal 0.50m.
4.50-5.20	Wet gravel slop.
5.20-6.00	Stiff, grey mudstone (Bedrock, MMG).

Table A13: Core 13

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.30	Dark yellow brown humic sandy silt loam to silty sand loam. Weakly to moderately developed crumb structure. Lower boundary flat, clear to diffuse.
0.30-1.49	Friable red brown silty to clay sand loam. Weakly developed crumb structure. Occasional to common manganese nodules, 3-4mm. No recovery 1.20-1.35m. Lower boundary flat, clear to diffuse.
1.49-1.54	Yellow brown clay silt. Massive structure. Lower boundary flat, diffuse.
1.54-1.68/1.74	Red brown to brown grey sandy silt to sandy silt loam. Fine 'ripple' lamination. Yellow brown reticulated mottling. Rare manganese nodules, 1mm. Transitions to slight organic sandy silt. Lower boundary steeply slanted, sharp.
1.68/1.74-1.96	Dark grey laminated/lenticular medium sand. Laminae/lenses 2-8mm, organic to peaty silt and silty sand. Main laminae at 1.25 and 1.89. Lower boundary slanted, sharp to clear.
1.96-2.15	Dense grey sandy gravel. Clasts, sub-rounded to rounded, 20-50mm. Clasts randomly distributed and oriented.
2.15-2.20	No recovery.
2.20-2.34	Grey, fine to medium sand. Massive structure except orange sandy clay band 2.30-2.34. Lower boundary flat, sharp.
2.34-2.58	Dense, black sandy gravel. Clasts sub-angular to rounded, 10-20mm. Occasional pockets of fine gravel (rounded, 4-7mm). Lower boundary flat, sharp.
2.58-2.67	Yellow brown, gravelly coarse sand. Sand concentrated towards base of unit. Clasts sub-rounded to rounded, 15-25mm. Lower boundary flat, sharp.
2.67-4.05	Banded sandy gravel, dense becoming moderate with depth. Band 2.88-2.95 gravelly sand. Sub-horizontal orientation to 2.95, random distribution and orientation below. Occasional larger clasts (up to 90mm), sand becomes coarser, grittier with depth. Lower boundary undulating, sharp.
4.05-4.20+	Heavily weathered orange red mudstone.

Table A14: Core 14

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.30	Dark yellow brown humic clay silt. High concentration of roots. Moderately developed crumb structure. Lower boundary flat to undulating, clear to diffuse.
0.30-1.76	Red to orange brown clay silt, transition to grey with depth (0.70m). Reticulated orange mottling. Weakly developed to blocky structure, becoming massive. Occasional manganese nodules, 1-3mm. No recovery 1.20-1.65m. Lower boundary flat, clear to diffuse.
1.76-2.02	Grey sandy clay to sandy clay loam. Occasional reticulated yellow brown mottles. Transitions to silty clay sand from 1.98m. Lower boundary flat, diffuse.
2.02-2.16	Yellow brown fine to medium sand. Mainly massive structure, except for occasional pockets/laminae of silty sand. Lower boundary slanted, clear to sharp.
2.16-2.17/2.18	Slightly organic silt and fine sand laminae. Lower boundary flat, sharp.
2.18-2.20	Grey to grey brown organic silt. Laminated structure, with laminae of fine sand, sandy silt and organic silt.
2.20-2.40	No recovery.
2.40-2.50	Yellow brown medium sand. Massive structure. Lower boundary flat, sharp (possible drilling waste).
2.50-2.58	Grey, soft, organic silt, with fine 'ripple' laminar structure. Trends to organic silt sand with depth. Occasional observable fragments of comminuted organic matter. Lower boundary flat, sharp.
2.58-2.62	Dark grey to black organic to peaty silt. Fine laminar structure. C14 sample from base of unit. Lower boundary flat, sharp.
2.62-2.71	Dark grey banded organic to peaty silt and medium to coarse sand. Band thicknesses vary from 5-40mm. Lower band at base of unit, weakly laminated structure. Lower boundary flat, sharp.
2.71-2.84	Grey medium sand. Massive structure, except rare pocket, 25mm, black organic sand.
2.84-2.93	Grey gravelly sand. Clasts sub-rounded, 7-15mm. Random distribution and orientation. Lower boundary flat, clear.
2.93-3.20	Grey, sandy gravel. Clasts sub-rounded to rounded, 10-20mm. Random distribution and orientation.

Depth (M BGL)	Unit Description
3.20-3.43	No recovery.
3.43-3.50	Yellow brown medium sand. Massive structure. Lower boundary flat, diffuse.
3.50-3.73	Yellow to grey, medium to coarse sand. Massive structure. Lower boundary flat, sharp to clear.
3.73-3.83	Buff grey sandy gravel, dense, well sorted. Clasts rounded, 7-10mm. Weak horizontal orientation.
3.83-4.20	Slightly sandy gravel. Clasts sub-rounded to rounded, 10-35mm. Random distribution and orientation. Loose recovery from 4.03m.
4.20-4.58	No recovery.
4.58-4.62	Fragment of rounded preserved wood.
4.62-5.20	Loose yellow brown sandy pebbles and gravel. Clasts sub-rounded to rounded 20-80mm.
5.20-5.30	No recovery.
5.30-5.68	Gravel and pebbles, sub-rounded to rounded, 20-50mm. Slight fining with depth. Very loose between 5.30-5.45. Lower boundary flat, sharp,
5.68-5.75	Gritty gravel. Clasts rounded, 5-18mm. Lower boundary undulating, sharp.
5.75-6.20+	Red weathered mudstone.

Table A15: Core 15

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.30	Dark yellow brown humic slightly sandy silt loam. Weakly developed crumb structure. Very rare brick/tile fragments (2-3mm). Lower boundary flat, clear.
0.30-1.20	Red brown clay loam to silt clay loam. Massive structure. Frequent reticulated yellow brown mottling. Becomes grey brown, mottling becomes rarer from 0.70m.
1.48-1.57/1.61	Yellow grey stiff gravelly sandy clay. Gravel, sub-rounded to rounded, 5-45mm. Random distribution and orientation. Yellow orange reticulated mottling. Lower boundary slanted, sharp.
1.57/1.61-3.20	Yellow brown, moderately dense, sandy gravel. Sandy coarse, gritty. Clasts sub-rounded to rounded, 11-35mm, mostly randomly distributed and orientation. Horizontally orientated bands of gravel at 1.81m and 2.55m,. No recovery 2.2-2.3m. Band of moderately sorted gravel, 15-20mm. Rare pockets of sandy clay, 25-35mm.
3.20-3.30	No recovery.
3.30-3.49	Yellow brown medium sand, coarsening to grit by base of unit. Massive structure. Lower boundary flat, clear.
3.49-3.59	Moderately to well sorted moderately dense gravel, sub-rounded to rounded, 15-25mm. Lower boundary flat, clear to sharp.
3.59-3.75	Moderately to well sorted gravel and pebbles, bi-phasic, 35-80mm and 15-20mm. Strong horizontal orientation. Lower boundary flat, clear.

Depth (M BGL)	Unit Description
3.75-4.20	Sandy gravel, sand medium. Clasts sub-rounded to rounded, 20-65mm. Distribution random, mainly randomly orientated, but locally sub-horizontal orientation.
4.20-4.90	No recovery.
4.90-5.00	Loose gravel, clasts sub-rounded to rounded, 20-50mm. Lower boundary flat, diffuse.
5.00-5.15	Grey, loose, slightly sandy gravel. Clasts sub-angular to rounded, 30-55mm.
5.15-6.20	No recovery.
6.20-7.20	Buff yellow dense gravelly sand. Clasts sub-rounded to rounded, 20-50mm. Random orientation and distribution.
7.20-7.30	No recovery.
7.30-8.10	Yellow brown, moderate to loose, slightly gravelly sand. Sand medium to coarse. Clasts sub-rounded to rounded, 18-45mm. Random distribution and orientation.
8.10-8.55	No recovery.
8.55-8.95	Buff yellow medium sand. Massive structure (loose recovery). Lower boundary flat, clear.
8.95-9.08	Loose gravel, sub-rounded to rounded, 15-40mm. Random distribution and orientation. Unable to recovery material beyond this depth.

Table A16: Core 16

Percussion, SL

Depth (M BGL)	Unit Description
0.00-0.35	Dark yellow brown humic slightly sandy silt loam. Massive structure to weakly developed crumb structure. Lower boundary flat, clear to diffuse.
0.35-1.35	Red to yellow brown slightly sandy silt loam to slightly sandy clay loam. Moderately developed crumb structure. Colour transitions to grey brown with abundant yellow brown reticulated mottling. Very rare grit, sub-angular, 2-3mm from 0.80m. No recovery between 1.00-1.17m. Lower boundary flat, sharp.
1.35-1.42	Yellow and orange well sorted medium to coarse sand. Massive structure. Lower boundary flat, sharp.
1.42-1.69	Yellow brown sandy gravel. Clasts rounded, 15-40 mm, randomly distributed. Sand medium fine. Lower boundary flat, sharp to clear.
1.69-1.95	Buff to orange sand, with common laminae of buff grey silty sand, 3-5 mm thick.
1.95-2.00	No recovery.

Table A17: Core 17

Sonic, RL

Depth (M BGL)	Unit Description
0.00-0.40	Dark grey-brown soft to firm friable but cohesive clay with some silt and small gravel. Occasional charcoal, CBM, and plastic fragments, and root action. Topsoil
0.40-2.25	Mid orange-brown, occasionally blue-grey, oxidised, mottled friable silt and clay with frequent manganese mineralisation. Sediments become more grey-blue in colour towards the lower boundary.
2.25-2.55	Light grey-blue silt and clay, weakly laminated.
2.55-4.30	Dark grey-black well humified organic silt and clay with very occasional small shell fragments (occasionally intact), laminated in places with fine silty sand. Lower 0.12m resting on lower boundary frequently finely laminated.
4.30-6.50	Wet coarse, occasionally fine, sand and subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz)
6.50-7.50	Soft to firm brown-red clay with occasional greenish-grey skerries and light blue reduction spots. Weathered Mudstone

Table A18: Core 18

Sonic, RL+SL

Depth (M BGL)	Unit Description
0.00-0.30	Dark grey-brown soft to firm clay with some silt. Occasional small clasts of CBM and small gravel. Topsoil
0.30-1.40	Mid brown friable silt and clay with small root penetration
1.40-2.00	Red brown soft to firm poorly sorted sandy gravel. Sand medium. Clasts sub-rounded to rounded, 15-25. Clast distribution and orientation random. Lower boundary flat, sharp.
2.00-2.10	Orange silty sandy gravel. Sand medium. Clasts sub-rounded to rounded, 20-35mm. Clast distribution and orientation random. Lower boundary flat, sharp.
2.10-2.20	Black to grey organic silty, slightly sandy, gravel. Clasts sub-rounded to rounded, 15-35mm. Clast distribution and orientation random.
2.20-2.35	No recovery.
2.35-2.95	Soft grey organic silt. Very rare clasts, 20mm, rounded. Fine ripple laminar structure. Lower boundary slanted, clear.
2.95 -3.17	Black peaty silt. Fine ripple laminar structure. Bands of black sand (8mm, 7mm) at 3.13m and 3.16m.
3.17-3.30	No recovery.
3.30-3.37	Mixed grey brown clay silt, yellow sand and brown organic silt. ? Drilling waste.
3.37-3.90	Orange yellow gravelly sand. Sand medium. Clasts sub-rounded to rounded, 15-25mm. Clast distribution and orientation random. Lower boundary flat, clear.
3.90-4.20	Dense buff snady gravel. Sand medium. Clasts sub-rounded to rounded, 10-50mm. Clast distribution and orientation random.
4.20-4.70	No recovery.

