

**An Archaeological Desk-Based Assessment:
Waverdale 'Open Space', Waverdale Avenue, Walker,
Newcastle-upon-Tyne, Tyne and Wear**

Central National Grid Reference: NZ 2924 6530

Site Code: WOS 08

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1. NON-TECHNICAL SUMMARY

- 1.1 An archaeological desk-based assessment was undertaken ahead of the proposed development of the eastern part of a large area of open land, known as Waverdale Open Space, west of Waverdale Avenue, Walker, Newcastle-upon-Tyne. The proposal involves construction of a new Walker Technology College, to replace the existing college, which currently lies to the south-west, on Middle Street in Walker.
- 1.2 The assessment was researched and written October 2008 - January 2009 by Pre-Construct Archaeology Limited. The work was commissioned by Sir Robert McAlpine Limited as part of the Newcastle Building Schools for the Future project.
- 1.3 The site is located in the northern part of the Walker suburb of Newcastle, east of the city centre, and is centred at National Grid Reference NZ 2924 6530. Roughly rectangular in shape, the proposed development area covers an area of approximately 10 hectares. It is bounded to the south by Ennerdale Road, to the north by Fossway, to the east by Waverdale Avenue and to the west by the remainder of Waverdale Open Space, with two schools to the south-west, beyond which lies Westbourne Avenue.
- 1.4 The majority of the site is scrubland, with perimeter tree cover to the north and north-east, while the southernmost margin comprises a corridor of pasture. The site is known to have been used for refuse tipping in the mid 20th century, this activity having infilled the dene of a branching stream shown crossing the central portion of the site on historic maps. There is also evidence of very recent surface landscaping of the site, particularly towards the north-western corner where a BMX bicycle park was created in the late 20th century.
- 1.5 The site does not lie within a conservation area and there are no scheduled monuments or listed buildings within its boundaries.
- 1.6 The potential at the study site for prehistoric remains is considered **low**, while the area of the former dene is considered to have **moderate** potential for palaeoenvironmental remains.
- 1.7 The site lies only c. 200m south of the line of Hadrian's Wall, with the Roman fort (*Segudunum*) at Wallsend c. 1km to the north-east. While the site probably lies some way beyond the extra-mural civilian settlement which spread westwards along the approach road to the fort, the line of the road itself - the Military Way - could lie close to the northernmost portion of the site, which is thus considered to have **moderate** to **high** potential for Roman period remains. Roadside activity is possible, potentially including religious buildings as previously encountered to the north-east. Any such remains would be of **local** or **regional** importance. For the remainder of the site, the potential for Roman activity is considered **low**.
- 1.8 The potential for archaeological remains of the Anglo-Saxon and medieval periods is considered **low**.
- 1.9 While the site is considered to have **low** potential for non-industrial post-medieval and early modern remains, there is considered **high** potential for industrial remains of these eras, since East Pit of Walker Colliery was located within its eastern boundary and an overground waggonway serving the pit ran through the north-eastern portion of the site; this part of a network of such features associated with later post-medieval and early modern coal mining in the area. Any such industrial remains are likely to be of **local** or **regional** importance.

- 1.10 There is considered to be **moderate to high** potential for modern era remains, specifically relating to a Second World War heavy anti-aircraft battery that occupied south-easternmost portion of the site. Any such remains are likely to be of **local** importance.
- 1.11 A crucial consideration regarding the possible survival of any sub-surface archaeological remains at the site, as well as the feasibility of any proposed ground investigation, is the extent of refuse tipping that took place during the modern era. Geotechnical investigations have demonstrated that there is as much as c. 12m of 'made ground' in the central part of the site, with the greatest thickness of material along the line of the former watercourse, including the central eastern part of the site where East Pit was situated. Approximately 3m or more of modern dumped material is present in the northern part of the site, including the north-easternmost area through which the colliery waggonway ran. The south-easternmost part of the site has the least amounts of modern refuse, with 1.0m or less present along the southernmost margin. There are significant Health and Safety concerns regarding the nature of modern overburden at the site.

2. INTRODUCTION

2.1 General

- 2.1.1 This archaeological desk-based assessment (DBA) has been commissioned by Sir Robert McAlpine Limited, ahead of the proposed development of the eastern portion of a large area of undeveloped ground known as Waverdale Open Space, west of Waverdale Avenue, Newcastle-upon-Tyne. The site is to be developed as a new version of Walker Technology College, as part of the Newcastle Building Schools for the Future (BSF) project.
- 2.1.2 The proposed development area, covering c. 10 hectares, lies within the Walker suburb of Newcastle, east of the city centre. It is essentially undeveloped, comprising scrubland and pasture, with some perimeter tree cover; this area (red-lined on Figure 2) is hereafter referred to as 'the study site'.
- 2.1.3 The undertaking of the DBA was a requirement of the Tyne and Wear Specialist Conservation Team, with the study site being identified as of potential archaeological interest. Specifically, the site has potential for Roman period activity, due to the proximity to the Hadrian's Wall frontier, with the Roman fort (*Segudunum*) and civil settlement at Wallsend c. 1km to the north-east. There is also particular potential for later post-medieval and early modern industrial activity, in the form of a late 18th-19th century colliery and associated waggonway. For the modern era there is also some interest, since a heavy anti-aircraft battery is known to have occupied the south-eastern portion of the site in the Second World War. The DBA was compiled according to a Specification compiled by the Tyne and Wear Archaeology Officer¹ and was researched and written October 2008 – January 2009 by Pre-Construct Archaeology Limited (PCA).
- 2.1.4 The DBA was compiled following a visit to the study site and an examination of readily available documentary and cartographic sources. A 'wider study area', with a radius of 1km from the centre of the study site, was examined to establish the potential for archaeological remains at the site itself. The purpose was to formulate an assessment of the impact of the proposed development upon the potential archaeological resource at the site, in order to inform the planning process. There may be a requirement for a further stage of archaeological work in light of the findings of the DBA.
- 2.1.5 The **Online Access** to the Index of Archaeological Investigation**S** (OASIS) reference number for the project is: preconst1-52219.

2.2 Site Location and Description

- 2.2.1 Walker is an eastern suburb of Newcastle, c. 3km from the city centre, occupying an elevated plateau overlooking a sharp bend in the Tyne (Figure 1). With the exception of early coal mining activity, the area was largely agricultural until the mid 19th century, when the riverside area developed rapidly at the heart of the Tyneside shipbuilding industry. From the 18th century onwards, Walker Colliery, which lay c. 0.5km south of the study site, was very much the focus of the industrial township. To the north-east of the study site lies the suburb of Wallsend, the very heart of the Tyneside shipbuilding industry.

¹ Tyne and Wear Specialist Conservation Team 2008.



Figure 1. Site location
Scale 1:25,000

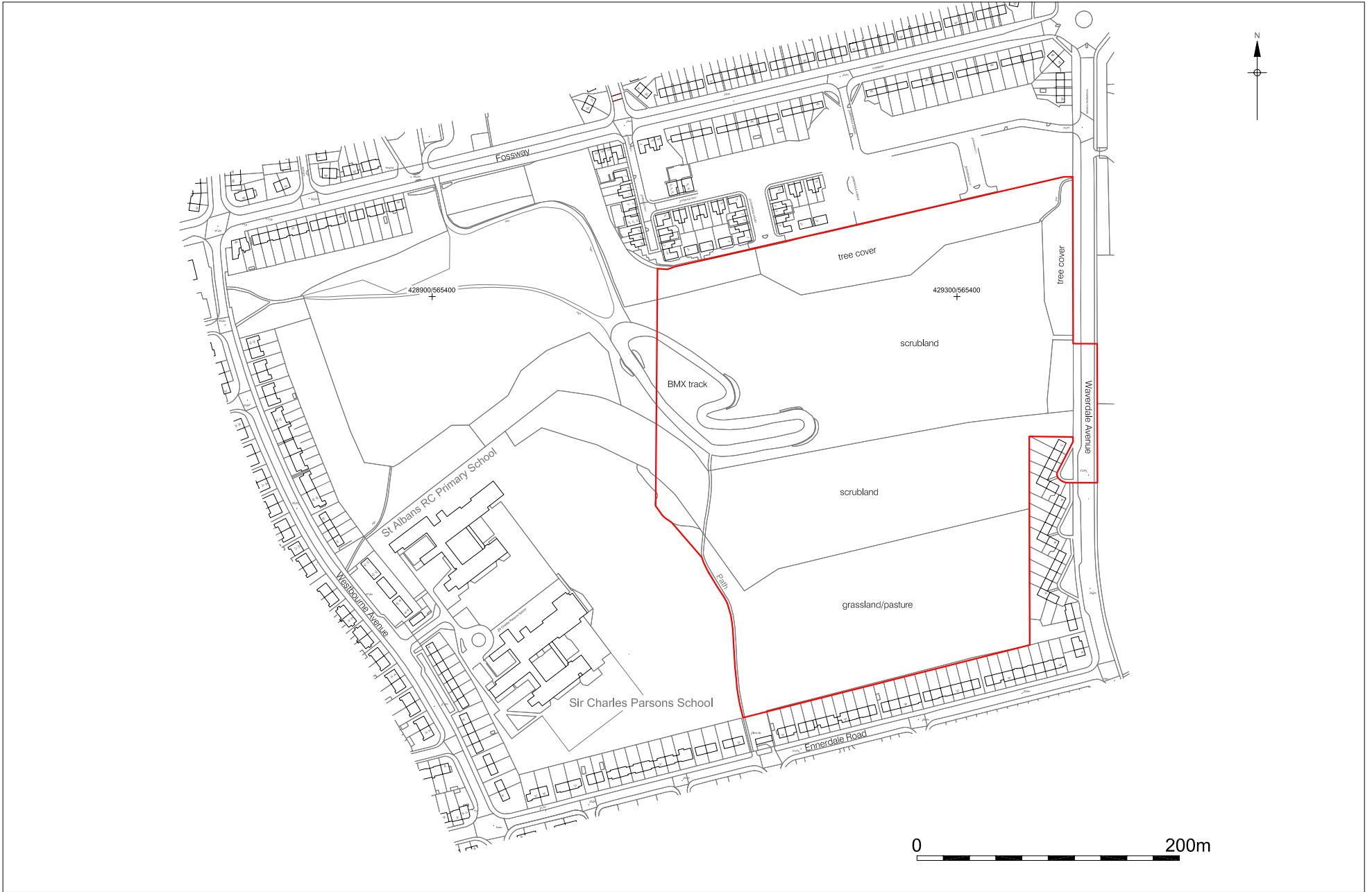


Figure 2. Site location; detail
Scale 1:4,000

- 2.2.2 Since the 1930s, Walker and Wallsend have become subsumed into the urban sprawl of Newcastle, and now form core elements of the densely populated East End of the city. Within the Walker suburb, and technically within the electoral ward of Walkergate, lies the study site, west of Waverdale Avenue and forming the easternmost portion of a large, essentially undeveloped area of land known for the purposes of this study as Waverdale Open Space. Previously it was known as Waverdale West, to distinguish it from open ground, Waverdale East, to the east of Waverdale Avenue.
- 2.2.3 The study site is roughly rectangular in shape and at c. 10 hectares is of substantial size, centred at NZ 2924 6530 (Figures 1 and 2). It is bounded to the south by Ennerdale Road, to the north by Fossway, to the east by Waverdale Avenue and to the west by the remainder of Waverdale Open Space, with Sir Charles Parsons School and St. Albans Roman Catholic Primary School to the south-west, beyond which is Westbourne Avenue.
- 2.2.4 The majority of the site is scrubland, with perimeter tree cover to the north and north-east, while the southernmost margin comprises a corridor of pasture. While the site is now roughly level, it is known that its natural topography has been much altered, firstly by 19th century colliery activity in the central eastern portion of the site and secondly - and most significantly - by extensive refuse tipping in the 1950-1970s. Since then there has been surface landscaping, particularly in the north-western corner of the site where a BMX bicycle park was created. The site also has a history of use for pony-riding. In the late 1990s the site was proposed for development as the Newcastle United football academy and a neighbourhood park, while another proposal to develop the site, this time as a golf course, was put forward in the early 2000s. Neither scheme was progressed.
- 2.2.5 Plates 1-6 (forming Appendix B) show the main elements of the study site during compilation of the DBA.

2.3 Planning Background

- 2.3.1 The proposed development of the site as a new Walker Technology College forms part of the government's Building Schools for the Future (BSF) initiative. In Newcastle, this is being delivered and partly funded by Newcastle City Council's private sector partner Aura, with Sir Robert McAlpine Limited the Principal Contractor for the programme. At the time of writing it is proposed to close the existing Walker Technology College, to the south-west on Middle Street, and construct a new facility on the study site, which forms part of Waverdale Open Space (Figure 15).
- 2.3.2 The Tyne and Wear Specialist Conservation Team, attached to the Historic Environment Section of Newcastle City Council, provides archaeological development control in Newcastle. A DBA of the archaeological potential of the site proposed for the development was required, with the work being commissioned by Sir Robert McAlpine Limited, as part of the planning process of the Local Planning Authority, Newcastle City Council.

2.3.3 Statutory protection for archaeological remains is principally enshrined in the *Ancient Monuments and Archaeological Areas Act 1979*, as amended by the *National Heritage Act 1983* and subsequent. Nationally important sites are listed in a schedule of monuments and are accorded statutory protection. Details of scheduling are held on the list maintained by the Department for Culture, Media and Sport (DCMS). For other components of the historic environment, the *Planning (Listed Buildings and Conservation Areas) Act 1990* amends the *Town and Country Planning Act 1971* and provides statutory protection to listed buildings and a control to preserve the character and appearance of conservation areas.

2.3.4 The study site does not lie within one of the eleven conservation areas in Newcastle and there are no scheduled monuments, listed buildings or historic parks and gardens within its boundaries or within its immediate vicinity. Planning policy and legislation that may be of relevance to heritage issues for the proposed development site is summarised below.

National Planning Policy Guidance and Legislation

2.3.5 *Planning Policy Guidance Note 16: 'Archaeology and Planning'* (PPG16)² provides advice concerning the safeguarding of archaeological remains within the planning process. PPG16 is informed by the principle that archaeology represents a finite and non-renewable resource and that its conservation, either by preservation *in situ* or preservation by record (through archaeological excavation) should be the primary goal of archaeological resource management. Implicit in PPG16 is the process for determining archaeological risk on a development site through assessment. DBAs usually form a baseline consideration of the archaeological potential of a proposed development site.

2.3.6 The following legislation and national planning policy are also taken into account:

- *Planning Policy Statement 1: Delivering Sustainable Development 2005* (PPS1).³ This states that development plans should take into account the enhancement of built and archaeological heritage;
- *Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999*.