Depth (M BGL)	Unit Description
4.70-5.70	Loose grey brown sandy gravel. Sand medium. Clasts sub-rounded to rounded, 10-60mm.
5.70-6.00	No recovery.
6.00-6.70	Loose grey brown sandy gravel. Sand medium. Clasts sub-rounded to rounded, 10-60mm.
6.70-7.50+	Red brown weathered mudstone.

Table A19: Core 19

Sonic, RL

Depth (M BGL)	Unit Description
0.00-0.30	Dark grey-brown soft to firm clay with some silt. Occasional small clasts of CBM and small gravel. Topsoil
0.30-1.20	Mid brown friable silt and clay with small root penetration
1.20-1.50	Mid grey-brown soft to firm slightly silty clay with frequent manganese mineralisation, becoming sandier to base.
1.50-2.00	Mid brown slightly silty fine sand with occasional small rounded gravel towards the base.
2.00-6.00	Brown wet coarse, occasionally fine, sand and subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz)
6.00-6.55	Brown wet coarse and fine sand with subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz). Sand more dominant than previous unit.
6.55-6.80	Mid brown wet and compact fine sand finely laminated with fine sand sized black clasts which smear (charcoal/lignite/organic matter?)
6.80-8.20	Brown wet coarse, occasionally fine, sand and subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz)
8.20-9.00	Soft to firm brown-red clay with occasional greenish-grey skerries and light blue reduction spots. Weathered Mudstone

Table A20: Core 20

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.31	Mid to dark yellow brown humic silt loam. Medium developed crumb structure. Lower boundary flat, diffuse.

Depth (M BGL)	Unit Description
0.31-1.72/1.76	Red brown to grey brown silt loam. Greying with depth. Clay content increases with depth. Medium developed crumb structure, becoming weakly developed with depth. Frequent reticulated yellow brown mottling. Occasional to common manganese nodules, 2mm. Lower boundary flat diffuse. Transitions through sandy clay 40mm.
1.76-2.54	Soft red brown sand. Sand medium to coarse. Slightly sandy towards top of unit. Main structure massive. Band of red coarse sand (1.92-1.94). Band of coarse gritty sand, with black mottling (1.94-1.96). Lower boundary flat to slanted, sharp.
2.54-2.85	Dense buff yellow medium sand. Occasional sub-horizontal laminae of sandy silt at 2.54m, 2.59m, 2.64m, 2.71m, 2.72m, all 5-8mm thick. Lower boundary flat, sharp.
2.85-3.10	Orange to yellow brown (transition at 2.95m) soft gravelly sand. Sand medium to coarse. Clasts sub-rounded to rounded, 11-20mm.
3.10-3.22	No recovery.
3.22-3.52	Dense yellow orange sand. Sand fine to medium. Rare pockets of clay sand. Structure otherwise massive. Lower boundary flat, sharp.
3.52-3.70	Dense yellow brown gravelly sand. Sand medium. Clasts sub-rounded to rounded, 10-20mm. Distribution random. Orientation mostly random, with local areas of sub-horizontal orientation.
3.70-4.15	Moderately dense buff sandy, gritty gravel, loose from 4.00m. Sand coarse. Clasts sub-rounded to rounded 10-40mm. Band of gravel, sub-rounded to rounded, 35-45mm, slanted orientation at 3.89m. Orientation mostly random through out unit, with local weak sub-horizontal orientation.
4.15-4.20	No recovery.
4.20-4.35	Loose gravel. Clasts sub-rounded to rounded, 15-100mm. Lower boundary flat, sharp.
4.35-5.10	Dense buff sandy, slightly gritty, gravel. Clasts sub-rounded to rounded, 15-50mm. Distribution random. Orientation mostly random, with sub-horizontal to horizontal orientation gravel 35-50mm, at 4.90-4.95m.
5.10-5.38	No recovery.
5.38-5.48	Soft buff yellow well sorted sand. Sand fine to medium. Massive structure. Lower boundary flat, sharp.
5.48-6.00	Dense yellow grey gravelly sand. Sand medium. Clasts sub-rounded to rounded, 25-35mm. Band of dense sandy gravel, clasts sub-rounded to rounded, 25-45mm, horizontal orientation at 5.59-5.64. Band of gravel, clast sub-rounded t0 rounded, 20-40mm, slanted form and orientation, 5.73-5.89m. Lower boundary flat, sharp.
6.00-6.12	Dense brown slightly silty sand. Fine sand. Finely laminated structure. Occasional gravel, sub-rounded to rounded, 10-20mm. Concentrated toward base of unit.
6.12-6.95	No recovery.
6.95-7.20	Loose yellow brown sand (poor recovery).
7.20-7.90	No recovery.
7.90-8.20	Moderate to loose yellow brown sand. Sand medium.

Depth (M BGL)	Unit Description
8.20-8.98	Soft yellow brown, well sorted sand. Sand medium. Massive structure. Band of dense gravel, sub-rounded to rounded, 10-20mm at 8.61-8.63. Lower boundary flat, sharp.
8.98-9.10	Dense yellow brown gravel. Sand medium. Clasts sub-rounded to rounded, bi-phasic size distribution, 7-10mm and 30-60mm. Distribution and orientation random.
9.10-9.90	No recovery.
9.90-10.15	Soft yellow brown sand. Sand medium. Massive structure. Occasional gravel from 10.05, sub-rounded to rounded, 15-20mm.
10.15-10.20	No recovery.
10.20-10.60	Dense yellow brown gravelly sand. Sand medium. Band of gravel, sub-rounded to rounded, 20-40mm at 10.40m. Lower boundary flat, sharp.
10.60-11.05	Dense sandy gravel. Sand medium. Clasts sub-rounded to rounded, 15-25mm. Gravel fines to 5-9mm at 10.73-10.75m, coarsening below this. Lower boundary undulating, sharp.
11.05+	Weathered mudstone.

Table A21: Core 21

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.32	Mid yellow brown humic silt loam. Moderately developed crumb structure. Lower boundary flat, clear.
0.32-1.58	Red brown clay silt loam to silt loam. Abundant yellow brown reticulated mottling. Transitions to grey at 0.60-0.65m. Frequent manganese nodules, 1-2mm. Very rare gravel, rounded, 20mm. Lower boundary flat, very diffuse.
1.58-1.64	Transition between units – mixed character.
1.64-1.96	Yellow brown fine sand, band of medium sand 1.73-1.76. Lower boundary flat, sharp.
1.96-2.70	Yellow brown gravelly fine to medium sand. Clasts sub-rounded to rounded, 15-55mm (mainly 20-35mm). Random distribution, sub-horizontal orientation.
2.70-3.60	Buff yellow gravelly sand. Rare clay sand lenses, 5-8mm thick. Density increases with depth. Clasts sub-rounded to rounded, 15-25mm. Distribution and orientation random. Lower boundary flat, diffuse.
3.60-4.20	Soft to loose grey sandy, slightly gritty, gravel. Clasts sub-rounded to rounded, 15-45mm. Weak horizontal orientation, distribution random.
4.20-4.45	No recovery.
4.45-4.75	Very loose pebbles and gravels. Clasts sub-rounded to rounded, 30-80mm. Distribution and orientation random. Lower boundary flat, clear.
4.75-4.90	Loose gritty gravel. Clast sub-rounded to rounded, 10-35mm (up to 50mm). Lower boundary flat, clear.

Depth (M BGL)	Unit Description
4.90-5.05	Yellow brown moderately dense sandy gravel. Sand, medium. Clasts sub-rounded to rounded, 15-30mm. Distribution and orientation random. Lower boundary slanted, sharp.
5.05-5.10	Firm to dense grey silty gravel. Silt well sorted, soft. Clasts sub-rounded to rounded, 20-35mm. Distribution and orientation random.
5.10-5.20	Firm to dense yellow brown sandy gravel. Sand medium. Clasts sub-rounded to rounded. Distribution and orientation random.
5.20-5.24	No recovery.
5.24-5.43	Yellow brown medium to coarse sand. Massive structure, except for rare pockets of grey clay sand, 8-11mm thick. Occasional gravel, rounded, 15-22mm. Lower boundary flat, clear.
5.43-5.62	Firm yellow brown sandy gravel. Sand medium. Clasts sub-rounded to rounded, 15-35mm. Weak horizontal orientation, random distribution. Lower boundary flat, sharp.
5.62-5.68	Firm grey silty gravel. Silt well sorted and soft. Clasts sub-rounded to rounded, 15-35mm. Distribution and orientation random. Lower boundary undulating to slanting, sharp.
5.68-5.85	Dense yellow brown sandy gravel. Sand medium. Clasts sub-rounded to rounded, 8-15mm. Lower boundary flat, clear to sharp.
5.85-5.92	Firm becoming loose with depth. Gritty gravel, moderately sorted. Clasts sub-rounded to rounded, 15-50mm. . Distribution random, horizontal orientation.
5.92-6.29	No recovery.
6.29-6.42	Loose gravel, sub-rounded to rounded gravel. Clasts sub-rounded to rounded, 8-50mm. Distribution and orientation random. Lower boundary slanted, sharp.
6.42-7.00	Dense yellow brown sandy gravel. Medium sand. Clasts sub-rounded to rounded, 5-75mm (mainly 25-55mm). Distribution and orientation random except horizontal orientation at 6.65m and 6.84-6.90m.
7.00-7.30	No recovery.
7.30-7.38	Dense buff yellow gravelly sand. Sand medium to coarse. Clasts sub-rounded to rounded, 40-55mm. Lower boundary flat, sharp.
7.38-7.80	Dense yellow brown very gravelly sand. Sand fine to medium. Clasts sub-rounded to rounded, 15-40mm. Distribution random, orientation mainly random, locally sub-horizontal. Lower boundary slanted, sharp.
7.80-8.10	Loose gritty gravel. Clasts sub-rounded to rounded, 15-45mm. Distribution and orientation random.
8.10-8.40	No recovery.
8.40-9.42	Dense buff brown sandy gravel. Medium sand. Clasts, sub-rounded to rounded, 20-45mm. Distribution and orientation random. No recovery 9.10-9.20m. Lower boundary flat, sharp.
9.42-9.70+	Weathered mudstone.