Regional Planning Guidance

2.3.7 Advice on a strategic level is provided by *RSS1: Regional Spatial Strategy for the North East*,⁴ which was published in July 2008 and which covers the whole North East region. It specifically recognises the importance of the historic environment and *Policy 32 'Historic Environment'* seeks to conserve and enhance the historic environment of the region, by various means, including by seeking to preserve archaeological remains *in situ* where they are scheduled and similarly where they are of local and regional importance, if appropriate.

² Department of the Environment 1990.

³ Office of the Deputy Prime Minister 2005.

⁴ Available at the *North East Assembly* website.

Local Planning Guidance

- 2.3.8 At a local level, the Development Plan framework is provided by the *Newcastle City Unitary Development Plan* (UDP), adopted in 1998.⁵ The UDP contains the following general policies:

POLICY C04. DEVELOPMENT THAT WOULD HARM SITES OR AREAS OF ARCHAEOLOGICAL INTEREST AND THEIR SETTINGS WILL NOT BE ALLOWED.

This policy underlines that archaeological remains are a finite asset and care must be taken to ensure that archaeological sites and monuments and areas of potential archaeological importance are not needlessly destroyed. This applies to all periods including the industrial, which is significant in the Newcastle and Tyneside context. It sets out the three categories of archaeological sites and areas of interest in the City:

- scheduled ancient monuments - these being worthy of preservation because of their national significance;
- other important sites, monuments and areas - including sites known only from aerial photographs, Roman, post medieval and industrial features, some of which may also be listed buildings. This category includes sites and areas where there is considerable potential archaeological interest including areas which have consistently yielded dense scatters of artefacts, prehistoric flints, early urban and village cores and areas of early industrial development;
- substantially undeveloped and undisturbed areas where archaeological interest or potential has not, as yet, been established.

POLICY C04.1. THE FOLLOWING SITES AND AREAS OF ARCHAEOLOGICAL INTEREST IDENTIFIED FOR THE PURPOSE OF POLICY C04 INCLUDE:

Scheduled ancient monuments

7. *Hadrian's Wall, Vallum and associated works.*

Other sites and areas of archaeological interest, as defined on the Proposals Map

18. *Unscheduled areas of the known and presumed line of Hadrian's Wall, Vallum, Ditch and fortifications.*

POLICY C04.2. WHERE A PROPOSAL MAY AFFECT A SITE OR AREA OF ARCHAEOLOGICAL INTEREST, THE DEVELOPER WILL BE REQUIRED TO SUBMIT AN APPROPRIATE ASSESSMENT OF ITS POTENTIAL IMPACT UPON THE ARCHAEOLOGICAL REMAINS AND WHERE NECESSARY UNDERTAKE AN ARCHAEOLOGICAL EVALUATION.

This policy highlights the need to take archaeological considerations into account at the pre-planning stage before the development control process and stresses that potential conflict between the needs of archaeology and development can be reduced if developers discuss their preliminary plans with the City Council and County Archaeologist in advance. It emphasises that an archaeological assessment will be needed to support a planning application should it require the loss of remains or the removal of artefacts from a site and underlies that it should clearly state the means of preservation or recording if that is the agreed intention.

POLICY C04.3. WHERE ASSESSMENT AND EVALUATION HAVE ESTABLISHED THAT PROPOSED DEVELOPMENT WILL ADVERSELY AFFECT A SITE OR AREA OF ARCHAEOLOGICAL INTEREST, DEVELOPERS WILL BE REQUIRED TO PRESERVE ARCHAEOLOGICAL REMAINS IN SITU UNLESS THIS IS CLEARLY INAPPROPRIATE OR THE DESTRUCTION OF THE REMAINS IS DEMONSTRABLY UNAVOIDABLE, IN WHICH CASE A PROGRAMME OF ARCHAEOLOGICAL WORKS SHALL BE SUBMITTED TO AND AGREED WITH THE COUNCIL BEFORE THE START OF DEVELOPMENT.

This policy deals with the category of site which includes the numerous known sites of archaeological interest and sensitivity which do not have the status of scheduled monuments but which may still be worthy of preservation because of their national or local significance. These may be known only from aerial photographs, or comprise sites of industrial or post-medieval archaeology, such as collieries, railways or farm buildings (including listed buildings).

The policy notes that when an application is made to develop such a site, the Council, in consultation with English Heritage and the County Archaeologist, will weigh up its relative importance (national/ local) against other material considerations including the actual need for the proposed development in that particular location. Should permission be granted and it is not possible to preserve the remains *in situ*, then the developer should make appropriate and satisfactory provision for their excavation and recording. Planning permission may be granted subject to conditions which provide for excavation and recording before development takes place, again in consultation with the County Archaeologist.

⁵ Available at the *Planning Portal* website.

POLICY C04.4. WHERE PROPOSED DEVELOPMENT WOULD INVOLVE LARGE SCALE GROUND DISTURBANCE IN CURRENTLY UNDEVELOPED AREAS DEVELOPERS WILL BE REQUIRED TO SUBMIT A PRELIMINARY ARCHAEOLOGICAL ASSESSMENT TO IDENTIFY ANY SITES OR POTENTIAL AREAS OF ARCHAEOLOGICAL INTEREST.

This policy highlights that large-scale works, which cause extensive disturbance of ground such as open casting, the construction of major highways and substantial areas of new development may affect areas with as yet unidentified archaeological interest. The City Council will be guided by the advice of the County Archaeologist in this matter.

- 2.3.9 As previously mentioned, a Specification for this DBA was prepared by the Tyne and Wear Archaeology Officer (the document forms Appendix D to this report). There is potential for Roman period activity due to the proximity of the Hadrian's Wall frontier and the fort at Wallsend. In particular there is a possibility that the associated road – the Military Way - ran close to or even through the northernmost part of the site and evidence of roadside activity may also be present. The site also has potential for later post-medieval and early modern industrial archaeology since East Pit of Walker Colliery was located within its eastern boundary and an overground waggonway serving that working ran through the north-eastern portion of the site. Both the pit and the waggonway are of likely late 18th century origin and the waggonway was out of use by 1840. A Second World War heavy anti-aircraft battery is known to have occupied the south-eastern portion of the site and many aspects of military archaeology are considered to be of no little importance.

3. AIMS AND OBJECTIVES

3.1 The key objectives of the DBA are:

- to assess the impact of the proposed development upon the historic environment;
- to identify parts of the study site for which further archaeological work may be appropriate;
- to assist in the formulation of recommendations for any further archaeological work considered necessary to inform the planning decision.

3.2 In order to address the first objective, the DBA must first analyse the character and extent of known or potential archaeological sites that may be affected by the proposal **and** provide an evaluation of their importance. It should aim to assess the likely scale of impacts, both construction-related and operational, arising from the proposal. From this position, it should then be possible to outline appropriate mitigation measures to avoid, reduce or remedy adverse impacts on the historic environment, thereby addressing the second and third key objectives.

3.3 In addition, the Specification for the DBA stresses the need to undertake the project with reference to the *North East Regional Research Framework for the Historical Environment* (NERRF),⁶ a document that highlights the importance of research as a vital element of development-led archaeological work. In setting out key research priorities for all periods of the past, the NERRF allows archaeological projects to be related to wider regional and national priorities for the study of archaeology and the historic environment.

3.4 Key research priorities for the Roman (R) period in the NERRF that are of relevance to this assessment are:

Rii. Roads and communication:

The Roman communication network in the region is only superficially understood and greater understanding of its development is a priority.

Riii. The Roman military presence:

Though the Wall is visible along much of its course, further investigation is warranted into the path of the Wall in urban Tyneside.

Any work on Hadrian's' Wall and the associated military infrastructure must be placed firmly in an international context.

Riv. Native and civilian life:

In addition to native communities there were other important civilian centres, most notably the vici attached to many forts. There is still much basic work to be done in mapping the distribution and extent of vici, both at a regional level and for individual sites.

Rviii. Burial:

Although some cemetery locations are known, there are likely to be many more.

How is burial outside the immediate vicinity of Roman military sites characterised?

⁶ Petts and Gerrard 2006.

- 3.5 Key research priorities for the post-medieval (PM) period in the NERRF that are of particular relevance to this assessment are:

PM1. Early coal industry and coal use:

To ensure improved targeting of archaeological evaluation there should be a survey of documentary evidence and cartographical evidence for early mining in order to identify precise locations.

Development controlled commissioned fieldwork should also be aware of the potential for the buried remains of colliery buildings on later sites.

Sub-surface mine workings may survive. These may be revealed by modern deep ground disturbances in advance of other surface developments. It is essential that appropriate archaeological monitoring processes be put in place to record such remains.

PM2. Early railways:

Ongoing research needs to recognise the role of the North East in the development of the early railways, with several key areas of investigation having been identified.

Investigations should focus on the early waggonways and pre-locomotive hauled lines, whilst also recognising the potential archaeological importance of terminals, and specifically the development of coal staithes. Existing landscape features along the course of known early waggonways require survey, which if possible, should include railway formations, track beds and gradients.

The routes of early railways should be plotted on the HERs of the region, through archival research on early documentary and cartographic sources.

- 3.6 A key research priority for the 20th century (MO) period in the NERRF of particular relevance to this assessment is:

MOvi. Military and defence:

Although some aspects of military archaeology are well known, others remain poorly understood.

- 3.7 The results of the DBA will be used to make an informed decision on the necessity, or otherwise, for an archaeological mitigation strategy in relation to the proposed development.

4. METHODS OF ASSESSMENT

4.1 Research and Data Collection

4.1.1 Several sources of data relating to the study site and the wider study area were consulted during the research phase of the DBA, including a map regression exercise and consultation of the Tyne and Wear Historic Environment Record (HER).

4.1.2 Listed below are the main sources consulted during the compilation of the DBA:

- The Tyne and Wear HER, maintained by the Tyne and Wear Specialist Conservation Team, at West Chapel, Jesmond Old Cemetery, Jesmond Road, Newcastle-upon-Tyne, was visited (by appointment) in October 2008.
- Tyne and Wear Archives, Blandford House, Blandford Square, Newcastle-upon-Tyne, was visited in October 2008.

4.1.3 Following discussions with the Tyne and Wear Archaeology Officer, concerning the presence of a Second World War anti-aircraft battery on the site, the National Monuments Record, English Heritage, Kemble Drive, Swindon, was consulted in December 2008 regarding aerial photographic coverage of the site from this period.

4.1.4 Full details of all the material examined for the DBA are set out in Section 10.

4.2 Site Visit

4.2.1 In addition to the research described above, a site visit was undertaken, in November 2008, in order to carry out a thorough visual inspection of the study site, and its wider historic environment.

4.2.2 During the site visit, a photographic record of the study site was compiled in digital format and a representative selection of the photographs is included herein (Plates 1-6, forming Appendix B).

5. GEOLOGY AND TOPOGRAPHY

5.1 Geology

- 5.1.1 The site lies in the eastern sector of Hadrian's Wall where the Roman frontier crosses the Westphalian Coal Measures of the Upper Carboniferous. In the Wallsend area specifically, the solid geology is formed by sandstone beds high in the Middle Coal Measures.⁷
- 5.1.2 The drift geology of much of the eastern sector of the Wall is characterised by Quaternary till, which, in the Wallsend area, only thinly masks the Carboniferous bedrock.

5.2 Topography

- 5.2.1 The area of the study site lies at c. 25m AOD, with localised surface variation on the site itself, as described below. In the wider area, ground level falls away to the south and east towards the main geographical feature in the vicinity, the River Tyne. The varying course of the river means that it bounds the Walker area to the south and east, flowing in a roughly north-south direction c. 1.0km to the east of the study site before turning eastwards at Wallsend.
- 5.2.2 At the study site itself, the highest area is along its southern boundary, where ground level stands at c. 26.30m OD. Northwards, across the grassed southern margin of the site, the land falls to c. 25m OD at the point where ground cover becomes scrub. In the northernmost two-thirds of the site, ground level falls away generally to the east. The north-western portion of the site has much localised surface variation due to landscaping for a BMX bicycle park. At the north-western corner of the site ground level lies at c. 24m OD, while along the north-eastern boundary ground level lies at c. 21m OD, this being the lowest-lying part of the site (Figure 3).
- 5.2.3 Prior to this study, the site was well documented as having been the site of substantial tipping, after the Second World War and up to the 1970s, of domestic and industrial waste, including incinerator waste.⁸ By infilling the dene⁹ of a branching stream depicted within the central portion of the site on 18th-19th century mapping (for example, Figures 6-10), this activity created the existing relatively flat landform. Also of note is surface landscaping undertaken by Newcastle City Council in the 1970s and 1980s in order to create the aforementioned BMX park and a pony-riding course.
- 5.2.4 The streams in the vicinity of the site (for example, Figure 10) are generally known as tributaries of 'Stott's Burn', which converged to the east, beyond Waverdale Avenue, before discharging into the Tyne in the area occupied since the industrial era by shipyards, particularly Swan Hunter. 'Miller's Burn' is the name given to a tributary that flowed towards the site from the north-west, a feature which has given its name to playing fields, 'Miller's Dene Recreation Ground', on the north side of Fossway.