Table A22: Core 22

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.30/0.34	Mid yellow brown clay silt loam. Moderately developed crumb structure. Rare grit and ceramic pipe fragments (3-4mm). Lower boundary flat, diffuse.
0.30/0.34-1.50	Friable to stiff red brown clay silt loam. Moderately developed crumb structure. Common manganese nodules 2-3mm) from 0.75m. Lower boundary flat, diffuse. No recovery 1.20-1.35m.
1.50-1.60	Yellow brown to orange brown. Massive structure. Frequent manganese nodules (3-4mm). Lower boundary flat, clear.
1.60-1.64	Yellow brown well sorted sandy gravel. Sand medium. Gravel, sub-rounded to rounded, 8-15mm. Lower boundary flat, sharp to clear.
1.64-1.84	Yellow brown sandy gravel. Medium sand. Clasts sub-angular to sub-rounded, 15-80mm. Distribution and orientation random. Lower boundary flat to slanted, sharp.
1.84-1.92	Yellow brown to red brown, slightly sandy silt and sand. Laminated, 12-16mm laminae, slightly slanted orientation. Lower boundary flat, sharp.
1.92-2.05	Yellow brown silty gravelly sand. Structure generally massive, with local laminae (higher silt content). Occasional to common gravel, sub-rounded to rounded, 15-30mm.
2.05-2.33	No recovery.
2.33-2.92	Yellow brown sandy gravel. Dense at the top of the unit, moderate through the rest. Sand is fine to medium. Gravel sub-rounded to rounded, 15-30mm. Distribution and orientation generally random, except 2.69-2.71m, horizontal orientation (possible imbrication). Lower boundary flat, clear.
2.92-3.20	Loose, orange sandy gravel. Sand content reduces with depth. Gravel sub-rounded to rounded, 10-20mm. Distribution and orientation random.
3.20-3.85	No recovery.
3.85-4.20	Loose, orange sandy gravel. Poorly sorted. Gravel, sub-rounded to rounded, 15-80mm. Distribution and orientation random (may be recovery effect).
4.20-4.90	No recovery.
4.90-5.00	Loose gravel, sub-rounded to rounded, 20-50mm. Distribution and orientation random. Lower boundary flat, clear.
5.00-5.15	Loose grey slightly sandy gravel. Clasts sub-angular to rounded, 30-55mm.
5.15-6.20	No recovery (cobble driven by core).
6.20-7.20	Buff yellow soft gravelly sand. Clasts sub-rounded to rounded, 20-50mm. Distribution and orientation random.
7.20-7.30	No recovery.
7.30-8.10	Loose yellow brown slightly gravelly sand. Sand medium to coarse. Clasts sub-rounded to rounded, 18-45mm. Distribution and orientation random.
8.10-8.55	No recovery.
8.55-8.95	Loose buff yellow medium sand. Massive structure. Lower boundary flat, clear.
8.95-9.08	Loose gravel. Clasts sub-rounded to rounded, 15-40mm. Distribution and orientation random (may be recovery effect).

Depth (M BGL)	Unit Description
	Unable to case further – no further recovery.

Table A23: Core 23

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.27	Dark yellow brown sandy silt loam. Well developed crumb structure. Lower boundary flat, diffuse.
0.27-2.40	Red brown to grey brown sandy silt loam. Common manganese nodules. Well developed crumb structure, becoming moderately developed crumb structure by 0.80m to 1.00m, massive structure below. Transitions 1.45-1.55m to silty clay loam. Transitions to silty clay at 1.65-1.75m. Colour transitions to grey from 1.58m. Red brown reticulated mottling from 1.70m. Lower boundary flat to slanted, sharp.
2.40-2.45	Soft buff grey sandy, slightly organic silt. Massive structure. Lower boundary flat, clear.
2.45-2.58	Alternating bands of buff to grey brown fine sand, sandy silt and silty sand. Bands approximately 10mm thick. Lower boundary flat, sharp.
2.58-2.79	Soft to firm yellow grey moderately sorted medium sand. Massive structure. Lower boundary flat, diffuse.
2.79-2.90	Dense yellow grey slightly gravelly sand. Sand medium. Clasts occasional to rare, sub-rounded to rounded, 12-30mm. Lower boundary flat, sharp.
2.90-3.00	Dense buff sandy gravel. Sand medium. Clasts sub-rounded to rounded, 12-25mm. Clast distribution and orientation random. Lower boundary flat, sharp.
3.00-3.20	Soft yellow grey sand. Sand medium. Rare gravel. Clasts sub-angular to sub-rounded, random distribution and orientation. Occasional lenses of clay sand, 5-7mm thick. Lower boundary flat, sharp.
3.20-3.69	Dense buff sandy gravel. Sand medium. Clasts sub-rounded to rounded, 12-25mm. Clast distribution and orientation random. Lower boundary flat, sharp.
3.69-4.20	Moderately firm to loosed sandy gravel. Sand medium to coarse. Clasts sub-rounded to sub-angular, generally 10-30mm, up to 100mm. Clast distribution and orientation random.
4.20-5.20	Loose (poor recovery) gravel. Clasts sub-rounded to rounded, 10-55mm. Clast distribution and orientation random (effect of recovery).
5.20-5.70	No recovery.
5.70-5.90	Loose sandy gravel. Sand medium to coarse. Clasts sub-rounded to rounded, 20-45mm. . Clast distribution and orientation random. Lower boundary flat, diffuse.
5.90-6.80	Soft to loose slightly gravelly sand. Sand medium to coarse. Structure massive. Clast distribution and orientation random (effect of recovery). No recovery 6.20-6.40m. Lower boundary flat, sharp.
6.80-6.87	Soft, buff sandy gravel. Sand medium. Clasts sub-rounded to rounded, 15-30mm. Clast distribution and orientation random. Lower boundary flat, sharp.

Depth (M BGL)	Unit Description
6.87-6.94	Moderately dense well sorted gravel. Clasts sub-rounded to rounded, 15-20mm. Clast distribution random, orientation sub-horizontal. Lower boundary flat, clear.
6.94-6.99	Moderately dense buff sandy gravel. Clasts sub-rounded to rounded, 15-35mm. Clast distribution and orientation random. Lower boundary undulating, sharp.
6.99-7.15	Soft grey organic silt. Laminar structure. Occasional plant tissue fragments. Rare wood fragments, 8-12mm, rounded. Randomly distributed and orientated.
7.15-7.65	No recovery.
7.65-7.83	Loose gravel. Clasts sub-angular to rounded, 15-25mm. Randomly distributed and orientated (effect of recovery). Lower boundary flat, sharp.
7.83-7.92	Dense slightly gritty gravel. Clasts sub-rounded to rounded, 20-40mm. Clasts randomly distributed, sub-horizontal orientation. Lower boundary flat, clear.
7.92-8.10	Dense slightly gritty sandy gravel. Sand medium. Clasts sub-rounded to rounded. Clasts randomly distributed, sub-horizontal orientation.
8.10-8.40	No recovery.
8.40-8.58	Dense slightly gritty sandy gravel. Sand medium. Clasts sub-rounded to rounded. Clasts randomly distributed, sub-horizontal orientation. Lower boundary undulating, sharp.
8.58-8.72+	Weathered mudstone.

Table A24: Core 24

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.20	Dark red brown humic slightly sandy silt loam. Rare gravel, rounded, 10-15mm. Weakly to moderately developed crumb structure. Lower boundary flat, diffuse.
0.20-1.20	Red brown slightly sandy silt loam to silt loam. Well to moderately developed crumb structure. 1.20-1.30mm no recovery.
1.20-1.30	No recovery.
1.30-1.40	Very soft grey slightly organic silt. Massive structure. Lower boundary flat, sharp.
1.40-1.80	Soft orange slightly sandy silt loam. Frequent manganese nodules, 2-3mm. Weakly developed crumb structure to massive. Lower boundary flat to undulating, clear to diffuse.
1.80-1.97	Red brown to grey brown sandy silt loam. Proportion of sand increases with depth. Massive structure. Lower boundary flat, sharp.
1.97-2.15	Soft yellow brown medium sand. Laminated structure, laminae formed of different grades of sand.
2.15-2.20	No recovery.
2.20-2.76	Soft to firm yellow brown medium sand. Massive structure to 2.59m. Occasional lenses of silty sand and laminae of fine sand from 2.59m. Lower boundary flat to slanted, sharp.
2.76-3.20	Dense sandy gritty gravel. Sand coarse. Clasts sub-rounded to rounded, 8-35mm.Clast distribution and orientation random. Lower boundary flat, sharp.

Depth (M BGL)	Unit Description
3.20-3.33	Soft yellow brown medium-coarse sand. Lower boundary slanted, sharp.
3.33-4.05	Moderately dense grey brown to yellow brown sandy gravel. Sand medium. Clasts sub-rounded to rounded, 15-45mm. Band of fine gravel, horizontal orientation, 3.79-3.80m. Rest of unit clast distribution and orientation random. Lower boundary flat, clear.
4.05-4.15	Very loose orange brown gritty gravel. Clasts sub-rounded to rounded, 10-35mm.
4.15-4.20	No recovery.
4.20-4.54	Soft yellow to orange brown medium sand. Well to moderately sorted. Massive structure. Lower boundary flat, clear.
4.54-4.80	Dense yellow brown sandy, slightly gritty, gravel. Sand coarse. Clasts sub-rounded to rounded, 10-40mm. Clast distribution random, orientation locally sub-horizontal to horizontal. Lower boundary flat, sharp.
4.80-5.00	Loose, slightly gritty gravel. Clasts sub-rounded to rounded, 20-40mm. Clasts in upper part of unit horizontally orientated, rest of unit randomly orientated. Lower boundary flat, diffuse.
5.00-5.15	Loose slightly sandy, slightly gritty gravel. Clasts sub-rounded to rounded, 15-55mm. Clasts randomly distributed and orientated (possible recovery effect).
5.15-5.60	No recovery.
5.60-5.78	Soft buff yellow moderately to well sorted medium to coarse sand. Massive structure. Lower boundary flat, sharp.
5.78-6.20	Moderately firm to loose buff sandy gravel. Medium sand. Clasts sub-rounded to rounded, 5-50mm (mainly 5-30mm). Consistency becomes looser with depth. Clast distribution random, orientation sub-horizontal to 6.00m, random below.
6.20-6.60	No recovery.
6.60-6.80	Very loose gravel. Clasts sub-rounded to rounded, 10-30mm (up to 80mm). Clast distribution and orientation random (probable recovery effect).
6.80-7.60	No recovery.
7.60-9.20	Dense buff sandy gravel. Sand fine to medium. Clasts sub-rounded to rounded, 10-40mm. Clast distribution and orientation random. No recovery at 8.10-8.50m.
9.20-10.20	No recovery.
10.20-11.15	Soft yellow brown well sorted fine medium sand. Massive structure.
11.15-11.17	Loose gravel. Clasts sub-rounded to rounded, 15-50mm. Poor recovery.
11.17-11.20	Weathered mudstone.

Table 25: Core 25

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.30	Dark red brown humic silt loam to sandy silt loam. Well to moderately developed crumb structure. Lower boundary flat, diffuse.

Depth (M BGL)	Unit Description
0.30-1.38	Red brown and grey brown sandy silt loam (mainly in red brown areas) to silt loam (mainly grey brown areas), slight increase in clay and silt content with depth. Weakly developed crumb structure becoming fine blocky with depth. Frequent manganese mottles (concentrated in grey brown areas). Colour trends to grey with depth. No recovery 1.20-1.32m. Lower boundary flat, clear.
1.38-1.62	Grey brown sandy clay loam. Abundant red brown reticulated mottling. Massive structure, except for rare pockets of fine sand, 15mm diameter, band of silty sand, 1.47-1.49m, band of silty clay, 1.60-1.62m. Lower boundary flat, sharp.
1.62-1.74	Red brown to grey brown silty medium sand. Massive structure. Lower boundary flat, sharp to clear.
1.74-1.95	Firm grey brown sandy clay loam, grading to clay sand by base of unit. Common red brown reticulated mottling. Lower boundary flat, sharp.
1.95-1.97	Soft grey well sorted silt. Massive structure. Lower boundary flat, sharp.
1.97-2.15	Firm yellow brown medium to coarse sand. Colour grades to dark grey, from 2.09m. Massive structure. Lower boundary flat, clear.
2.15-2.37	Soft grey slightly sandy, slightly organic silt. Fine ripple laminar structure, with occasional laminae of fine sand. Organic content increases from 2.20m, becoming peaty. Plant remains observed, including roots/stems penetrating up to 100mm through unit. Plant remains common 2.20-2.37. Lower boundary slanted, clear to diffuse.
2.37-2.93	Soft grey organic silt. Rare plant fragments. Common fragments of mudstone and clay, angular, 7-15mm. Clasts randomly distribution and orientation. Fine 'ripple' laminar structure. Lower boundary flat, clear.
2.93-3.20	Soft to loose yellow brown sand. Sand medium to coarse. Occasional grit. Massive structure. Lower boundary flat, clear.
3.20-4.30	Loose black sandy gravel. Sand coarse. Clasts sub-rounded to rounded, 15-25mm. Randomly distributed, sub-horizontal orientation.
4.30-5.70	No recovery.
5.70-5.80	Very loose gravel. Clasts sub-rounded to rounded, 20-60mm. Recovery poor, loose.
5.80-6.30	Loose to moderately dense gritty gravel. Clasts sub-rounded to rounded, 15-80mm. from 6.10, some interstitial sand. Clast distribution random, orientation mostly random, with local areas of horizontal orientation.
6.30-6.50	No recovery.
6.50-6.81	Loose gravel. Clasts sub-rounded to rounded, 20-60mm. Clast distribution and orientation random. Lower boundary flat, sharp.
6.81-7.00	Moderately dense gritty gravel. Clasts sub-rounded, 12-25mm. Clast distribution random, orientation locally horizontal.
7.00-7.20	Dense yellow brown gravelly sand, becoming sandy gravelly sand at 7.10. Clasts fine from 25-35mm at base to 15-20mm at top of unit. All clasts sub-rounded to rounded.
7.20-7.56	No recovery.
7.56-7.75	Loose gravel. Clasts sub-random to random, 30-50mm. Clast distribution and orientation random. Lower boundary flat, clear.

Depth (M BGL)	Unit Description
7.75-7.91	Dense slightly gritty gravel. Clasts sub-angular to rounded, 10-40mm. Clast distribution, orientation sub-horizontal. Lower boundary flat, clear.
7.91-8.10	Dense sandy gravel. Sand fine to medium. Clasts sub-rounded to rounded, 15-25mm. Clast distribution random, orientation locally horizontal.
8.10-8.30	No recovery.
8.30-8.46	Soft yellow brown fine to medium sand, moderately to well sorted. Massive structure. Lower boundary slanted, sharp.
8.46-8.79	Gravels. Fines to top of unit: from 8.46—8.51m, 3-8mm, sub-horizontal orientation, from 8.51-8.79, mostly 15-20mm, occasionally 45-90mm, locally sub-horizontal orientation.
8.79-9.05	Dense to moderately dense sandy gravel. Sand medium. Clast size distribution bi-phasic: sub-angular to sub-rounded, 25-40mm, sub-angular to rounded, 10-15mm. Clast distribution random. Clast orientation generally random, locally horizontal.
9.05-9.45	Loose sandy gravel. Sandy medium. Clasts sub-rounded to rounded, 15-35mm, includes fragments of mudstone. No recovery 9.18-9.30.
9.45-9.70	Weathered mudstone

Table 26: Core 26

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.25	Dark yellow brown humic sandy silt loam. Well developed crumb structure. Lower boundary flat, clear.
0.25-1.43	Loose red yellow slightly silty sandy gravel. Sand medium. Clasts sub-rounded, 16-40mm. Becomes dense from 1.20m. Colour changes to black grey from 1.25m, and to pale grey brown around 1.40m. Composition transitions in unit below.
1.43-1.50	Dense light grey brown gravelly clay silt. Clasts sub-rounded to rounded, 25-35mm. Massive structure.
1.50-1.62	Red brown gravelly sandy silt loam. Abundant manganese nodules, 2-3mm at the top of the unit. Clasts sub-rounded to rounded, 10-20mm. Lower boundary flat, diffuse.
1.62-1.88	Red brown clay sand. Sand medium. Occasional bands of orange sandy clay. Sand coarsens with depth. Band of well sorted sand from 1.87m. Lower boundary flat to slanted, sharp.
1.88-1.92	Red brown sandy clay with occasional gravel. Clasts sub-rounded to rounded, 10-20mm. Random distribution and orientation. Structure massive.
1.92-2.15	Red brown sand. Sand medium. Band of clay sand at top of unit. Poor recovery.

Depth (M BGL)	Unit Description
2.15-2.60	No recovery.
2.60-2.65	Slightly gritty gravel. Clasts sub-rounded to sub-angular, 10-25mm. Lower boundary flat, sharp.
2.65-3.15	Firm yellow brown sandy gravel. Sand coarse. Clasts sub-rounded to rounded, 10-20mm (up to 40mm). Distribution random, orientation sub-horizontal.
3.15-3.34	No recovery.
3.34-3.70	Firm yellow brown sandy gravel. Sand coarse. Clasts sub-rounded to rounded, 10-20mm. Distribution and orientation random. Gravel bands, clasts imbricated, at 3.62-3.67m and 3.73-3.81m. Lower boundary flat, clear.
3.70-4.15	Loose sandy gravel. Sand medium. Clasts sub-rounded to rounded, 10-25mm. Distribution and orientation random.
4.15-4.35	No recovery.
4.35-4.46	Loose yellow brown sand. Sand medium to coarse. Fine laminar structure. Lower boundary flat, sharp.
4.46-4.89	Yellow brown gravelly sand, loose, becoming dense with depth. Sand medium to coarse. Clasts sub-rounded to rounded, 15-20mm. Generally random distribution and orientation, but locally sub-horizontal orientation. Density of gravel increasing with depth., transitions to sandy gravel at 4.72-4.89m. Lower boundary flat, sharp.
4.89-5.12	Loose to moderate gravel. Clast size distribution bi-phasic, 4-8mm, sub-angular to rounded and 20-35mm, sub-rounded to rounded. Random distribution and orientation to 4.93. Sub-horizontal orientation from 4.93m.
5.12-5.20	No recovery.
5.20-6.10	Dense slightly sandy, gritty gravel. Sand coarse. Gravel coarsens to base: sub-rounded to rounded, 12-25mm to 5.80m, sub-rounded to rounded, 15-60mm, to 6.15m. Occasional bands moderately to well sorted gravel: sub-rounded to rounded, 8-15mm, horizontal orientation, 5.44-5.46m; sub-rounded to rounded, 10-20mm, horizontal orientation, 5.68-5.69m.
6.10-6.40	No recovery.
6.40-7.20	Loose slightly sandy, gritty gravel. Sand coarse. Poor recovery.
7.20-7.30	Loose, gravel. Clasts sub-angular to sub-regular, 20-90mm. Poor recovery.
7.30-8.20	Weathered mudstone.

Table 27: Core 27

Rotary, SL

Depth (M BGL)	Unit Description
0.00-0.30	Dark yellow brown soft to friable humic silt loam. Well to moderately developed crumb structure. Rare gravel, sub-rounded to rounded, 5-10mm. Lower boundary flat, diffuse.