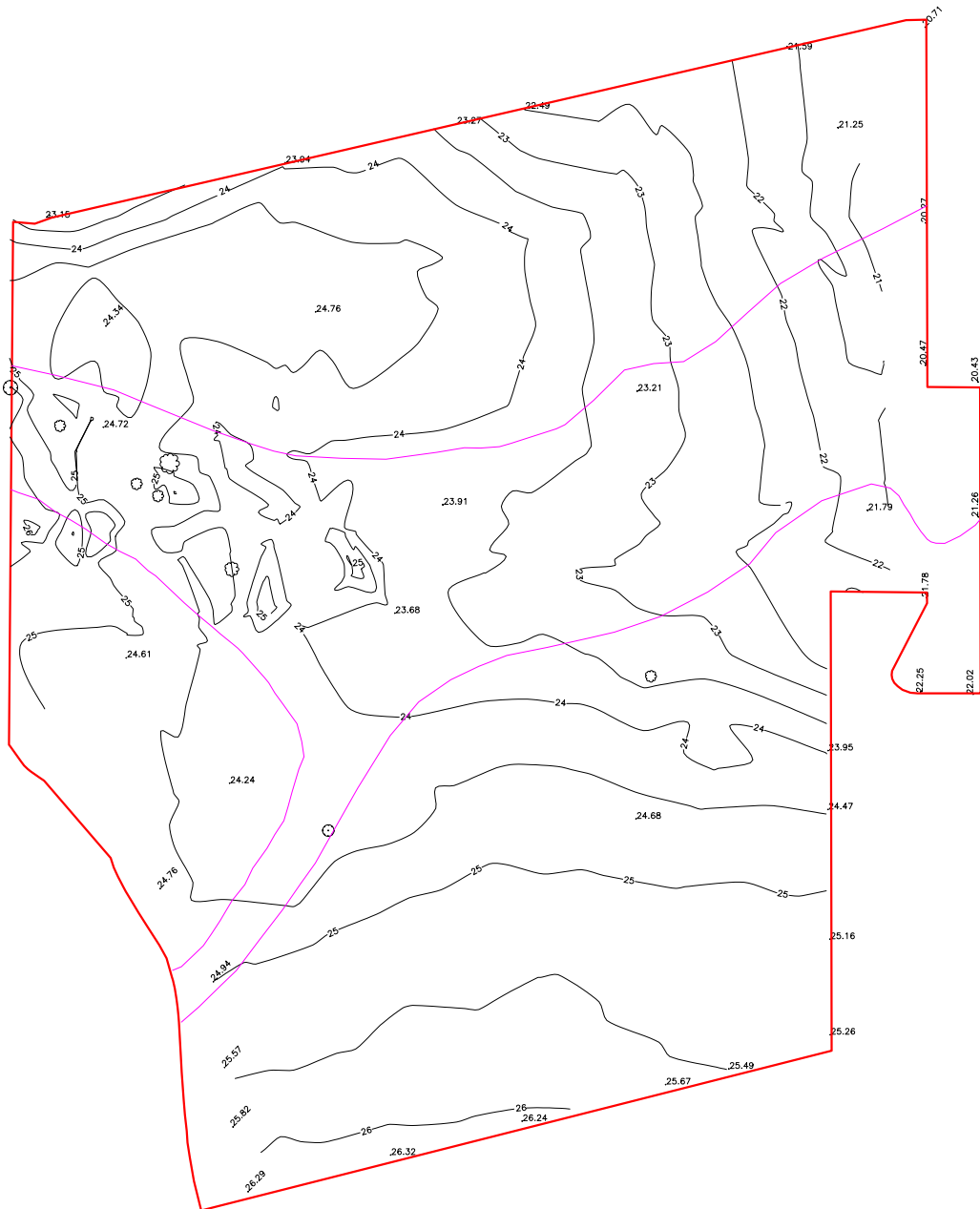
⁷ Johnson 1997.

⁸ RPS Clouston 1998.

⁹ 'Dene' is a familiar term throughout Northumberland and Durham meaning a typically steep-sided, wooded valley through which a burn (stream) runs.

- 5.2.4 In determining the extent of modern refuse tipping at the site, the Ordnance Survey 2nd edition from the 1890s (Figure 10) is particularly useful in that it depicts the 50 foot (c. 15.25m OD) contour running along the north side of the dene of Stott's Burn at the site, while a contour to the south, this also skirting a tributary from the south-west, is probably at the same height (these contours are reproduced on Figure 3). Existing ground level varies from c. 25m OD in the central western part of the site to c. 21-22m OD to the east. Thus ground levels elevated by 6-10m can be reasonably anticipated along the upper parts of the dene, with a much a greater depth of modern overburden likely along the actual courses of the streams.
- 5.2.5 Geotechnical investigations have been undertaken in association with the current development proposals and the findings - summarised in tabulated form in Appendix C - are also discussed in overview in Section 7. In summary, a depth of more than 11m of modern dumped material was recorded on the line of the south-western stream tributary towards the centre of the site. To the north and south, beyond the former dene, much lesser thicknesses of modern overburden were recorded, although the northern area has at least c. 3.0m of material and the south-easternmost area, the least affected part of the site, has c. 1m or less of material.
- 5.2.6 A previous study concluded that the routes of the former watercourse at the site are maintained through underground culverting.¹⁰ Concrete pipe culverts of 600mm diameter are described crossing the site at depths of up to 16m below the existing ground level and discharging into an 'very old brick barrel arch culvert under Waverdale Avenue'. A combined foul/surface water sewer evidently runs at a slightly shallower depth on an adjoining parallel route across the site.

¹⁰ RPS Clouston 1998.



— 50' (c. 15.25m) contour shown on Ordnance Survey 2nd edition

0 100m

Figure 3. Site topography
Scale 1:2,500

6. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

6.1 Introduction

6.1.1 In order to assess the archaeological potential of the study site, a programme of documentary and cartographic research was undertaken. The starting point for this research was the Historic Environment Record (HER) maintained by the Tyne and Wear Specialist Conservation Team. A 'wider search area' of radius 1.0km from the study site was established. All HER entries within this area were examined and those of relevance were mapped (Figures 4 and 5 use a numerical sequence of reference numbers for clarity, cross-referenced to the following text, with HER numbers listed in the table below each plot). These entries are discussed in summary below, in the period/era sub-sections, while further details appearing in the catalogue of HER entries forming Appendix A. HER information has been supplemented by data gathered from a variety of other sources, archaeological, documentary and cartographic, in order to compile this section.

6.1.2 The purpose of this study is not to set out a comprehensive history of land use in the area. The broad intention is only to predict and extrapolate likely archaeological conditions within the study site from finds and research in the vicinity. However, analysis of archaeological discoveries made nearby are important, as is an examination of existing historical and archaeological records relating to the site, since it is recognised that finds and sites entered onto the HER are at best a small and unrepresentative sample of the total buried heritage.

6.1.3 Time scales used in this section:

Prehistoric

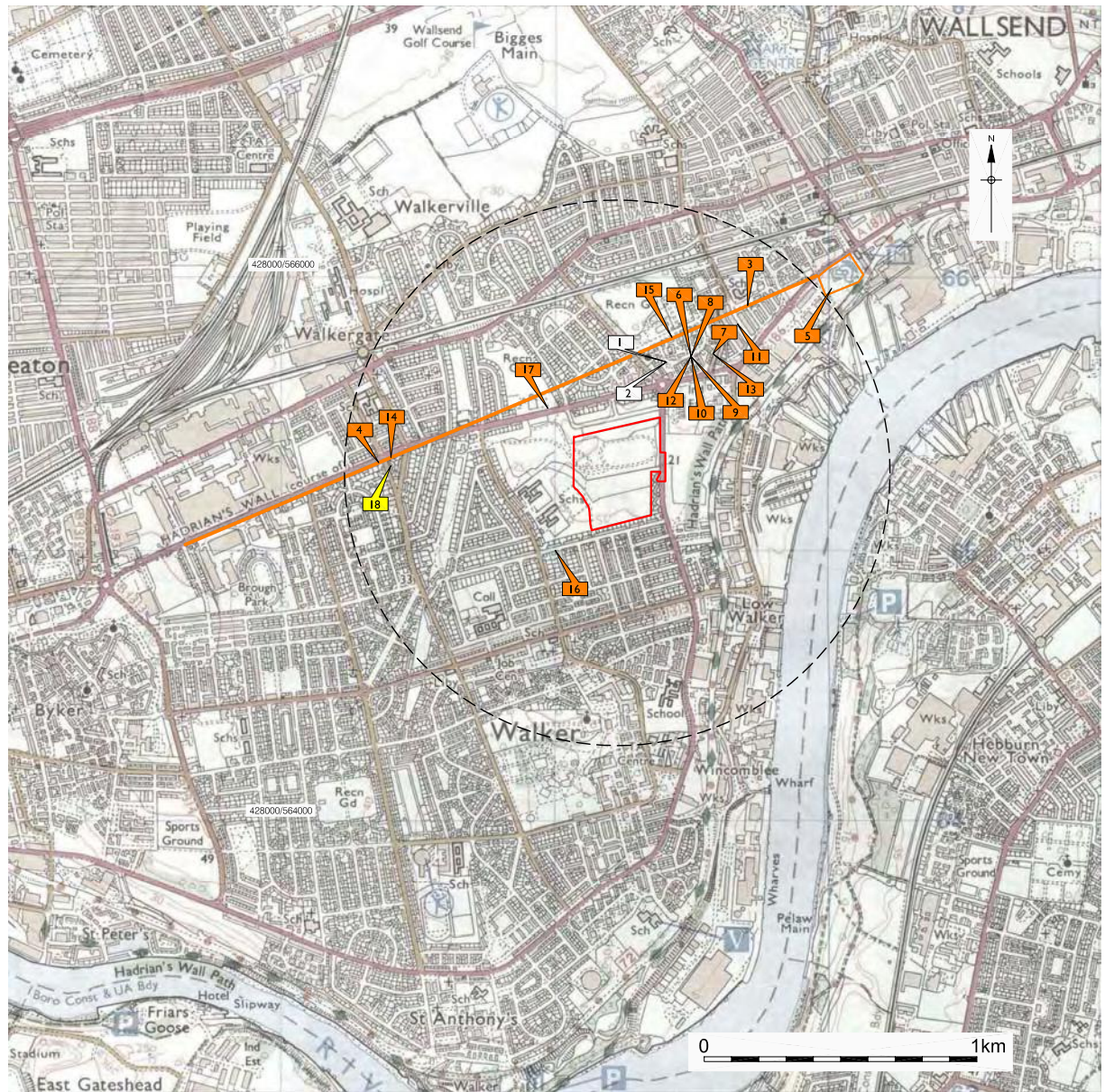
Palaeolithic	450,000–12,000 BC
Mesolithic	12,000–4,000 BC
Neolithic	4,000–2,300 BC
Bronze Age	2,300–700 BC
Iron Age	700 BC–AD 43

Historic

Roman	AD 43–410
Anglo-Saxon	AD 410–1066
Medieval	AD 1066–1485
Post-medieval	AD 1486–AD 1830
Early Modern	AD 1830-AD 1939
Modern	AD 1940-present

6.2 Prehistory and Palaeoenvironment

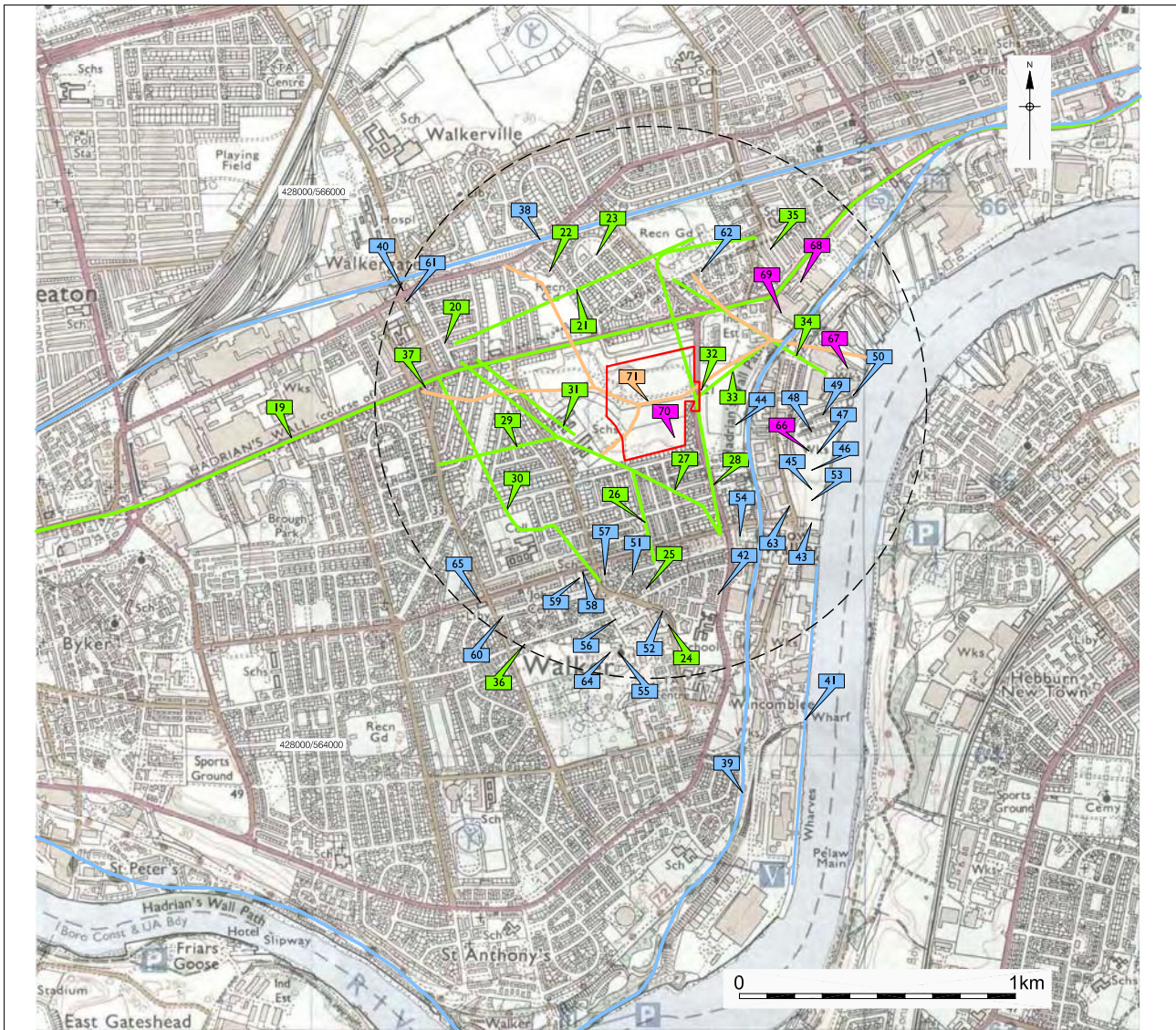
6.2.1 There are no HER entries for the various prehistoric eras on the study site.



Prehistoric/Roman
 Roman
 Medieval

Ref. No.	HER No.	Grid Ref.	Description	Period	Ref. No.	HER No.	Grid Ref.	Description	Period
1	1393	429410/565680	Burial mound	Prehistoric/Roman	9	822	429500/565700	Find (sculpture)	Roman
2	1417	429410/565680	Ploughmarks	Prehistoric/Roman	10	823	429500/565700	Find (dedication stone)	Roman
3	199	429960/566020-429310/565720	Frontier Defence	Roman	11	824	429670/565820	Find (dedication stone)	Roman
4	200	427640/565000-429275/565700	Frontier Defence	Roman	12	827	429500/565700	Parade ground	Roman
5	806	430000/565980	Vicus (<i>Segudunum</i>)	Roman	13	828	429850/565710	Find (sculpture)	Roman
6	818	429500/565700	Temple	Roman	14	1392	428400/565330	Find (coins, etc.)	Roman
7	819	429580/565710	Find (altar)	Roman	15	1397	429430/565770	Inscription	Roman
8	820	429500/565700	Find (altar)	Roman	16	1400	429000/565000	Find (building stone)	Roman
					17	6853	428975/565510	Find (stone head)	Roman
					18	1411	428400/565300	Village (Walker)	Medieval

Figure 4. HER entries; prehistoric, Roman and medieval
Scale 1:25,000



■ Post-medieval
 ■ Early modern
 ■ Modern
 ■ Undetermined

Ref No.	HER Ref.	Grid Ref.	Description	Period	Ref No.	HER Ref.	Grid Ref.	Description	Description
19	I191	436480/569030-425530/564110	Toll Road	Post-medieval	41	4203	429830/564680	Waggonway (Low Walker)	Early modern (industrial)
20	4184	428480/565490	Colliery (Walker, Gosforth Pit)	Post-medieval (industrial)	42	4205	429470/564580	Brick Works	Early modern (industrial)
21	4185	429380/565870-428520/565490	Waggonway (Gosforth Pit-Fair Pit)	Post-medieval (industrial)	43	4208	429810/564840	Shipyards	Early modern (industrial)
22	4186	428860/565750	Windmill	Post-medieval	44	4216	429530/565190	Brickfield	Early modern (industrial)
23	4187	429030/565810	Colliery (Walker, Fair Pit)	Post-medieval (industrial)	45	4217	429810/564960	Shipyards	Early modern (industrial)
24	4206	429290/564470	Colliery (Walker, B Pit)	Post-medieval (industrial)	46	4218	429810/565030	Shipyards	Early modern (industrial)
25	4207	429210/564400	Colliery (Walker, Ann Pit)	Post-medieval (industrial)	47	4219	429830/565090	Copperas Works	Early modern (industrial)
26	4209	429160/565030-429240/564700	Waggonway (Delight Pit-Low Walker)	Post-medieval (industrial)	48	4220	429810/565170	Brick Works	Early modern (industrial)
27	4210	429480/564800-428540/565420	Waggonway (Gosforth & Delight Pits-Low Walker)	Post-medieval (industrial)	49	4221	429850/565230	Copperas Works	Early modern (industrial)
28	4211	429600/565870-429480/564800	Waggonway (East Pit-Low Walker)	Post-medieval (industrial)	50	4222	429960/565300	Boatyards	Early modern (industrial)
29	4212	428890/565150-428460/565050	Waggonway (Delight Pit-Old Walker)	Post-medieval (industrial)	51	4264	429160/564650	School	Early modern
30	4213	428460/565360-429040/564630	Waggonway (Gosforth Pit-Low Walker)	Post-medieval (industrial)	52	4286	429270/564520	Blacksmiths	Early modern (industrial)
31	4214	428910/565190	Colliery (Walker, Delight Pit)	Post-medieval (industrial)	53	5022	429810/564920	Shipyards	Early modern (industrial)
32	4215	429410/565320	Colliery (Walker, East Pit)	Post-medieval (industrial)	54	6213	429550/564790	School	Early modern
33	4265	429620/565470-429390/565290	Waggonway (East Pit-Walker)	Post-medieval (industrial)	55	6218	429110/564370	Church	Early modern
34	4266	429310/565720-429860/565380	Waggonway (Stott's House Farm-Walker)	Post-medieval (industrial)	56	6219	429100/564490	Chapel (Methodist)	Early modern
35	4941	429660/565830	House	Post-medieval	57	6220	429060/564650	Chapel (Wesleyan Methodist)	Early modern
36	6224	428770/564400	House	Post-medieval	58	6221	428980/564660	Chapel (RC)	Early modern
37	7884	428410/565330	Farmstead	Post-medieval	59	6222	428970/564640	School	Early modern
38	I186	424720/563830-436710/569100	Railway	Post-medieval (industrial)	60	6223	428690/564500	Inn	Early modern
39	2146	433500/567260-426390/564850	Railway	Early modern (industrial)	61	7885	428340/565640	Chapel (Methodist)	Early modern
40	4182	428330/565680	Toll House	Early modern (industrial)	62	7886	429410/565750	Farmstead	Early modern
					63	9905	429730/564900	Public House	Early modern
					64	9907	429080/564370	Memorial	Early modern
					65	9911	428610/564550	Library	Early modern
					66	1787	429800/565100	Pillbox	Modern
					67	2093	429940/565400	Oil Refinery	Modern
					68	4942	429750/565750	Offices	Modern
					69	5106	429700/565600	Power Station	Modern
					70	5503	429310/565150	Anti-aircraft Battery	Modern
					71	I1113	428400/565500-430000/565400	Watercourse (Stott's Burn)	Unknown

Figure 5. HER entries; post-medieval, early modern and modern
Scale 1:25,000

- 6.2.2 Watercourses depicted at the site on the earliest detailed mapping are natural streams (burns), which discharged further to the east into the River Tyne. Prior to modern landscaping, these features would have occupied possibly steep-sided denes, which could have been a focus for various prehistoric activities. There are certainly some indications of potential prehistoric activity within the wider search area. For example, c. 300m north-east of the site, likely prehistoric earthwork features, known as 'Stott's House mounds', were recorded (Figure 4, Ref. 1). These were published in 1732 by the renowned antiquarian John Horsley as burial mounds or 'tumuli' and they appear on the Ordnance Survey 1st edition from the 1850s (Figure 8). One of the mounds was excavated by George Jobey prior to its destruction in 1964, this being the only feature to survive into the 20th century. Although Jobey recorded no evidence for function, probable prehistoric ploughmarks (Figure 4, Ref. 2) were recorded on the former ground surface beneath the mound; similar marks have also reportedly been found underlying the Roman fort at Wallsend. The broad suggestion of these findings is that cultivation was taking place in the general area during the prehistoric period.
- 6.2.3 In summary, the potential for prehistoric archaeological remains at the study site is considered **low**.
- 6.2.4 The period of origin of the former watercourses at the site is unknown although they are likely to be of considerable age. Such features often contain alluvial sediments that can provide at least two categories of palaeoenvironmental information. Firstly, such material can demonstrate the former direction of watercourses, phases of alluvial deposition, as well as giving good indications of buried or eroded landscapes. Secondly, such deposits can inform the study of changes to the surrounding environment.
- 6.2.5 Environmental changes can be revealed by analysis of palaeoenvironmental data usually in the form of sediments, pollen, molluscs, micro and macrofossils. Sediments can be analysed in order to recognise periods of alluvial and colluvial deposition. Pollen studies may show a variation in the amount of tree cover and evidence for cultivation or pastoralism. The combined results can provide evidence for ancient human activities such as deforestation or an increase in agricultural practices. Dendrochronological samples can be taken from wood, where appropriate, for dating and/or species identification. Radiocarbon dating can be undertaken on organic remains within stratified alluvial material in order to obtain a dated sequence.
- 6.2.6 At locations in close proximity to active or former watercourses, as the study site is, there are usually possibilities for two main types of sediment: peat and alluvial silt. They are very different in character and the information that they provide is similarly diverse. The potential for each is discussed briefly below.

- 6.2.7 Peat deposits occur where generally wet and anaerobic conditions serve to inhibit organic breakdown resulting in the accumulation of partially decomposed vegetable matter. This matter frequently contains the remains of rush and sedge stems or degraded wood. Where there has been a degree of organic breakdown, due to drying out or exposure to the air, a structureless and highly humified peat results. Within the peat matrix microscopic plant remains, diatoms and pollen are often well preserved. Detailed analysis of these through a peat profile can provide an accurate picture of the changing environment. Plant macrofossils will provide data relating to the local conditions in which the peat developed. Pollen and diatoms will then provide a complimentary regional picture, although it should be recognised that pollen being wind dispersed may be transported some distance from its point of origin.
- 6.2.8 Alluvial deposits are water borne sediments deposited in thick bands of generally blue grey clay-silt. The sediments are the result of periodic flooding and are also a symptom of rising river/sea-levels. Although often apparently uniform in consistency, laminations of darker material or lenses of grit and mollusc shells are also frequently observed. Variations in particle size, magnetic susceptibility and phosphate concentrations are probably the result of different depositional regimes, for example whether deposited in a static or slight flow.
- 6.2.9 Through study of watercourses and their wider environment in the post-glacial period a greater understanding can be gained of the nature of human occupation and exploitation, as well the environment in which humans operated. It is clear that major factors that have influenced human activity include changing climate, sea-levels, river courses, vegetation and topography. Information regarding all these may be preserved within gravels, peat and alluvial sediments in the form of various biological remains as described. The character of the sediments themselves and the evidence of man made structures (e.g. weirs, fish traps, river defences) can provide a framework in which the sediments can be interpreted.
- 6.2.10 In summary, the potential for palaeoenvironmental remains at the study site is considered **moderate**.

6.3 Roman

- 6.3.1 There are no HER entries of the Roman period on the study site but 15 within the wider study area (Figure 4 and Appendix A). The most notable is Hadrian's Wall (Figure 4, Refs. 3 and 4), which runs SW-NE across the wider study area, passing c. 200m to the north of the study site.
- 6.3.2 The Wall, constructed on the orders of the Roman Emperor Hadrian from AD 122, marked the northern frontier of the Roman Empire. As originally planned it ran from *Pons Aelius* in Newcastle, but at some stage it was decided to build an extension from the original terminus at the Tyne Bridge a further 3½ miles (5.6km) further east to a new fort, the aforementioned *Segedunum*. A broad earthwork known as the Vallum, comprising a wide ditch with two flanking banks, was constructed to the south of the Wall. This earthwork was not constructed along the stretch of Wall from *Pons Aelius* to *Segedunum*, presumably as the River Tyne was considered to serve the purpose of the Vallum in this area.¹¹

¹¹ Breeze and Dobson 2000, 60.

- 6.3.3 The Wall and its associated features represent the best-preserved frontier of the Roman world and consequently the Hadrian's Wall Military Zone was designated a UNESCO World Heritage Site in 1987. Although the urban areas of Newcastle were initially excluded from the World Heritage Site, in 1997 the scheduled portions of the Wall in the city were included. This followed the production of a management plan by English Heritage in 1996,¹² which identified, for the first time, three distinct areas: the 'archaeological core' of the Wall and Vallum (the World Heritage Site), the surrounding 'buffer zone' and the outer 'visual envelope'.
- 6.3.4 HER entries 199 and 200 cover the section of the Wall within the wider study area (Figure 4, Refs. 3 and 4). HER 199 covers the section from *Segedunum* fort to St. Francis Presbytery on Stott's Road in Walker, while HER 200 continues to the south-west from Stott's Road to Tunstall Avenue, west of Brough Park stadium in Byker. St. Francis Presbytery has long been thought to be the site of Milecastle 1 on the Wall.
- 6.3.5 Within the stretch of the Wall corridor covered by these two HER entries there are five scheduled sections, some with more than one distinct element (see Appendix A). The closest to the study site is SAM 28(7), this being a 171m length of the stone curtain wall in Miller's Dene playing fields, this lying c. 200m to the north-west of the north-westernmost corner of the site.
- 6.3.6 Several archaeological investigations undertaken in recent years have encountered remains of the Wall frontier in the wider study area. For example, a programme of archaeological monitoring undertaken in 2001 at the fire station on Fossway, this c. 400m WNW of the study site, recorded a deposit in one of four small hand-excavated test-pits which was tentatively interpreted as the fill of the north ditch of the Wall.¹³ An archaeological evaluation undertaken in 2006 at the junction of Fossway and Whinneyfield Road, c. 450m WNW of the study site, also probably encountered the upper fill of the northern ditch.¹⁴ That work confirmed the findings of antiquarian records, as well as previous modern day interventions, which demonstrate that, in this area, the north ditch survived as shallow earthwork well into the post-medieval period, and that its latest filling often consists of a distinctive black silty clay deposit. The position of the Wall itself in the area of the 2006 evaluation is known from work undertaken in 1929 when a sewer was installed across Fossway to join Whinneyfield Road; on the north side of Fossway the sewer trench cut through the stone foundation of the Wall, recorded as being 8 feet wide.
- 6.3.7 While the majority of the civilian settlement (*vicus*) at Wallsend was positioned to the south of the Wall, within the area directly protected by the fort and the Wall, a stone building of the Roman period has been recorded to the north of the Wall and fields or agricultural plots of Roman date are known to extend for at least 100m north of the fort and the Wall.¹⁵

¹² English Heritage 1996.

¹³ Tyne and Wear Museums 2001.

¹⁴ Tyne and wear Museums 2006.

¹⁵ Hodgson, no date.

- 6.3.8 However, for the most part, the *vicus* (Figure 4, Ref. 5) at Wallsend occupied the area to the south and west of the fort. The settlement was enclosed in whole or part in the 3rd century by a system of defensive earthworks and intriguing features which may have formed its western boundary were recorded c. 65m west of the fort, running south from the Wall, and presumed to turn to front the river c. 75m to the south, where a section of the defensive cordon was found in 2002, in advance of the installation of a new dry dock at Swan Hunter's Shipyard, as reported in the HER.
- 6.3.9 Beyond the core of the *vicus* at Wallsend there is evidence of outbuildings at a much greater distance from the fort, these probably lining the Military Way as it ran westwards from the west gate (*porta quintana*) of the fort.¹⁶ The road itself would have run within c. 100m of the line of the Wall and to its south, thus potentially very close to the northern limit of the study site. The presence of the road, and any associated roadside activity, is considered the greatest possibility with respect to Roman period activity for the study site.
- 6.3.10 Roadside corridors are well known as areas of extra-mural Roman activity in Britain and beyond. The modern street of Philiphaugh, c. 250m north-east of the study site, has long been suspected as being a focus of Roman religious activity, indeed potentially being the site of a roadside temple (Figure 4, Ref. 6). To the east of Stott's Road, a former area of allotment gardens to the west of Philiphaugh yielded – mostly in the 1890s - a group of altars, dedication slabs and sculptures representing at least three deities (Figure 4, Refs. 7, 8, 9, 10, 11 and 13). Stone foundations noted by the tenant of one allotment, these aligned east-west and north-south, have generally been taken as being very good evidence for a roadside temple. The HER reports that the presence of a parade ground (Figure 4, Ref. 12) has also been postulated in this area, since one discovery in the allotments, part of a statue of Minerva (Figure 4, Ref. 13), was found in association with an altar dedicated to Jupiter (Figure 4, Ref. 7).
- 6.3.11 The remaining HER entries for the Roman period in the wider study area relate to chance finds of artefactual material. The first was the recovery in the mid 19th century of a group of objects (Figure 4, Ref. 14), including coins, found in debris of the Wall in Walker. Two others were Roman inscriptions seen in the 18th century (Figure 4, Refs. 15 and 16). Another was a stone head (Figure 4, Ref. 17) found in 1930s, one of a group of a type known as 'Celtic heads' found in proximity to the Wall in its eastern sector.
- 6.3.12 In summary, the potential for Roman remains at the study site is considered **moderate to high** in its northernmost portion, due to the proximity to Hadrian's' Wall and, particularly, the Military Way. The greatest potential is for evidence of the road itself or for roadside activity, particularly religious installations and possibly even limited roadside settlement/trading outlets, all well beyond the likely western extent of the *vicus* of Wallsend fort. The potential for Roman activity decreases to the south, becoming **low** in the central and southernmost portions of the site.