Depth (M BGL)	Unit Description
0.30-2.63	Red brown to grey brown clay silt loam. Sand content increases with depth. Transitions to clay silt from 2.00m and silt clay from 2.34m. Frequent yellow brown reticulated mottling. Frequent manganese mottles, 1-2mm, frequency increasing to abundant from 1.95m. Weakly developed crumb structure becoming massive with depth. Rare to very rare gravel, sub-rounded to rounded, 5-8mm. Lower boundary flat to slanted, clear.
2.63-2.79	Sticky blue grey clay silt. Fine laminar structure. Lower boundary slanted, sharp.
2.79-2.89	Grey slightly organic sandy silt. Fine/'ripple' laminar structure. Lower boundary slanted, sharp.
2.89-3.35	Grey brown to orange (2.98-3.02m) and pale yellow (from 3.02m) medium sand. Lenticular structure, lenses formed of varying sand grades, 5mm thick. Occasional pockets of silty sand, 20mm diameter (2.89-3.13m). Lower boundary flat, sharp.
3.35-3.95	Dense yellow brown sandy gravel. Sand medium. Clasts sub-rounded to rounded, 10-25mm. Lower boundary flat, clear.
3.95-4.65	Dense to firm buff sandy gravel. Sand medium. Clasts sub-rounded, 10-30mm.
4.65-6.30	No recovery.
6.30-6.45	Loose buff yellow gravelly sand. Sand medium to coarse. Clasts sub-rounded to rounded. Clasts 10-20mm. Random distribution and orientation. Poor/loose recovery.
6.45-6.82	Gravel, moderately to well sorted, coarsening with depth. Clasts sub-rounded to rounded. Between 6.45-6.55m random orientation, 4-10mm. Between 6.55-6.65, random orientation, 10-25mm. From 6.65m, horizontal orientation, 20-30mm.
6.82-7.00	Firm to loose buff sandy gravel, unsorted, sub-rounded to rounded, 4-60mm.
7.00-8.00	Loose to very loose buff sandy gravel, unsorted, sub-rounded to rounded, 4-60mm, very loose recovery.
8.00-8.30	Firm to loose buff sandy gravel, unsorted, sub-rounded to rounded, 4-60mm.
8.30-8.70	Moderately dense yellow brown sand. Fine to medium sand. Massive structure.
8.70-9.00	No recovery.
9.00-9.60	Soft to firm yellow brown well sorted fine-medium sand. Massive structure. Lower boundary flat, sharp.
9.60-9.70	Loose sandy gravel. Sand medium. Clasts sub-rounded to rounded, 10-50mm. Lower boundary flat, clear.
9.70-9.80	Soft to firm yellow brown well sorted fine-medium sand. Massive structure. Lower boundary flat, sharp.
9.80-10.00+	Weathered mudstone.

Table 28: Core 28

Sonic, RL

Depth (M BGL)	Unit Description
0.00-0.40	Dark grey-brown soft to firm sandy clay, silt, and gravel. Some root penetration. Ploughsoil
0.40-0.70	Light brown-orange silty sand and subrounded-rounded (occasionally subangular) gravel with frequent manganese mineralisation.
0.70-1.00	Light brown-orange slightly silty sand and subrounded-rounded (occasionally subangular) gravel. Lacks manganese mineralisation.
1.00-1.50	Light blue-grey coarsely laminated silt and clay with orange-brown fine silty sand
1.50-2.45	Light brown wet silty coarse sand with occasional small subrounded-rounded gravel
2.45-2.70	Reddish-grey wet fine sand and small subrounded-rounded gravel
2.70-4.35	Wet brown and grey coarse, occasionally fine, sand and small-medium subrounded-rounded (occasionally subangular) gravel. Infrequent silt laminae
4.35-5.15	Reddish-grey wet fine sand with very occasional small rounded gravel
5.15-9.75	Wet coarse, occasionally fine, sand and subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz). Clasts of soft red clay close to lower boundary.
9.75-10.50	Soft to firm brown-red clay with occasional greenish-grey skerries and light blue reduction spots. Weathered Mudstone

Table 29: Core 29

Sonic, RL

Depth (M BGL)	Unit Description
0.00-0.35	Dark grey-brown soft to firm sandy clay, silt, and gravel. Some root penetration. Ploughsoil
0.35-0.95	Light brown-orange silty sand and subrounded-rounded (occasionally subangular) gravel with frequent manganese mineralisation.
0.95-1.20	Mid grey-brown fairly wet silty sand and subrounded-rounded (occasionally subangular) medium gravel. No coring undertaken.

Table 30: Core 30

Sonic, RL

Depth (M BGL)	Unit Description
0.00-0.40	Dark grey-brown soft to firm sandy clay, silt, and gravel. Some root penetration. Ploughsoil

Depth (M BGL)	Unit Description
0.40-1.00	Light brown-orange slightly silty coarse sand and small-medium subrounded-rounded (occasionally subangular) gravel
1.00-1.20	Dark brown, in places orange and black, coarse sand and small-medium gravel. Frequent manganese mineralisation. Possible iron pan staining.
1.20-2.20	Light brown wet silty coarse sand subrounded-rounded (occasionally subangular) gravel
2.20-2.50	Grey fine sand with occasional small subrounded-rounded grave
2.50-3.25	Wet brown-grey-orange coarse, occasionally fine, sand and small-medium subrounded-rounded (occasionally subangular) gravel. Iron pan staining.
3.25-3.45	Wet fine well sorted sand
3.45-8.10	Wet coarse, occasionally fine, sand and subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz).
8.10-9.00	Soft to firm brown-red clay with occasional greenish-grey skerries and light blue reduction spots. Weathered Mudstone

Table 31: Core 31

Sonic, RL

Depth (M BGL)	Unit Description
0.00-0.40m	Dark grey-brown firm clay and silt. Some root penetration. Ploughsoil
0.40-0.75m	Dark brown-black friable and soft well humified organic silty peat with frequent small root penetration.
0.75-0.85m	Grey-blue sticky silt and clay with frequent small root penetration
0.85-1.10	Light brown slightly silty fine sand with some medium-large subrounded-rounded (occasionally subangular) gravel.
1.10-3.0	Wet brown coarse and fine sand with medium-large subrounded-rounded (occasionally subangular) gravel. Occasional sand and silty fine sand lenses.
3.00-4.15m	Light brown fine well sorted sand with very occasional small-medium rounded gravel.
4.15-4.50	Mid brown wet coarse sand and subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz).
4.50-4.5.20	Light brown fine well sorted sand with very occasional small-medium rounded gravel.
5.20-6.50	Mid brown wet coarse sand and subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz). Greater silt-clay content from 6.40-6.50 on contact to underlying Mudstone.
6.50-7.50	Firm-stiff brown-red clay with occasional greenish-grey skerries and light blue reduction spots. Weathered Mudstone

Table 32: Core 32

Sonic, RL

Depth (M BGL)	Unit Description
0.00-0.30	Dark grey-brown firm clay and silt. Some root penetration. Ploughsoil
0.30-0.55	Light blue-brown extensively mottled silt and clay.
0.55-0.70	Mid grey-blue occasionally mottled brown silt and clay
0.70-0.80	Mid blue-grey slightly sandy silt and clay with occasional small subrounded-rounded gravel.
0.80-1.20	Light grey-brown-yellow silty coarse and fine sand and small-medium subrounded-rounded (occasionally subangular) gravel.
1.20-2.80	Light orange-brown wet silty coarse and fine sand with subrounded-subangular (occasionally rounded) gravel.
2.80-3.40	Mid brown-grey fine and coarse sand with small-medium subrounded-rounded gravel.
3.40-4.80	Light brown fine well sorted sand with very occasional small-medium rounded gravel.
4.80-6.10	Wet brown coarse sand with medium-large subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz).
6.50-7.50	Firm-stiff brown-red clay with occasional greenish-grey skerries and light blue reduction spots. Weathered Mudstone

Table 33: Core 33

Sonic, RL

Depth (M BGL)	Unit Description
0.00-0.35	Dark grey-brown soft to firm clay with some silt and dense root action. Topsoil
0.35-1.00	Mid orange-brown, occasionally blue-grey, oxidised, mottled silt and clay with frequent manganese mineralisation.
1.00-1.80	Mid yellowish-brown wet sand with occasional blue-grey silt and clay laminae
1.80-4.50	Wet coarse, occasionally fine, sand and subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz)
4.50-6.00	Soft to firm brown-red clay with occasional greenish-grey skerries and light blue reduction spots. Weathered Mudstone

Table 34: Core 34

Sonic, AH

Depth (M BGL)	Unit Description
0.00-0.30	Dark brown silty clay, slightly moist, plastic, stoneless. Occasional small modern roots but otherwise devoid of organic material.
0.30-1.00	Reddish brown clay, moist, sticky, stoneless. Very occasional modern roots, but otherwise devoid of organic material.
1.00-1.20	Grey brown clay, moist, sticky and gleyed.
1.20-1.50	Grey brown to red brown clay, moist, sticky, stoneless, inorganic
1.50-2.75	Orange brown, medium to orange sand with some banding of colour to grey, although disturbed. Basal 0.10m is blackened and appears to have gravel from the underlying unit. Evidence of iron pan but unit very wet and sloppy.
2.75-3.00	Grey brown, fine to coarse, clast-supported sand and gravel with matrix of medium to coarse sand. Predominantly quartz and quartzite lithologies, occasional sub-angular flint.
3.00-4.50	Brown, medium to coarse, clast-supported sand and gravel with medium to coarse sand matrix. Quartzite and quartz are dominant lithologies. Upper part of unit is very clean and lacks matrix, but is a function of water ingress of sonic drilling.
4.50-6.00	Stiff, red brown to grey silty clay with thin grey bands (skerries) of grey silt (Bedrock, MMG).

Table 35: Core 35

Sonic, RL

Depth (M BGL)	Unit Description
0.00-0.35	Dark grey-brown soft to firm clay with some silt and dense root action. Topsoil
0.35-1.30	Mid orange-brown, occasionally blue-grey, oxidised, mottled silt and clay with frequent manganese mineralisation.
1.30-1.45	Mid grey-blue soft silt and clay
1.45-2.30	Mid grey-blue slightly silty fine sand, occasionally laminated with dark grey-black well humified organic silt and clay
2.30-3.00	Wet coarse, occasionally fine, sand and subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz)
3.00-3.60	No recovery/compression
3.60-3.68	Wet coarse, occasionally fine, sand and subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz)
3.68-4.50	Soft to firm brown-red clay with occasional greenish-grey skerries and light blue reduction spots. Weathered Mudstone

Table 36: Core 36

Sonic, RL

Depth (M BGL)	Unit Description
0.00-0.22	Dark grey-brown soft clay with some silt and small root action. Ploughsoil
0.22-0.70	Mid brown, grey in places, soft silt and clay. Extensively mottled, occasional manganese mineralisation
0.70-2.20	Mid grey-blue mottled brown-orange, slightly sandy silt and clay with frequent manganese mineralisation. Tends to greater blue-grey colour downcore
2.20-5.50	Wet coarse, occasionally fine, slightly silty sand and subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz). Greater silt-clay content from 5.40-5.50m on contact to lower boundary to Mudstone
5.50-6.00	Soft to firm brown-red clay with occasional greenish-grey skerries and light blue reduction spots. Weathered Mudstone