6.4 Anglo-Saxon

- 6.4.1 No entries relating to Anglo-Saxon activity are recorded in the HER for the study site or within the wider study area. Neither is there any documentary evidence to suggest settlement or exploitation of the land in the vicinity of the study site during this era.

¹⁶ *ibid.*

6.4.2 In summary, the potential for remains from the Anglo-Saxon period at the study site is considered **low**.

6.5 Medieval

6.5.1 There are no records in the HER for the medieval period at the study site and just one within the wider study area, this being the medieval village of Walker (Figure 4, Ref. 18), which lay c. 0.6km to the west of the study site. The location of the village is derived from mid 18th century mapping, which shows 'Walker' adjacent to Hadrian's Wall with a triangular 'Town Green' to the south (for example, Figure 6). By the mid 19th century, maps depicted a small settlement there as 'Old Walker' (for example, Figure 8).

6.5.2 Part of the 12th century barony of Morpeth, the settlement was named *Waucre* in the mid 13th century and the name is thought to derive from 'Wall Carr' meaning the carr (marsh) by the Wall. The settlement had five taxpayers in 1296, seven in 1312 but only two in 1336. The township was subinfeudated at an early period to the family of Baret and eventually it passed to the Fenwick family and it remained in their possession until 1692.

6.5.3 Only slight traces of ridge and furrow ploughing, probably dating to the medieval period, have been noted in the Walker area in the past, while firm archaeological evidence of medieval settlement is largely absent. While the study site itself was almost certainly not settled during the medieval period, the land may have been utilised for agriculture and any remains from this era, if present, could include for example improved agricultural soils, field boundaries or the remains of ridge-and-furrow ploughing, all of moderate archaeological significance at best. In summary, the potential for archaeological remains of medieval date at the study site is considered **low**.

6.6 Post-medieval and Early Modern (including map regression)

6.6.1 With regard to general settlement and agricultural activity, rather than early industry, there are just a handful of HER entries for the post-medieval period within the wider study area. These are: a section of the toll road (Figure 5, Ref. 19) (the line of Fossway in the wider study area) running north-eastwards towards North Shields; a corn mill to the north of Hadrian's Wall (Figure 5, Ref. 22); Cosyn's Hall (Figure 5, Ref. 35), a 17th century dwelling later renamed Carville Hall, which stood c. 0.5km to the north-east of the study site; Scrogg House (Figure 5, Ref. 36) which stood c. 1km to the south-west of the study site and which was of 18th century date at least, appearing on Isaac Thompson's estate plan of Walker from 1745 (Figure 6); Walker East Farm (Figure 5, Ref. 37), which stood just south Hadrian's Wall, c. 0.9km west of the study site, possibly from as early as the late 17th century until its demolition in the 1930s.

6.6.2 The remaining HER entries designated as post-medieval - in terms of the chronological timescales adopted for this assessment – actually refer to early industrial sites, two of which lie within the easternmost portion of the study site, as discussed in due course. In the wider study area, the early industrial sites include the earliest workings of Walker Colliery, namely Ann Pit (Figure 5, Ref. 25) and B Pit (Figure 5, Ref. 24), these located c. 0.5km south of the study site.

- 6.6.3 The precise dates at which Ann and B Pits were sunk are uncertain, although the online catalogue of the collections of the North of England Institute of Mining and Mechanical Engineers (NEIMME) lists a colliery report book with an '*Estimate of the cost of bringing a level from Stots Row to Walker Pit and completing the sinking of two pits, by Enoch Hudson, John Barnes, John Bullock, Mark Hobson and Richard Peck*', dated April 1713,¹⁷ '*Valuations of stock at Walker Colliery*',¹⁸ dated February-April 1737. An 18th century origin is therefore certain for the earliest workings of Walker Colliery, which by the 1760s was the deepest and most important collieries in the region.¹⁹ Several technological innovations were introduced there, such as (in 1758) Fitzgerald's device to convert linear motion to rotary motion, used in conjunction with a Newcomen engine to operate mine ventilators, as well as to assist winding engines, and (in 1765) a geared horse engine to greatly increase winding speed from great depths.
- 6.6.4 Delight Pit of Walker Colliery (Figure 5, Ref. 31) lay immediately to the west of the site, in the area now occupied by St. Albans Primary School. The date at which Delight Pit was first worked is uncertain but the NEIMME collections include a report and account book containing a document from 1824 with queries by a Matthias Dun regarding '*the best methods of working Charlotte, Delight and Engine Pits, Walker Colliery*'.²⁰ Thus at least an early 19th century origin is assumed, although given the known 18th century origin for the earliest workings of the colliery, as previously described, an 18th century date of origin for Delight Pit is likely.
- 6.6.5 On the extreme eastern edge of the study site was East Pit of Walker Colliery (Figure 5, Ref. 32). An '*Account of Borehole in East Pit, Walker Colliery. July 2nd 1770*',²¹ establishes a late 18th century origin, at least, for this working, which has been designated as post-medieval industrial for the purposes of this assessment. Another account, '*Boring in Walker Estate at the head of Stot's Pow Dean for the Corporation of Newcastle. First Hole, a little below the middle of the Bank. March 21st, 1753*'²² could refer to East Pit, although this is by no means certain. A document²³ from October 1775 contained within a volume of colliery memoranda describes a boring at Fair Pit (Figure 5, Ref. 23), Walker Colliery, establishing that this working, north of Hadrian's Wall and c. 0.4km north of the study site, was operational by this date. Gosforth Pit (Figure 5, Ref. 20) another outlying working of Walker Colliery, located just north of Hadrian's Wall and c. 0.6km to the WNW of the study site. A document in a colliery report and account book²⁴ establishes the date of Gosforth Pit of Walker Colliery relatively firmly, this being '*Description of the sinking of Gosforth Pit [Walker], by Ralph Elliot, 14 April 1780-13 January 1782*'. Several maps of this period, such as Gibson's colliery plan of 1788 and Lambert's similar plan of 1807, certainly depict Walker Colliery, although these are not at sufficient scale to be able to provide additional information of note, so the maps are not included herein.

¹⁷ NEIMME Reference NRO 3410/For/1/4/196 ('For' indicating part of the Forster collections). *Colliery Report Book (1717-1779)*.

¹⁸ NEIMME Reference NRO 3410/For/1/4/173. *Colliery Report Book (1717-1779)*.

¹⁹ Durham Mining Museum website. '*Coal Mining – a general history – Timeline*' by E.T. Fretwell.

²⁰ NEIMME Reference NRO 3410/For/1/19. *Colliery Report and Account Book (1766-1835)*.

²¹ Durham Mining Museum website. Source given as '*An Account of the strata of Northumberland and Durham proved by Borings and Sinkings, Volume U-Z*', NEIMME 1897.

²² *ibid.*

²³ NEIMME Reference NRO 3410/Bud/27/204. ('Bud' indicating part of the Buddle collections). *Colliery Memoranda (1752-1840)*.

²⁴ As above.

- 6.6.6 A number of the post-medieval industrial HER entries refer to elements of the network of colliery waggonways that existed across the wider study area, reflecting the marked increase in coal extraction in the area in the 18th century. One such feature (Figure 5, Ref. 28) served East Pit of Walker Colliery and ran NNW-SSE through the north-easternmost portion of the study site. Thomas Oliver's estate plan of 1840 (Figure 7) depicts the feature crossing the line of Hadrian's Wall then changing course sharply to run to the east. This portion was, however, seemingly out of use by then, being annotated '*Site of Old Waggon Way*'. Oliver's plan also suggests that the route passed close to an unnamed coal working immediately south of the Wall, west of where Stott's House Farm would later lie. To the south of East Pit, the route, probably still in use at the time of Oliver's plan, continued towards the core workings in 'Low Walker' - by the 19th century, possibly earlier, the term Low Walker had come to mean the industrial settlement area developing to the south-east of the study site, in the vicinity of Ann and B Pits, and extending to the riverside. A waggonway (Figure 5, Ref. 33) ran to the north-east from East Pit to join another route (Figure 5, Ref. 34) which appeared to originate at the aforementioned unnamed working on Hadrian's Wall, as shown on Oliver's plan of 1840, these continuing to run south-eastwards to the Walker riverfront.
- 6.6.7 The various outlying workings of Walker Colliery in the wider study area were served by other waggonways. One route (Figure 5, Ref. 27) ran south-eastwards from Gosforth Pit passing Delight Pit to the west and skirting the south-western corner of the study site, after which it branched, with both elements running into Low Walker. One branch (Figure 5, Ref. 26) ran SSE towards the earliest workings of Walker Colliery, while the other (Figure 5, still Ref. 27) ran south-eastwards towards the Walker riverfront. Another route (Figure 5, Ref. 30) originated at Gosforth Pit, and ran south-eastwards past 'Old Walker', as depicted on the Ordnance Survey 1st edition (Figure 8), into Low Walker. That route probably pre-dated the sinking of Gosforth Pit, since it appears on Isaac Thompson's plan of Walker from 1745 (Figure 6), on which it is shown as continuing to the south-east to 'Winkham Lee Staith' (later Wincomblee) on the Tyne. Another waggonway (Figure 5, Ref. 29) ran WSW from Delight Pit, crossing the line of the previously described route (Figure 5, Ref. 30) from Gosforth Pit. The aforementioned Fair Pit was linked to Gosforth Pit by a waggonway (Figure 5, Ref. 21) which ran north of and parallel with Hadrian's Wall. Another waggonway (Figure 5, Ref. 41) that served the Low Walker riverfront has been designated as early modern industrial, although it too may have had a late 18th or early 19th century origin.
- 6.6.8 With a colliery waggonway known to have been present upon the study site, it is considered worthwhile to include relatively detailed background information on this crucial element of colliery infrastructure in the North-East of England. Indeed prior to the rapid increase in mechanisation in the early to mid 19th century, traditional waggonways were very much the forerunner of the modern railway system.²⁵ Early wooden overground 'railways' probably originated in Nottinghamshire in the early 17th century, although by 1608 three short routes of this kind were in place in south Northumberland, transporting coal to staithes.²⁶

²⁵ For the most part, the works of Lewis 1970 and Warn 1976 are used as a basis for this summary.

²⁶ The wharves at which coal was transferred from waggonways to water-going vessels were known locally throughout the North-East as 'staithes'. Atkinson 1968.

- 6.6.9 As the coal trade expanded greatly in the North-East in the later part of the 17th century, there was a significant increase in the number of waggonways across south Northumberland, Tyneside and Wearside. By 1670, flanged wheels had been added to help guide the waggons, with the addition of protective metal strips to the rails in the first decades of the 18th century. Across the North-East, the heyday of these forerunners of the railways proper is generally considered to be between the mid 18th century and the first decade of the 19th century. Their widespread use throughout the coalfields of the North-East in the 18th century was linked directly to the need to move coal quickly and efficiently for export, especially to London.
- 6.6.10 In terms of technology, colliery waggonways had their origin in the simple horse and cart, with wooden rails initially being laid down in the early 17th century to facilitate the movement of wheeled vehicles in overground colliery transport systems. In the North-East, the vehicles were initially known as 'wains', this word eventually being replaced by 'waggons'. A standard unit of weight, the 'Newcastle chaldron', was employed when colliers were being loaded, estimated in the early years using a combination of 'bolls', 'wains' and 'cartloads'. Into the 19th century, the Newcastle chaldron came to be estimated using waggons supposedly having a standardised capacity of 53 hundredweight.²⁷
- 6.6.11 The early systems were usually designed so that full waggons would travel under their own weight, on a gradual downhill incline, with horses pulling the empty vehicles uphill to the coal workings for reloading. By 1797 the self-acting inclined plane was in operation at Benwell in Newcastle, this using the principle that the weight of a loaded waggon going downhill could be utilised to pull an empty waggon back uphill. Early rails were typically of oak, ash or birch, usually approximately 4 inches square, with sleepers between, with a variety of gauges in use. Early lines were single track, with a buffer zone to either side where lines passed through private property.
- 6.6.12 Double-tracked lines were certainly in existence in the 18th century, although many remained single track, facilitating vehicular movement with a series of sidings and passing places. The waggons were also initially made entirely of wood, with a brake to regulate the downhill descent, while from the mid 18th century wooden axles were replaced by iron ones and cast-iron wheels were eventually introduced. Upgrade of the rails was inevitable, with 1794 often quoted as being the date of the first recorded use of two-foot long malleable iron rails, at Walbottle Colliery in Newcastle. A survey of 1810 noted that although 'traditional' wooden waggonways remained in extensive use in the Tyneside area, replacement of wooden rails with metal ones was taking place on most routes.²⁸
- 6.6.13 To date there has been only a handful of examples of detailed archaeological investigation of former colliery waggonways, two of which in Tyne and Wear - both of likely late 18th century date - have led to published papers, underlining the significance of these structures in terms of post-medieval and early modern industrial archaeology.

²⁷ 1 hundredweight (cwt) = 112 lbs; 20 hundredweight = 1 ton.

²⁸ Atkinson 1968.

- 6.6.14 The first reported on an excavation at Lambton D Pit in 1995, which uncovered the substantial and well preserved remains of a timber waggonway, dating from c. 1780-90.²⁹ It comprised oak rails with a gauge of 4'2" and with a series of pegged 'points' and flanges to direct and keep waggons on the rails. Waggonways required constant maintenance due to their relatively simple construction and heavy usage, and the example at Lambton D Pit showed evidence of piecemeal repair and replacement of parts. The second reported the findings of an excavation in 2002 at Rainton Bridge South, near Houghton le Spring, which revealed a waggonway that could predate the example at Lambton D Pit.³⁰ Although timber preservation was poor in this case, the excavation was able to determine the rail gauge, and identify a series of re-cut ditches and fencelines that would have demarcated the surrounding wayleave.
- 6.6.15 These previous pieces of archaeological work have largely confirmed theories regarding general construction of late 18th century waggonways, in that initial groundworks involved laying down linear banks of ballast, often small-coal and ash, upon which wooden sleepers were placed and to provide gradients as required. Wooden rails were then laid down and pegged into place, before a further layer of fine ballast was deposited on and around the sleepers as protection. Further ballast could be added to raise or effectively conceal the rails, with provision sometimes made for a path and, more usually, drainage gutters either side.
- 6.6.16 The two pre-Ordnance Survey maps reproduced herein have been previously mentioned with respect to colliery waggonways, and further discussion of these documents precedes a detailed discussion of the Ordnance Survey map series. On Isaac Thompson's plan of 1745 (Figure 6), the study site encompasses parts of several land parcels, 'West Stony Flats' and 'East Stony Flats' to the north, 'Belsvs Pasture' to the west, and 'North Woods' to the east and south, the latter presumably reflecting the natural, wooded south side of the dene of Stott's Burn. There appears to be a large body of water in the central eastern portion of the site, this presumably the most extensive portion of the burn. This map does not show any elements of colliery infrastructure at or in the immediate vicinity of the study site,
- 6.6.17 Stott's Burn is also shown on Thomas Oliver's estate plan of 1840 (Figure 7), by which time East Pit of Walker Colliery was in place on the eastern margin of the site. The pithead was evidently sited on the south side of the dene of Stott's Burn. The various waggonways serving East Pit are clearly depicted on this plan, including the derelict waggonway (Figure 5, Ref. 28) running northwards towards Hadrian's Wall. The waggonway running southwards from East Pit was evidently still in use at the time but the plan suggests that this was a distinct feature from the abandoned route to the north, since the two routes lay either side of the course of Stott's Burn. A pond-like stretch of Stott's Burn is shown immediately west of East Pit, beyond the junction of two tributaries of the watercourse. A path is depicted closely following the course of Stott's Burn, to the south of the watercourse, and running up to the pit head. The field names are largely unchanged from the 1745 plan, although the land parcel to the west is now 'Bessy's Pasture' and there is some minor variation in the spelling of the northernmost land parcels, these being 'West Stoney Flatt' and 'East Stoney Flatt'. The size of each land parcel is indicated (in acre, roods and perches). Further west, Gosforth Pit of Walker Colliery is in place, with the waggonways serving that working clearly depicted.

²⁹ Ayris *et al.* 1998.

³⁰ Glover 2005.

- 6.6.18 When the Ordnance Survey 1st editions (Figures 8 and 9) were surveyed in the 1850s, East Pit of Walker Colliery was probably still active. There is no detail of pithead buildings, although the shaft position, 'East Pit (Coal)' is probably depicted, and a short terrace of colliery housing, 'Eastpit Row', with associated allotment gardens, is shown to the east, just beyond the limit of the study site. Extensive pit heaps are depicted around the pit head and dumping of this material presumably necessitated culverting Stott's Burn under the pit heap in the central eastern portion of the study site. In addition, there appears to be a continuous waggonway route (Figure 5, Ref. 28) passing to the west of East Pit, annotated 'Old Wagonway', including the portion running through the north-eastern portion of the study site. This suggests that the dumping of pit waste allowed the construction of a continuous waggonway route over the culverted stream prior to abandonment of the working. The two tributaries of the burn are depicted as tree-lined to the west of their convergence in the centre of the study site and a feature, 'Dean Well', is annotated alongside the burn in the north-western portion of the site. The same burn is skirted by a footpath running along the south side of the dene and this appears to continue to the north-west, to Hadrian Wall. The larger scale 1st edition map shows that West Stoney Flatt, East Stoney Flatt, Bessy's Pasture and North Woods were now fields, numbered '54', '55', '106' and '107', respectively. It is uncertain whether or not Delight Pit, to the west, remained operational at this time. Bell's map of the Newcastle coal district from 1847 (not reproduced herein) annotates both Gosforth Pit and Delight Pit as 'Old Pit'
- 6.6.19 The smaller scale 1st edition Ordnance Survey map gives a clear idea of the landscape in which the study site was set by that date, an essentially rural setting having various elements of industrialisation forced upon it. Low Walker was relatively well developed by this time, with shipyards (Figure 5, Refs. 43, 45, 46, 50 and 53) on the riverfront and other early modern industrial activity prominent such as Wincomblee Brick and Tile Works (Figure 5, Ref. 42), the probable site of Hunter's Brick and Tile Works, operational from 1832-1921, a brickfield south-east of East Pit (Figure 5, Ref. 44), and two riverfront copperas works (Figures 5, Refs. 47 and 49). These facilities reflect the increasing need for raw manufacturing and building materials during a period of industrial proliferation. The introduction of industrial facilities in Low Walker inevitably required housing and associated amenities for the increased population, with Christ Church (Figure 4, Ref. 55), a Wesleyan Methodist Chapel (Figure 4, Ref. 57) and Walker Colliery School (Figure 4, Ref. 51) all shown on the 1st edition Ordnance Survey map.
- 6.6.20 By the time the Ordnance Survey 2nd editions were surveyed in the 1890s (Figures 10 and 11), urbanisation in Walker had increased apace, with the study site by then lying on the semi-rural margin of the developed riverside. To the south lay terraced housing on new streets, following re-design of the road network in the core of Walker. To the west ran Scrogg Road, this running from the line of Hadrian's Wall in the north to Welbeck Road, with a cluster of dwellings, 'North Lodge', 'Manse', *etc.* on its eastern side. To the west of the study site, Delight Pit of Walker Colliery was probably not operational, with Ann, B, Gosforth and East Pits all more certainly abandoned by this time; both Gosforth and East Pits are annotated 'Old Shaft'. The aforementioned brickfield (Figure 5, Ref. 44), immediately to the south-east of East Pit, had by then been developed as a brick works, with a cluster of small buildings depicted.

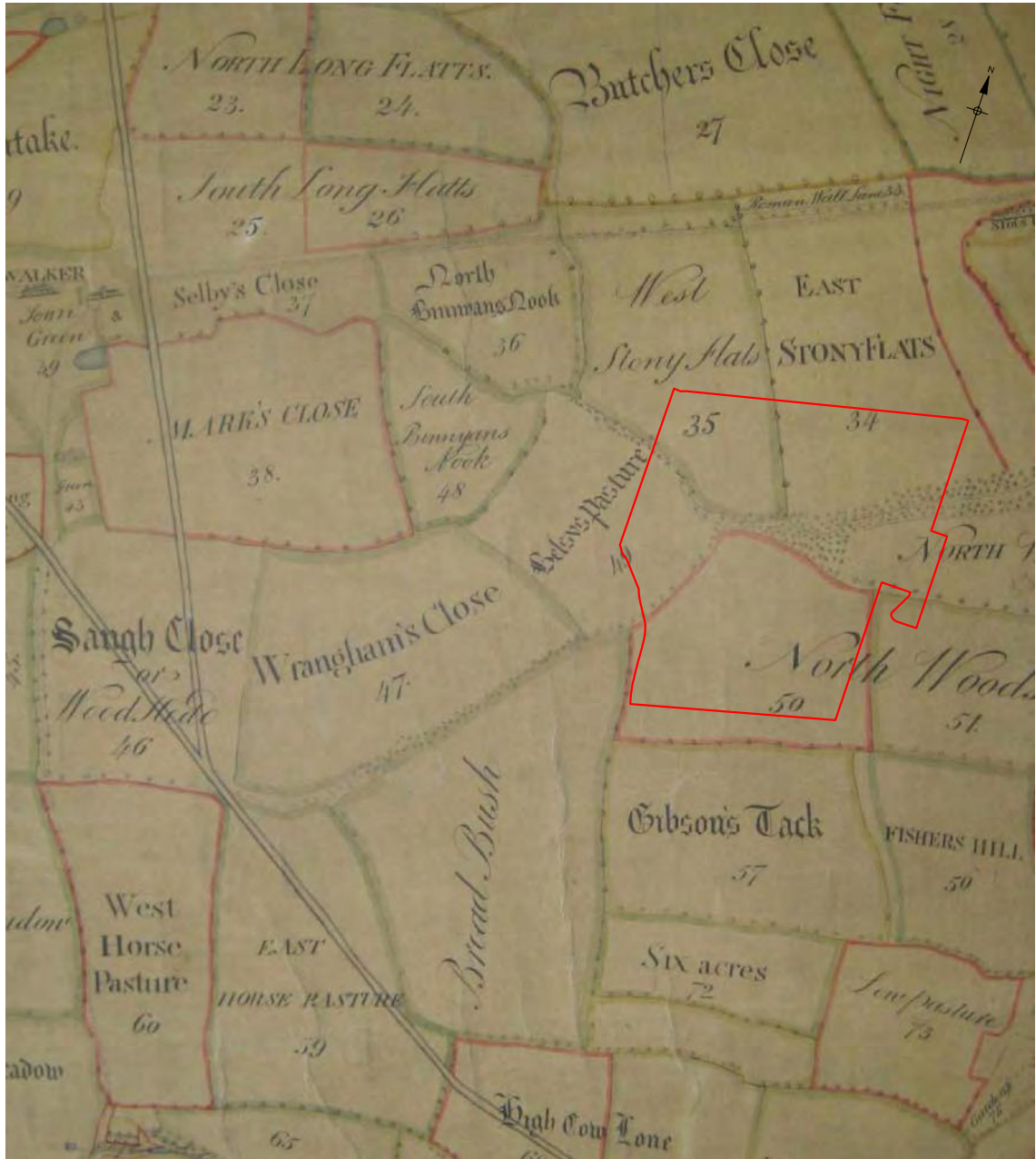
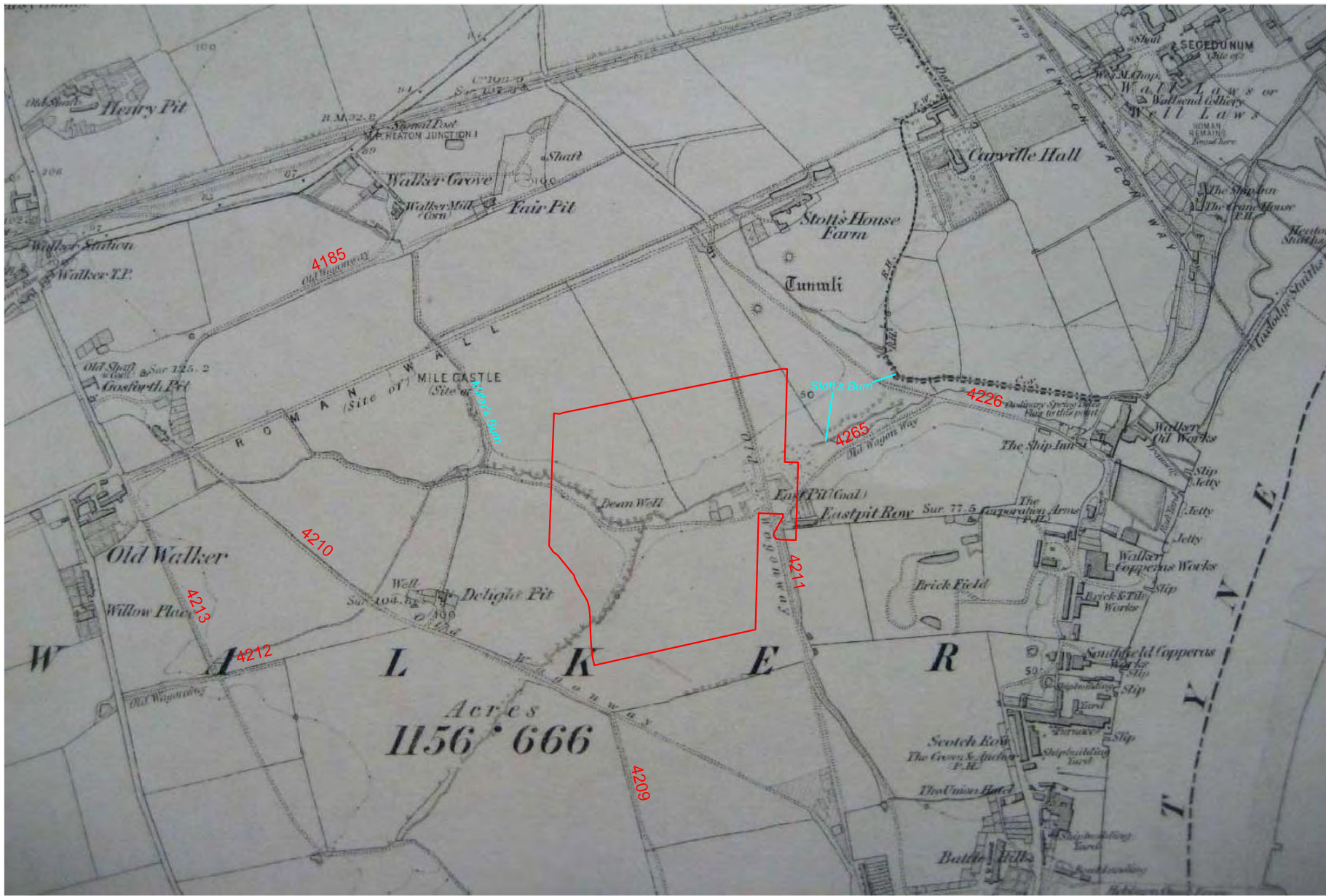