Table 37: Core 37

Sonic, RL

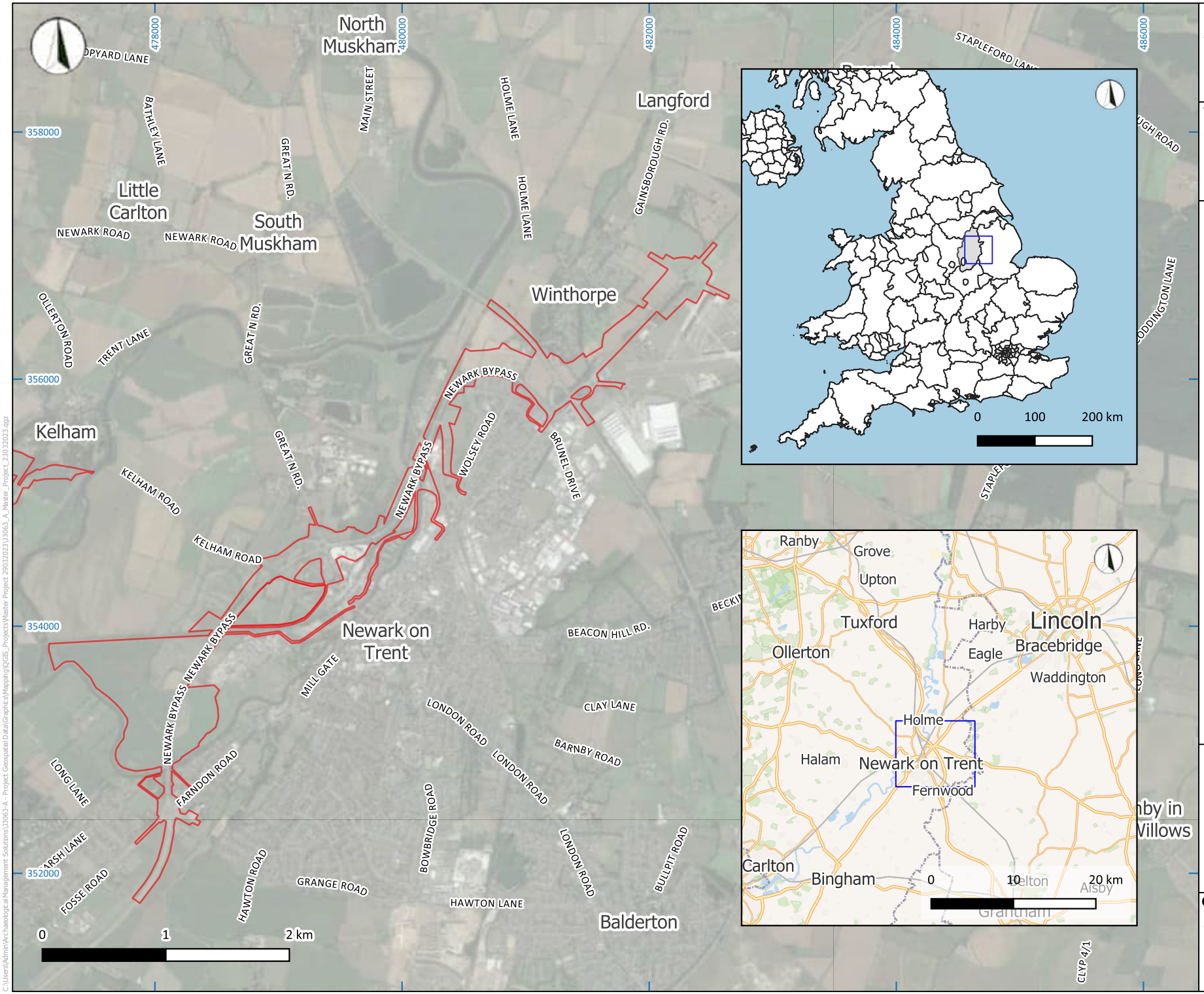
Depth (M BGL)	Unit Description
0.00-0.40	Dark grey-brown firm slightly sandy clay with some silt and dense root action. Ploughsoil
0.40-0.75	Mid brown, occasionally mottled orange, slightly sandy silt and clay. Occasional root penetration.
0.75-1.90	Mid grey-blue mottled brown-orange, sandy silt and clay with frequent manganese mineralisation
1.90-2.10	Mid grey-blue soft silt and clay
2.10-2.90	Light brown well sorted very slightly silty fine sand
2.90-5.10	Wet coarse, occasionally fine, slightly silty sand and subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz). Greater silt-clay content from 5.00-5.10m on contact to lower boundary to Mudstone
5.10-6.00	Soft to firm brown-red clay with occasional greenish-grey skerries and light blue reduction spots. Weathered Mudstone

Table 38: Core 38

Depth (M BGL)	Unit Description
0.00-0.30	Dark grey-brown firm clay with some silt and root action. Ploughsoil

Depth (M BGL)	Unit Description
0.30-2.05	Mid-light brown, mottled orange, soft to firm silt and clay. Occasional root penetration.
2.05-2.15	Mid blue-grey slightly organic silt with fine silty sand
2.15-2.7	Dark grey-black well humified organic silt and clay laminated with organic silty sand
2.75-2.85	Dark grey-black wet organic silty sand and gravel
2.85-5.60	Wet coarse, occasionally fine, slightly silty sand and subrounded-rounded (occasionally subangular) gravel (including chert, quartzite, and quartz)
5.60-6.00	Soft to firm brown-red clay with occasional greenish-grey skerries and light blue reduction spots. Weathered Mudstone

Appendix 1: Figures



Project
A46 Newark Bypass

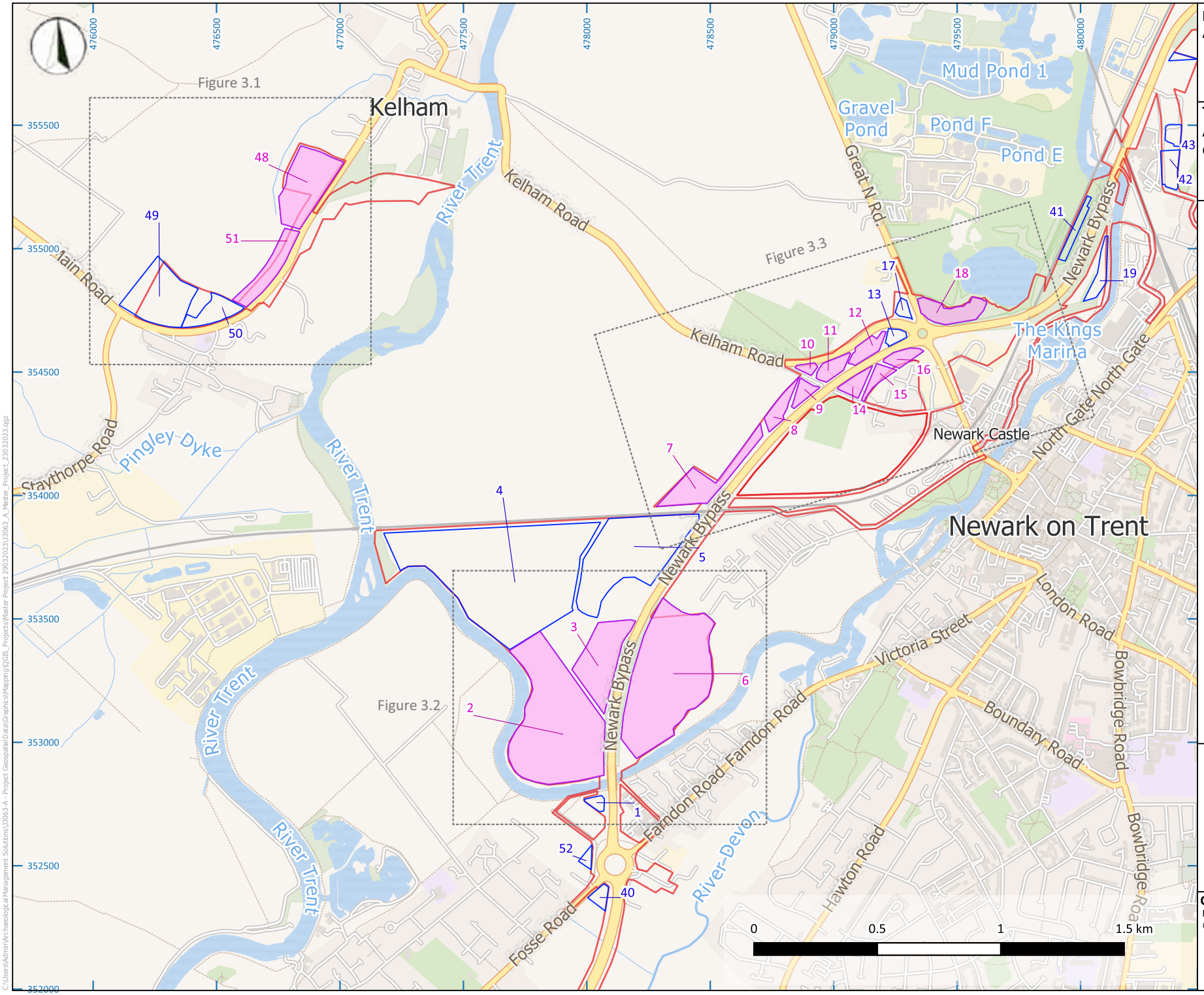
Title
Site Location

Legend
Site Boundary

Project No.	J3063-A
Scale @ A4	1:40,000
Drawn RZ	**Check** MD
Date 26 05 23	**Rev.** 1.0
CRS	OSGB36
Figure	1

Copyright Notes
Notes: © MapTiler © OpenStreetMap contributors Bing Maps ©2022 Microsoft

C:\Users\Admin\Archaeological Management Solutions\J3063-A - Project Geospatial Data\Graphics\Mapping\QGIS_Projects\Master Project 29032022\13063_A_Master_Project_23032023.qgz