Figure 6. Thompson, 1745
Approximate scale 1:7,500



Figure 7. Oliver, 1840
Approximate scale 1:5,000



HER numbers for Wagonways

Figure 8. Ordnance Survey 1st edition, 1858
(6 inches to 1 mile)
Scale 1:7,500

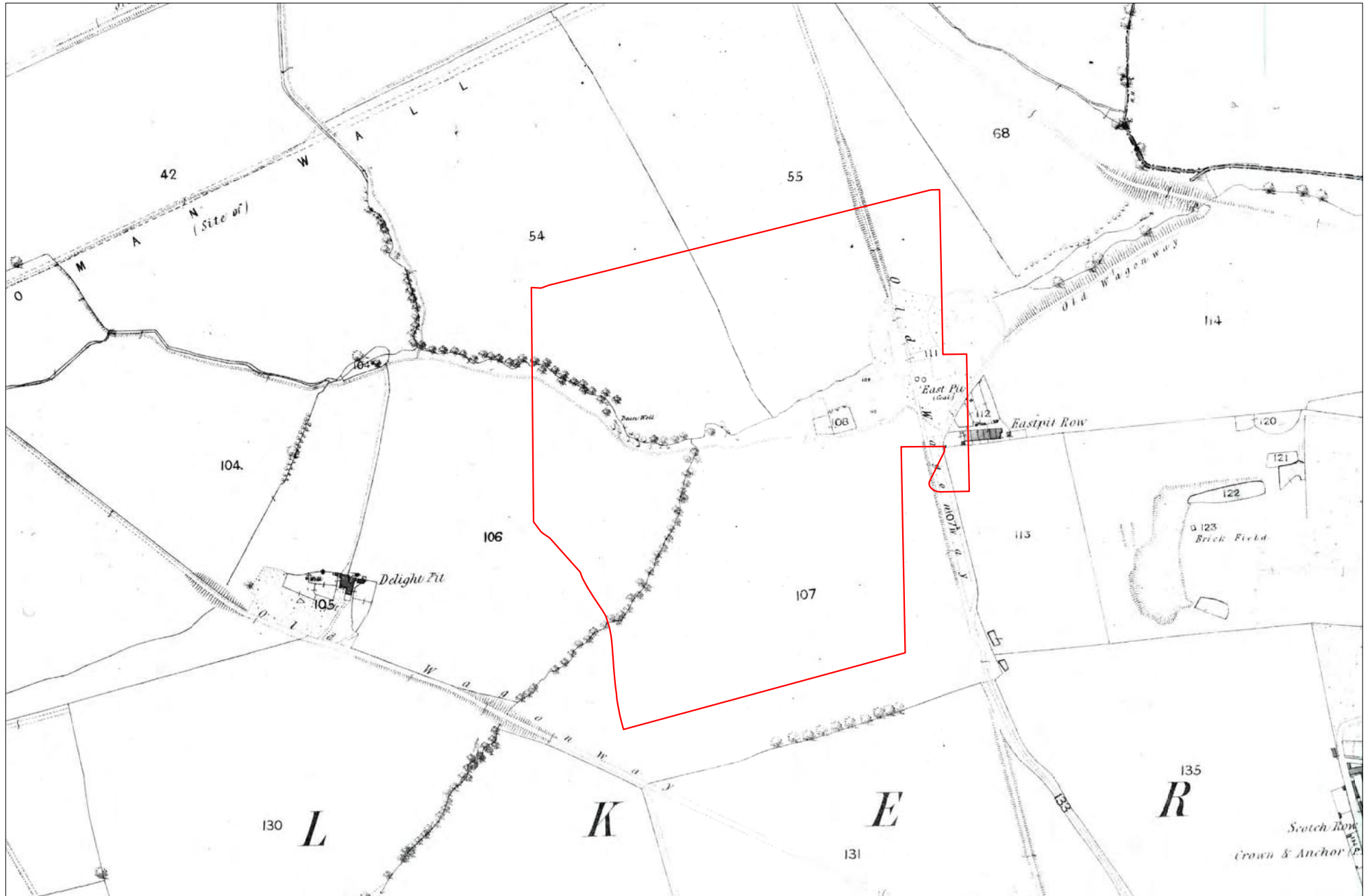


Figure 9. Ordnance Survey 1st edition, 1858
(25 inches to 1 mile)
Scale 1:4,000

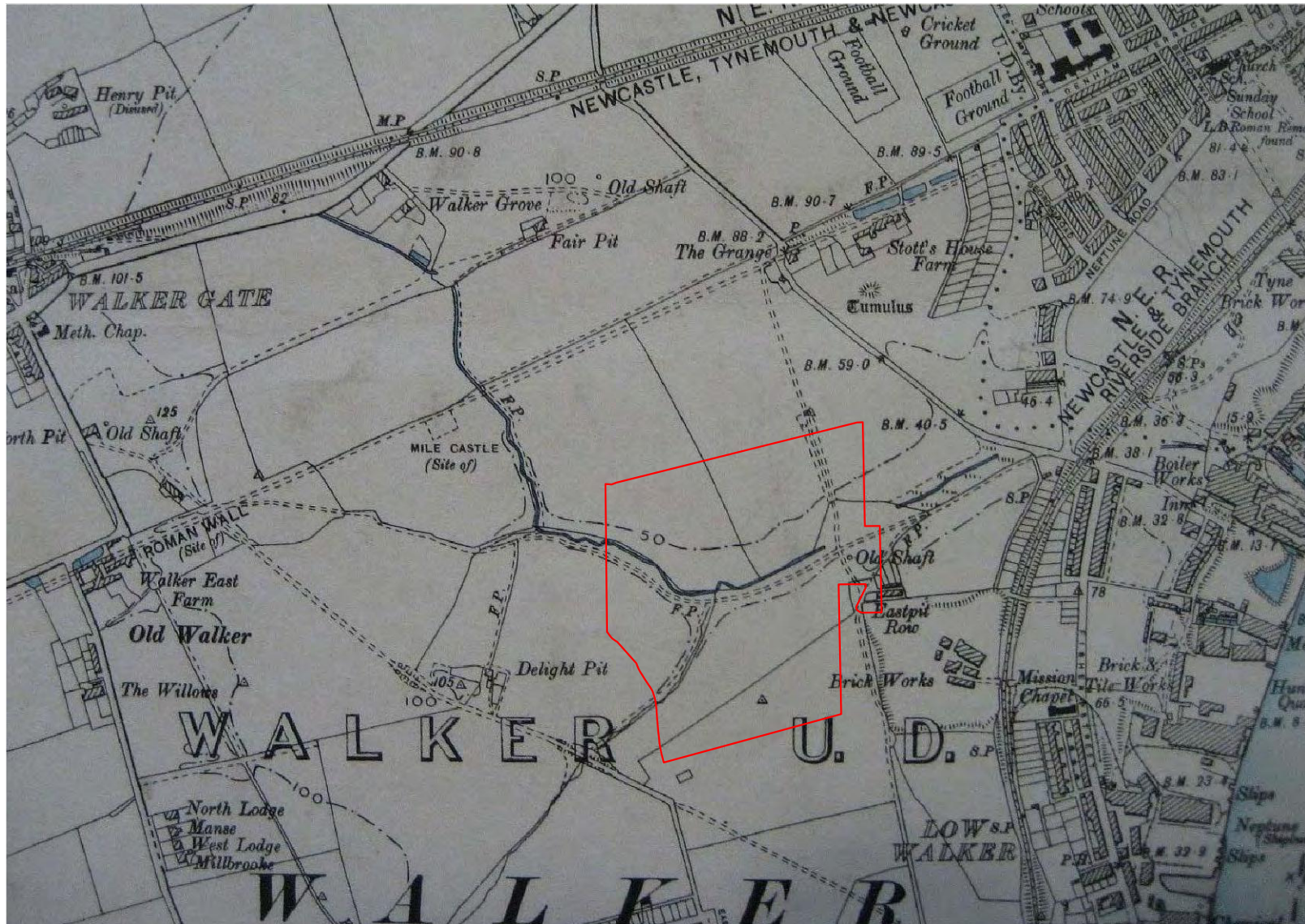
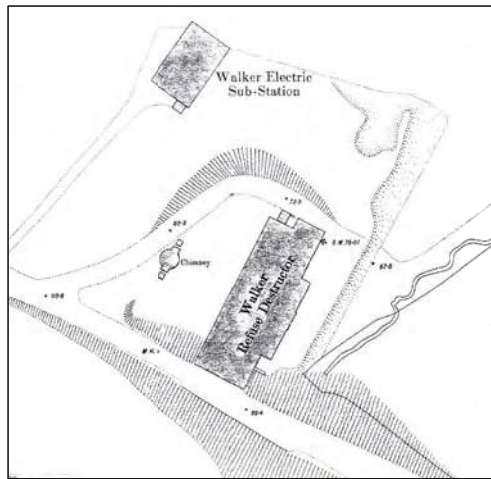


Figure 10. Ordnance Survey 2nd edition, 1894-95
 (6 inches to 1 mile)
 Scale 1:7,500



Figure 11. Ordnance Survey 2nd edition, 1897
 (25 inches to 1 mile)
 Scale 1:5,000



From the Ordnance Survey, 1908 (1:500)

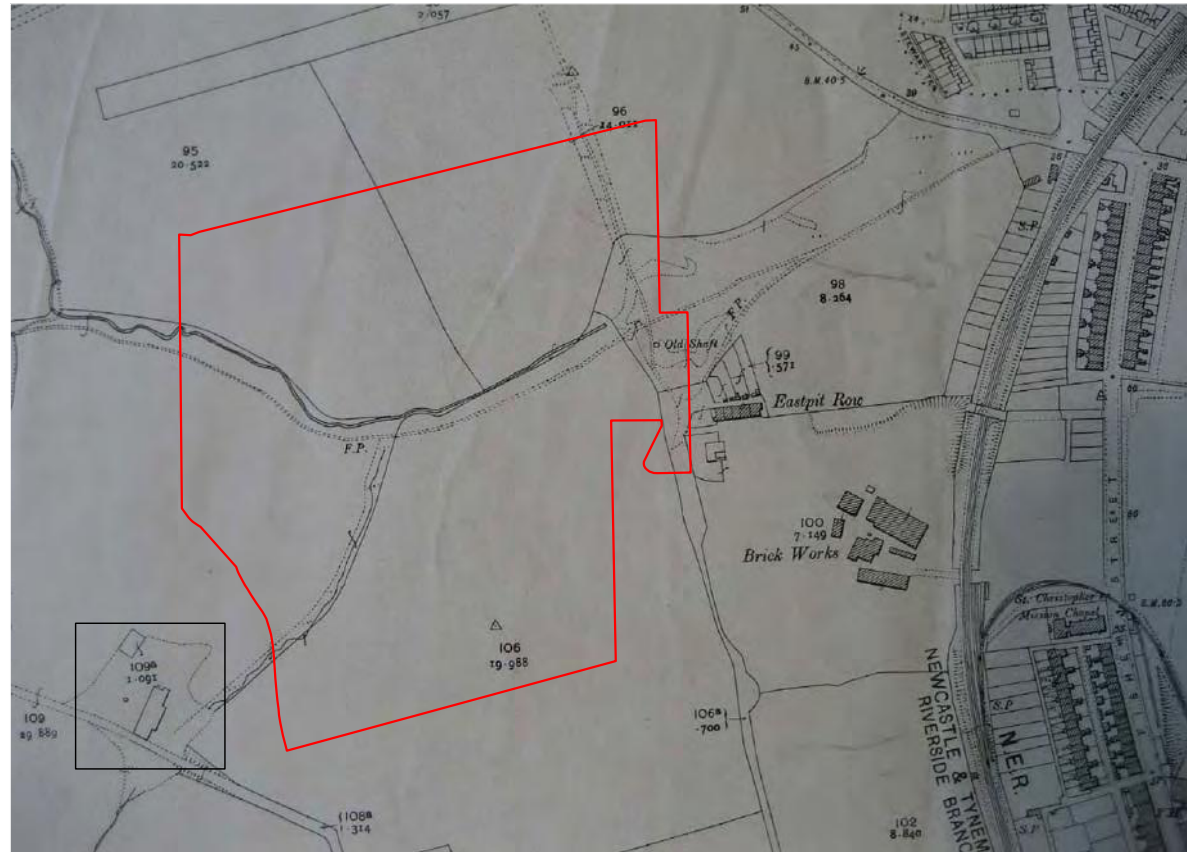


Figure 12. Ordnance Survey 3rd edition, 1912
(25 inches to 1 mile)
Scale 1:5,000

- 6.6.21 The 2nd editions indicates that the former waggonway route through the north-eastern portion of the study site had evidently been turned into a footpath or crude road running southwards into Low Walker. The maps also seem to indicate that Miller's Burn - and its continuation as Stott's Burn through the central portion of the site - remained an active watercourse, with the culvert evidently still carrying water beneath the pit heap in the area of East Pit. The footpath skirting the burn remained in place through the centre of the site, the route forking at the convergence of the two tributaries to the west, one branch running northwards to cross the line of Hadrian's Wall and continue onto the site of Fair Pit, the other running to the north-west to cross the line of the Wall and run up to the site of Gosforth Pit.
- 6.6.22 The Newcastle and Tynemouth Railway (Figure 4, Ref. 38), part of the North Eastern Railway, was granted consent in 1836 and ran north-eastwards out of Newcastle over the Ouseburn Viaduct, north of Hadrian's Wall, and onwards to the coast, while its Riverside Branch (Figure 5, Ref. 39) opened in 1879, both routes being important elements of early modern era infrastructure.
- 6.6.23 Other HER entries (Figure 5 and Appendix A) of this era in the northern portion of the wider study area are a toll house at Walker Turnpike (Figure 5, Ref. 40) on the Newcastle to North Shields Road, a Methodist chapel in Walkergate (Figure 5, Ref. 61) and farmstead on the line of Hadrian's Wall (Figure 5, Ref. 62), known in the 19th century (the dwelling may in fact have been of later post-medieval origin) as Stott's House Farm, as previously described.
- 6.6.24 HER entries in the Walker area are: a blacksmiths' premises (Figure 5, Ref. 52), another Methodist Chapel (Figure 5, Ref. 56), a Roman Catholic Chapel (Figure 5, Ref. 58), schools (Figure 5, Ref. 54 and 59), a memorial to a local sporting hero (Figure 5, Ref. 64), and the Scrogg Inn (Figure 5, Ref. 60). Walker Library (Figure 5, Ref. 65) opened in 1908 on Welbeck Road in Walker. The Royal George Hotel (Figure 5, Ref. 63) in Low Walker appears on the Newcastle City Council 'Local List of Buildings'.
- 6.6.25 The Ordnance Survey 'Special Edition' of 1912 (Figure 12) shows little or no change at the study site. To the west, the demise of Delight Pit is now apparent with the former pithead and ancillary buildings no longer present. However, two buildings are shown beyond the former pit, lying close to the south-western limit of the study site; the larger is rectangular in shape and abuts a former waggonway route, while the smaller squarish structure lies to the north and a small circular feature is shown between the two. Although the buildings are not named on the 1912 map, the Ordnance Survey Town Map (at 1:500) of Newcastle from 1908 (detail shown inset on Figure 12) shows these buildings to be 'Walker Refuse Destructor' and 'Walker Electric Sub-Station' respectively, with the aforementioned circular feature being a chimney associated with the refuse destructor.

- 6.6.26 In summary, the potential for archaeological remains of the post-medieval and early modern industrial eras is considered **high**, particularly due to the presence of East Pit (HER 4215) of Walker Colliery, the pit head of which lay within the central easternmost portion of the site. An associated colliery waggonway (HER 4211) ran into the site from the north, from outlying workings around Hadrian's Wall, to serve East Pit. The pit was operational in the 1770s, thus the waggonway is likely to be of late 18th century origin and was evidently out of use by the 1840s. The pit was established in the dene of Stott's Burn (HER 11113), with the majority of the workings on the south side of the watercourse. By the 1850s the burn had been infilled with coal waste in the area of the pit, with the watercourse evidently culverted below the material.
- 6.6.27 Any sub-surface remains derived from a late 18th or early 19th century manifestation of the waggonway route running to the NNW from East Pit would be of **high** archaeological significance. Structural remains associated with the overground elements of East Pit would be **moderate** to **high** significance.