Project
A46 Newark Bypass

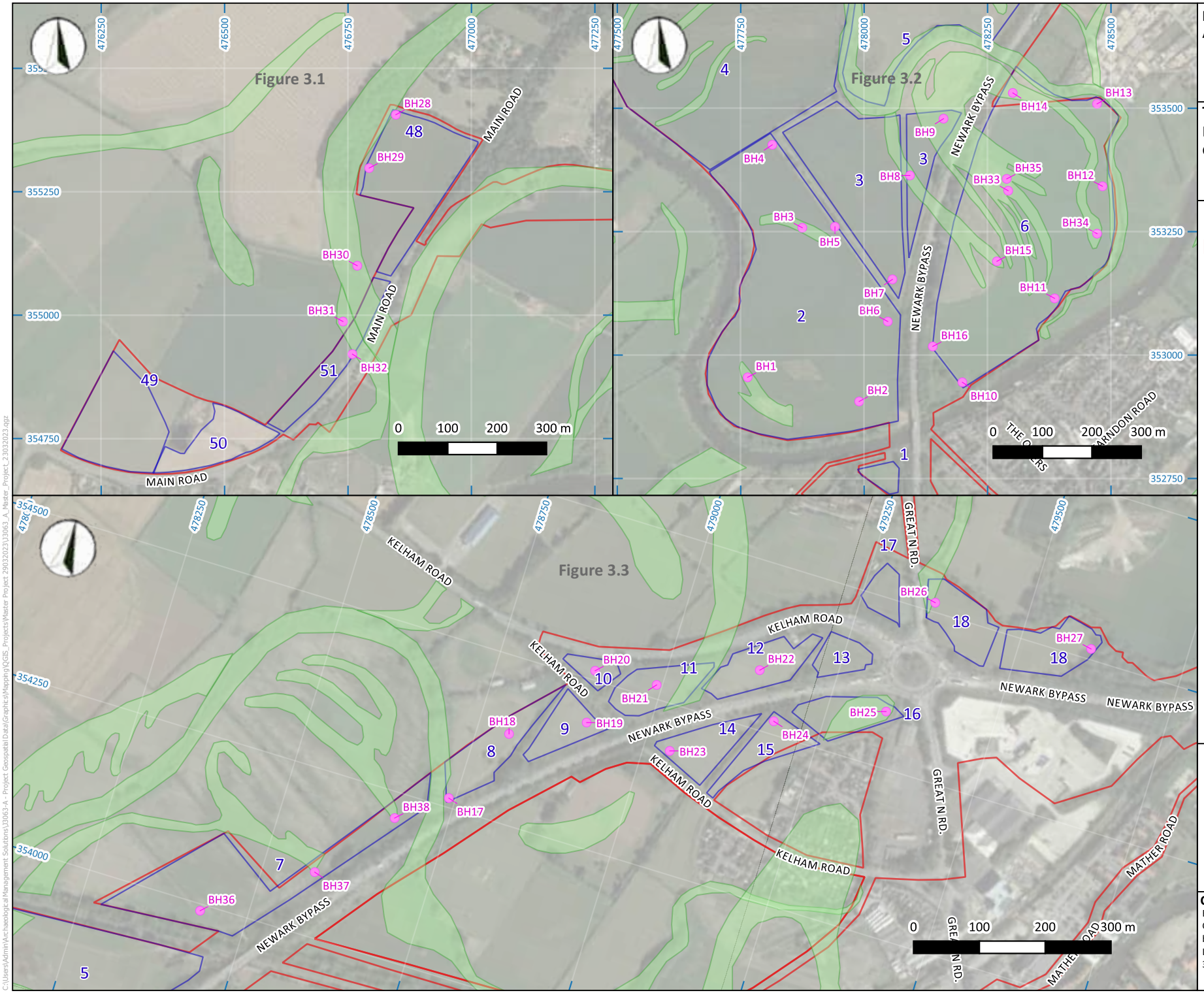
Title
Areas Subject to Geoarchaeological Coring

Legend
- Site Boundary
- Areas
- Areas Subject to Geoarchaeological Coring

Project No.	J3063-A
Scale @ A4	1:20,000
Drawn	RZ
Check	MD
Date	26 05 23
Rev.	1.0
CRS	OSGB36
Figure	2

Copyright Notes
Notes: © MapTiler
© OpenStreetMap contributors

C:\Users\Admin\Archaeological Management Solutions\J3063-A - Project Geospatial Data\Graphics\Mapinfo\QGIS_Projects\Master Project 29032023\13063_A_Master_Project_23032023.qgz



Project
A46 Newark Bypass

Title
Location of Geoarchaeological Boreholes

Legend

- Site Boundary
- Areas
- York Archaeological Trust 2017
- Coring Locations

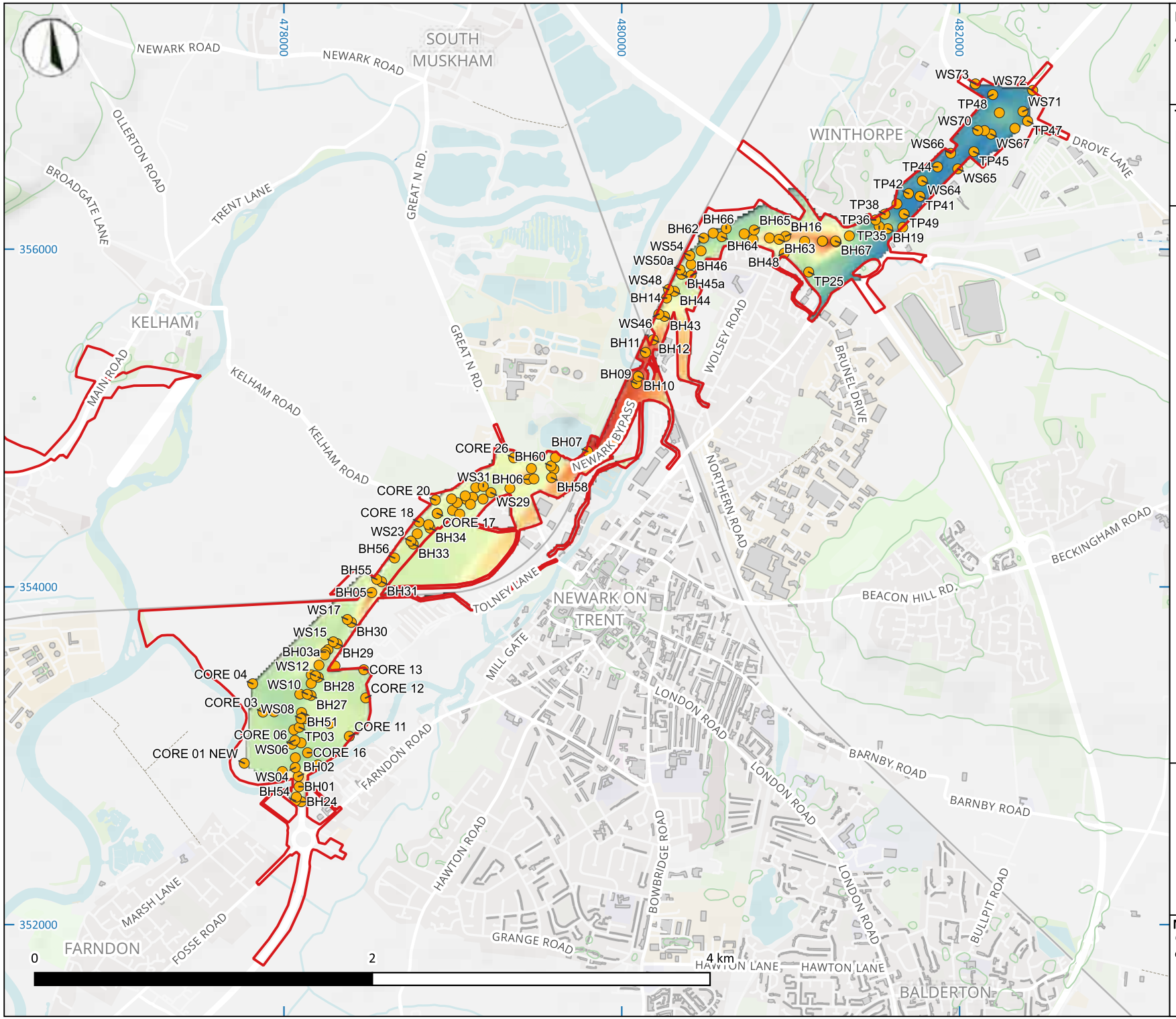
Project No. J3063-A	
Scale @ A4 -	
Drawn RZ	**Check** MD
Date 26 05 23	**Rev.** 1.0

Copyright Notes
Bing Maps ©2022 Microsoft.
Coring location survey provided by Skanska.
Location of Figures 3.1, 3.2 and 3.3 in Figure 2.

CRS OSGB36

Figure 3.1–3

C:\Users\Admin\Archaeological Management Solutions\J3063-A - Project Geospatial Data\Graphics\Mapping\QGIS_Projects\Master Project 29032023\13063_A_Master_Project_23032023.qgz



Project
A46 Newark Bypass

Title
Modelled Bedrock Surface

Legend

- Site Boundary
- GI Locations

Modelled Bedrock Surface (m OD)

+17.32m

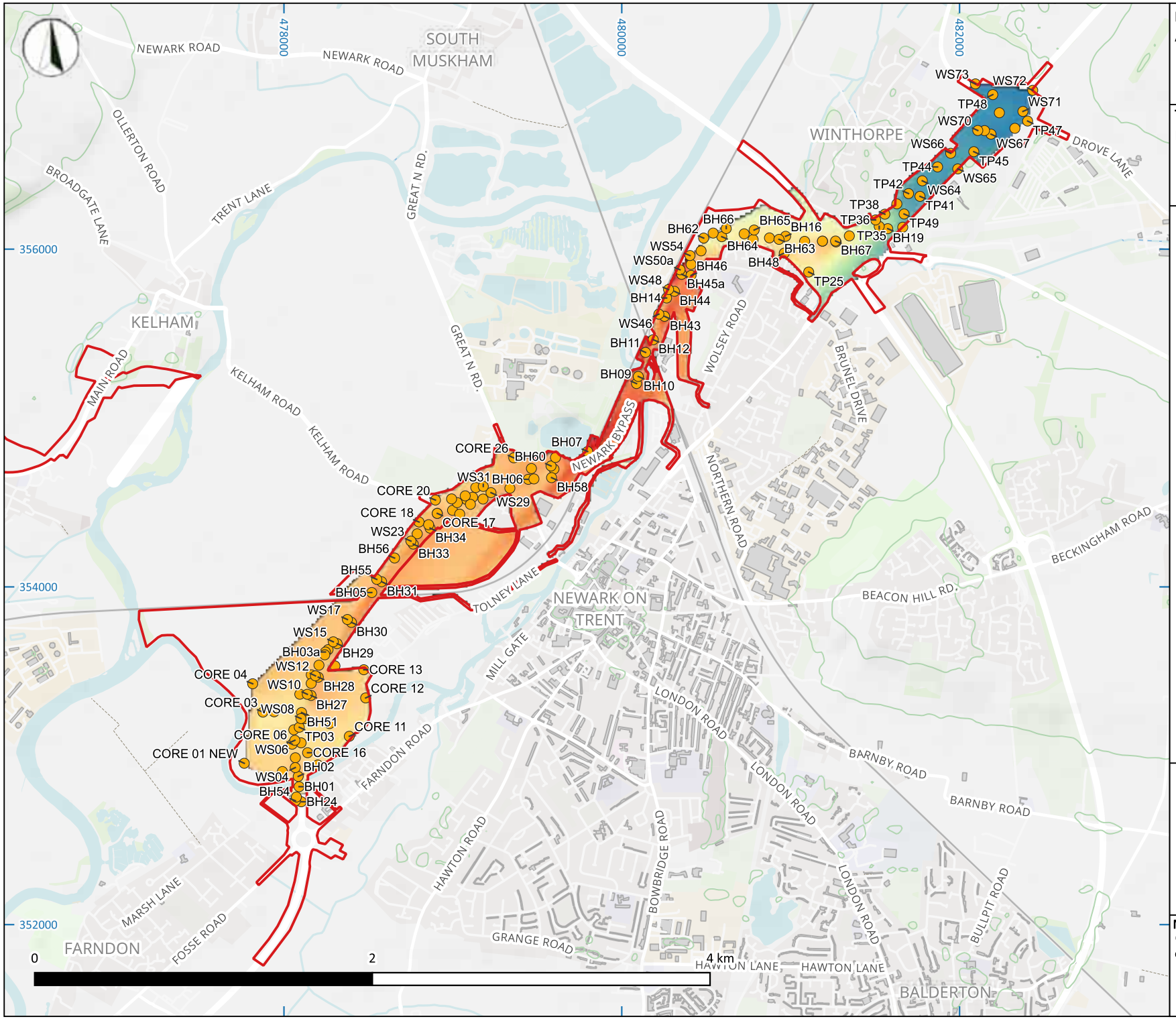
-19.8m

Project No. J3063-A	
Scale @A4 1:30,000	
Drawn by LOC	**Checked by** SL
Date 07/07/2023	**Revision** 1.0

Notes
© MapTiler ©OpenStreetMap contributors

CRS
EPSG:27700

Figure
04



Project
A46 Newark Bypass

Title
Modelled Sand and Gravel Surface

Legend

- Site Boundary
- GI Locations

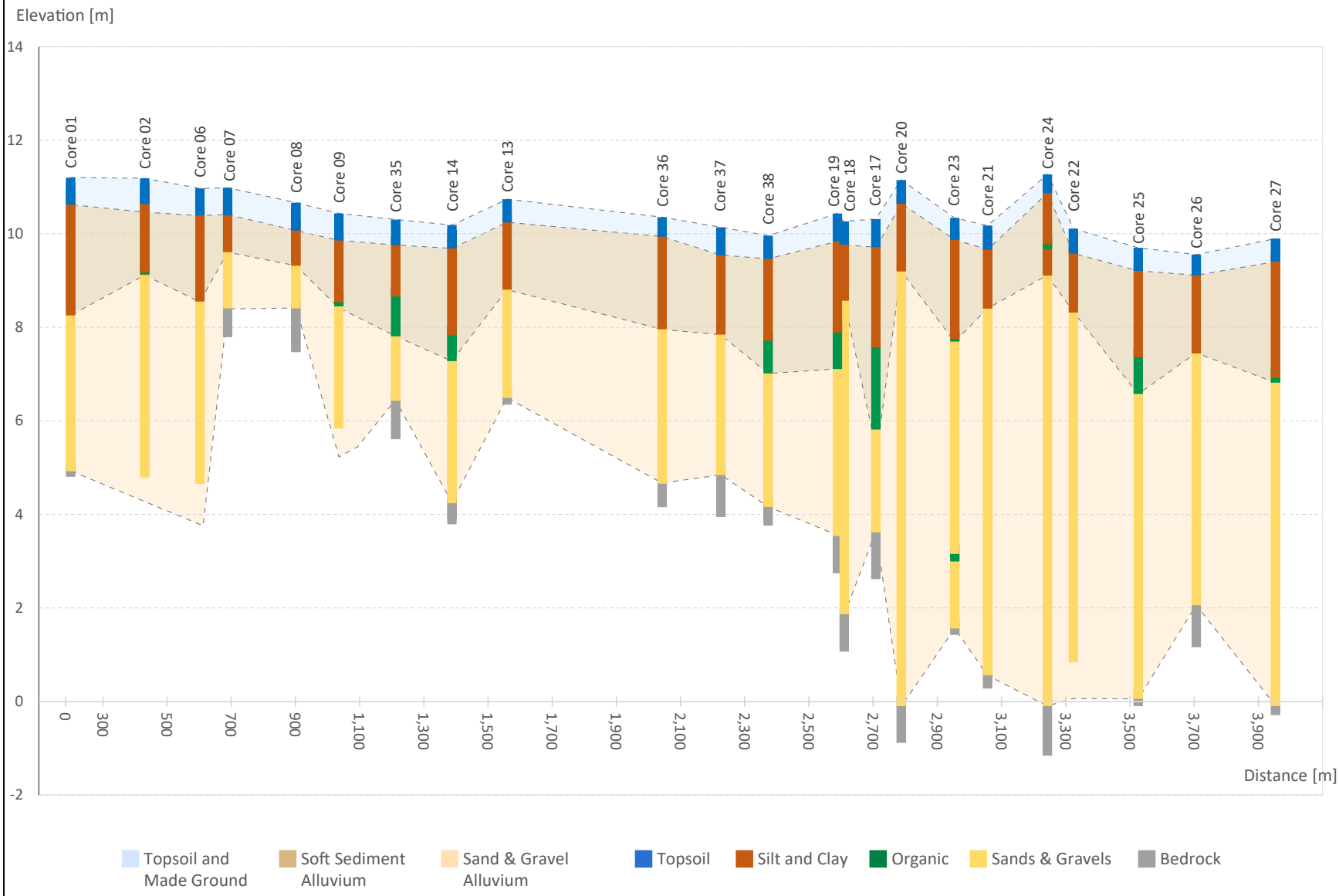
Modelled Sand & Gravel Surface (m OD)

+18.94m

+2.64m

Project No. J3063-A	
Scale @A4 1:30,000	
Drawn by LOC	**Checked by** SL
Date 07/07/2023	**Revision** 1.0
Notes © MapTiler ©OpenStreetMap contributors	**CRS** EPSG:27700
	Figure 05

Fig 6: Scheme Transect 1 with assessed Core Samples highligted



Project
A46 Newark Bypass

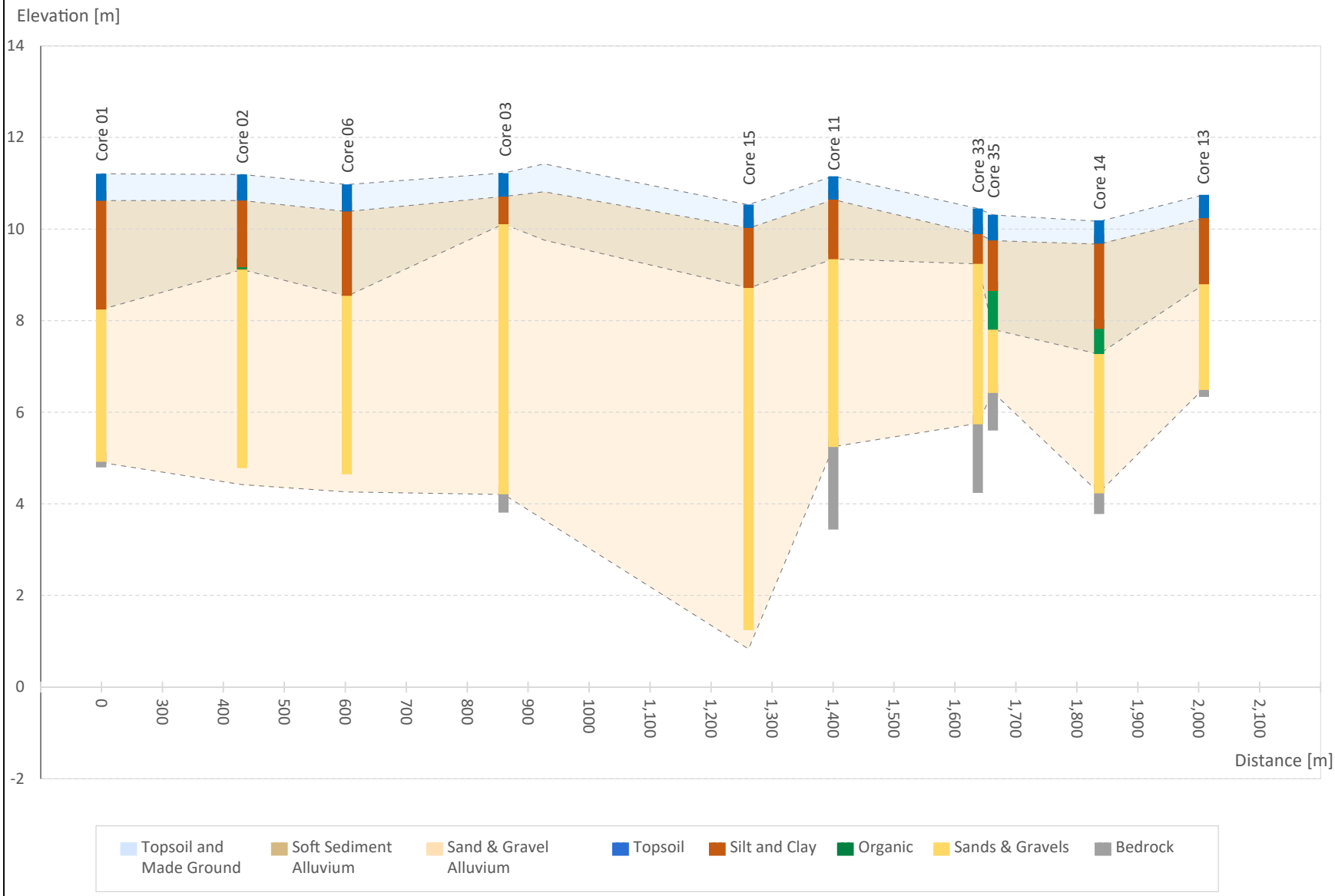
Title
Scheme Transect 1 with assessed Core Samples highligted

Legend

Inset Map

Project No. J3063-A	
Scale @A4 -	
Drawn by RZ	**Cheched by** SL
Date 11/07/23	**Revision** 1.0
Notes	**CRS** -
	Figure 06

Fig 7: Scheme Transect 2 with assessed Core Samples highligted



Project
A46 Newark Bypass

Title
Scheme Transect 2 with assessed Core Samples highligted

Legend

Inset Map

Project No. J3063-A	
Scale @A4 -	
Drawn by RZ	**Cheched by** SL
Date 11/07/23	**Revision** 1.0
Notes	**CRS** -
	Figure 07