6.7 Modern

- 6.7.1 For the modern era, there is one HER entry within the boundaries of the study site. This represents a heavy anti-aircraft battery (Figure 5, Ref. 70) from the Second World War, although aboveground remains of this installation do not survive. The importance of 20th century military sites and structures was highlighted by English Heritage in a 2003 publication³¹ and a recent publication by the Tyne and Wear Specialist Conservation Team³² provided a guide to surviving structures representing 20th century 'defence sites' in the county.
- 6.7.2 The installation on the study site is shown in detail on a RAF aerial photograph (AP) from 1946 obtained from the National Monuments Record and reproduced herein (Figure 13). Within the south-easternmost portion of the study site, the AP shows a static heavy anti-aircraft battery typical of the middle and later years of the War.³³ Such a facility would have used large cannon and large calibre ammunition, capable of a range of 25,000 feet or more. Such capabilities were required to combat the high-altitude heavy bombers used by the Luftwaffe; in this case the industrial riverside of the East End of Newcastle was an obvious target, particularly the Walker shipyards to the east of the study site
- 6.7.3 The layout depicted on the 1946 AP is broadly typical of a heavy anti-aircraft battery of the Second World War. A rectangular semi-sunken concrete or brick structure to the north-west and protected by earthen banks is the command post. Arranged in a semi-circle around this are four hexagonal concrete gun emplacements with possibly a shelter immediately to the south-east of the command post. The positions of the magazine and store for spare gun parts are not certain, but they were usually sited relatively close to the emplacements for obvious reasons. A service road snakes from the access point to the battery – close to the south-eastern corner of the study site - to the command post, with an offshoot to each gun emplacement. Towards the entrance and south of the service road is a cluster of rectangular buildings, probably including workshops, garages, canteens and the guardroom. A north-south aligned row of similar buildings, probably barracks and other living quarters, lies beyond eastern site boundary, fronting a crude version of the route that would eventually be developed as Waverdale Avenue.

³¹ English Heritage 2003.

³² Whaley, Morrison and Heslop 2008.

³³ *ibid.*

- 6.7.4 There are four other HER entries (Figure 5 and Appendix A) for the modern era in the wider study area, all these lying well to the east of the study site, on or close to the Walker riverfront.
- 6.7.5 The Ordnance Survey 1952 edition (Figure 14) indicates that infilling of the dene in the central portion of the site was well advanced, with earthwork remains shown along its course in the central and eastern portions of the site. Vestigial elements of the tributaries entering the site along its western boundary appear to survive, undoubtedly culverted underground within the infilled area. Many of the ancillary buildings of the former military installation remain, some within the extreme south-easternmost portion of the study, this area being annotated 'Waverdale Camp'.
- 6.7.6 An area of allotment gardens extends into central western portion of the study site on the 1952 map, with further allotments along the northernmost margin of the site and large expanse of allotments further to the north-west. The 1946 AP in fact indicates that the majority of the land to the north of Stott's Burn within the study site was given over to the 'Dig for Victory' campaign³⁴ during the Second World War, with the southern portion being the anti-aircraft battery as described.
- 6.7.7 The 1952 Ordnance Survey map indicates the extent of residential development in the immediate vicinity of the study site by that time – the 1946 AP shows Ennerdale Road in place to the south even at that date. Further to the west, Westbourne Avenue is in place, while Rutland Avenue is in place to the north, having encroached into the area of allotment gardens along the south side of Fossway as shown on the 1946 AP. Even into the early 1950s Waverdale Avenue had not yet been constructed alongside the eastern site boundary, simply turning into Ennerdale Road at its northern end, with a short north-westwards branch representing the access road into the military camp.
- 6.7.8 Large-scale tipping of refuse began at the study site in the mid 20th century and continued into the 1970s. Existing ground levels are much elevated above those of the 19th and early 20th centuries. Geotechnical investigations (Appendix C) indicate that ground levels have been raised by more than 11m along the line of the Stott's Burn. On the naturally higher ground above the former dene, dumping of refuse has raised ground levels by c. 3m or more to the north, but by lesser amounts to the south. The south-easternmost portion of the site has the least modern overburden and the southernmost margin is the least affected area in this respect, with the natural boulder clay sub-stratum lying within c. 0.50m of the existing ground surface.
- 6.7.9 The potential for sub-surface archaeological remains of the modern era is **moderate to high** for the southernmost portion of the study site, with such remains mostly likely relating to demolition of structures or buildings from the Second World War military installation and being of **moderate** archaeological significance.

³⁴ The campaign – introduced by the British government - called for every man and woman in Britain to keep an allotment garden.



Figure 13. Aerial photograph, 1946
Scale 1:2,500



Figure 14. Ordnance Survey, 1952
Scale 1:4,000

7. POTENTIAL IMPACTS

The following potential impacts upon the archaeological resource are considered:

- Loss of, or damage to, archaeological sites and remains.
- Settings and views of and from upstanding remains, listed buildings, scheduled ancient monuments and other archaeological sites affected.
- Changes to ground conditions as a result of changes to the drainage regime, which could affect archaeological remains.
- Loss of landscape features, structures and areas with historic and cultural associations.
- Other possible impacts, such as noise, vibration, compressions and other changed ground conditions.

7.1 Loss of, or damage to, archaeological sites and remains

- 7.1.1 The assessment has established that the northernmost portion of the study site has **moderate** to **high** potential for archaeological remains of the Roman period, due to its proximity to Hadrian's Wall and, specifically, the road that ran south-westwards from *Segudunum* fort, parallel with and to the south of the frontier. Sub-surface archaeological remains of the road itself would be of **high** archaeological significance. The potential for roadside activity is **moderate** at best, although such activity could include religious installations, such as temples or shrines, as previously encountered to the north-east of the site, cemetery activity, or even evidence of roadside trading facilities or settlement. However, given that the site lies well to the south-west of the likely extent of the *vicus* of *Segudunum* fort, the potential for roadside settlement activity is considered generally **low** and **moderate** at best. In the northernmost portion of the site, the Roman period ground surface probably lies at least c. 3m below modern overburden due to 20th century refuse tipping. The remainder of the site probably lies too far to the south of the Hadrian's Wall corridor to have anything but **low** potential for Roman period remains.
- 7.1.2 For all other archaeological periods, apart from the post-medieval/early modern industrial era and the modern military era, the assessment has established that the potential for archaeological remains is **low**. For palaeoenvironmental remains, which can inform on aspects of ancient human activities, there is perhaps **moderate** potential, due to the presence of tributaries of Stott's Burn in the central portion of the site. However these features are now culverted below the site at a depth of c. 15m below existing ground levels, with the most substantial depths of modern overburden at the site present in this area, following infilling with modern refuse of the ditches through which the burns originally flowed.
- 7.1.3 The site has **high** potential for archaeological remains of the later post-medieval and early modern industrial eras, since a colliery waggonway is known to have crossed the north-easternmost portion of the site, running roughly south-north, to serve East Pit of Walker Colliery. Operational in the 1770s or earlier, the pithead of this working lay just within the central eastern part of the site boundary. Its associated waggonway is likely to be of similar period of origin and the route was out of use by 1840.



Figure 15. Proposed development layout; detail
Scale 1:4,000

- 7.1.4 Any sub-surface remains of the waggonway route would be of **high** archaeological significance, although the ground surface over which it ran is probably buried below a minimum of at least c. 3m of modern overburden due to 20th century refuse tipping. The pit was abandoned by the 1890s or earlier. Sited on the south side of the dene of Stott's Burn, the ground surface on which the pithead of East Pit was established probably lies at a depth of at least c. 12m below existing ground levels due to infilling of the dene. In general, the area around 19th century pit shafts should be avoided by intrusive archaeological investigations for Health and Safety reasons.
- 7.1.5 The proposed development layout is shown on Figure 15. The main element of the proposals is extensive new build in the south-eastern portion of the site, with the northern portion developed for sports pitches and a car park. While there are certainly contamination issues concerning modern overburden at the site (Appendix C), the extent of any proposed ground de-contamination and remediation ahead of the construction programme is unknown. It is likely that existing modern overburden will be substantially capped prior to construction so that possibly all subsequent construction groundworks may not extend to archaeological levels. The area of greatest possible impact will be area of the main new build, although there is only high potential for modern military remains in the south-easternmost portion of the site, where modern overburden is generally c. 1m or less in thickness.
- 7.1.6 In summary, it is considered that, subject to the extent and nature of pre-construction groundworks, the proposed development is unlikely to impact on any potential buried archaeological remains across the majority of the study site. Any remains of 20th century military activity within the south-easternmost portion of the site are probably most the threatened element of the archaeological resource, due to the location of the main new build and the relatively lesser depth of modern overburden in that area. Any such remains would be of moderate archaeological significance at best, so there is probably little justification for their investigation to form a research objective of any fieldwork at the site.

7.2 Settings and views of and from listed buildings, scheduled monuments or upstanding archaeological remains

- 7.1.4 There are no scheduled monuments, listed buildings or upstanding archaeological remains on or within the immediate vicinity of the study site, therefore the proposed development will not detrimentally affect the setting and view of and from any such monument, listed building or known archaeological site represented by upstanding remains.

7.3 Changes to ground conditions as a result of changes to the drainage regime, which could affect archaeological remains

- 7.3.1 The specification for pre-construction groundworks, including any de-contamination and remediation works, as well as overall foundation design, is not available at this stage. Dewatering through penetrative construction techniques such as deep piling can lead to degradation and ultimate destruction of sub-surface organic deposits, which can contain particularly significant archaeological, biological and palaeoenvironmental information.

7.3.2 While there is undoubtedly potential for sub-surface organic deposits in the area of the former dene across the central portion of the study site, the main new build is proposed for the south-eastern portion of the site, to the south of the former dene. Here natural boulder clay forms the underlying drift geology, at relatively shallow depths below modern overburden – certainly in contrast to the central and northern areas - and this is an area of generally low potential for archaeological remains, except for the modern military era, as well as having much negligible potential for palaeoenvironmental remains.

7.3.3 In summary, any impact to the study site in this respect is considered **low**.

7.4 Loss of landscape features, structures and areas with historic and cultural associations

7.4.1 In summary, it is considered that the development proposals will not result in the loss of any landscape features, structures or areas with significant historic or cultural associations.

7.5 Other possible impacts, such as noise, vibration, compressions and other changed ground conditions

7.5.1 Any construction programme - particularly preliminary groundworks - has a short-term impact, in terms of noise and vibration, on the immediate environment of any site.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

- 8.1.1 The Walker and Wallsend suburbs in the East End of Newcastle remain largely synonymous with intensive later post-medieval and early modern industrialisation of this part of the city. The area was ideal candidate for a focus of organised early colliery activity due to its proximity to the Tyne, while later industries in the area included chemical production, iron working and, ultimately, shipbuilding from the mid 19th century.
- 8.1.2 Much earlier activity is known in the area however, since this was the easternmost sector of the Hadrian's Wall corridor, on the approach to the Roman fort (*Segudunum*) at Wallsend, which lay c. 1km to the north-east of the study site. Walker also had a settlement focus in the medieval period, although this lay more than 0.5km to the west of the study site, which lies on the northern side of the modern suburb, towards Wallsend.
- 8.1.3 The study site does not lie within a conservation area and the proposed development will not directly affect any listed buildings or scheduled monuments and will not directly affect the overall setting of or view to or from any site, building or monument with statutory protection.
- 8.1.4 The west-east central portion of the site originally contained part of the dene of a branching watercourse, Stott's Burn, and it is concluded that this specific area has **moderate** potential for palaeoenvironmental remains. Probably largely unused by humans until the later post-medieval period, it is concluded that the study site has **low** potential for prehistoric archaeological remains, and similarly **low** potential for the Anglo-Saxon and medieval periods. Agricultural usage during the medieval period probably represents the most likely source of archaeological evidence for the majority of the site prior to industrial exploitation.
- 8.1.5 The site lies c. 200m south of the line of Hadrian's Wall and probably some way beyond the extra-mural civilian settlement that spread westwards along the approach road to the fort at Wallsend. The line of the road itself - the Military Way – could, however, lie close to or even within the northernmost portion of the site. Accordingly, it is concluded that this part of the site has **moderate to high** potential for Roman period remains. Roadside activity is a possibility, potentially including evidence of religious activity as previously encountered to the north-east. Any such remains would be of **local** or **regional** importance. For the remainder of the site, the potential for Roman activity is considered **low**.
- 8.1.6 By the later post-medieval period, the study site lay within an expanse of agricultural land between Old Walker and the River Tyne that was being increasingly exploited for coal extraction. The earliest workings of Walker Colliery lay c. 0.5km the south of the site, these dating from the early 18th century, a period which saw a network of overground waggonways established across the area in order to transport coal to staithes on the Tyne.

- 8.1.7 While the site is considered to have **low** potential for non-industrial post-medieval and early modern remains, it is concluded it has **high** potential for industrial remains of these eras. The late 18th century saw East Pit of Walker Colliery established within the central eastern boundary of the site, on the south side of the former dene, and a waggonway serving the pit ran to the north, through the north-eastern portion of the site, probably until abandonment in the early 19th century. Any archaeological remains of these industrial features would be of **local** or **regional** importance.
- 8.1.8 It is concluded that the study site has **moderate** to **high** potential for modern era military remains, specifically relating to a Second World War heavy anti-aircraft battery that occupied its south-easternmost portion. Any such remains would be of likely **local** importance at least.
- 8.1.9 The site is known to have been used for refuse tipping in the mid 20th century, this activity not only infilling the former dene but also elevating ground levels across the majority of the site. Geotechnical investigations have been undertaken, providing detailed information regarding the extent and character of modern overburden. The northernmost portion of the site, including the area through which both the Roman Military Way and the late 18th-early 19th century colliery waggonway would have run, has a minimum of at least c. 3m of modern overburden. The central portion of the site, this taking in the area of the former dene of Stott's Burn, has overburden up to c. 12m thick, with the greatest thickness of material along the line of the watercourse itself and a similar thickness probably overlying the ground surface on the south side of the dene on which the pithead of East Pit was established. To the south there is generally less modern overburden, with the south-easternmost portion of the site, including the area in which the Second World War anti-aircraft battery was situated, having been covered with c. 1.0m or less of material.
- 8.1.10 The extent of modern overburden identified at the site significantly affects the feasibility of undertaking any form archaeological site investigation. In addition, there are significant Health and Safety concerns regarding the nature of the material tipped at the site in the modern era, with asbestos, hydrocarbons and probable medical waste all having been identified by the geotechnical investigations.

8.2 Recommendations

- 8.2.1 Where archaeological remains, as identified or predicted by desk-based assessment, may be encountered at a proposed development site, strategies must be formulated to deal with them.
- 8.2.2 With regard to planning applications, PPG16 states that, where preliminary research suggests survival of archaeological remains:

"...it is reasonable for the planning authority to request the prospective developer to arrange for an archaeological field evaluation to be carried out before any decision on the planning application is taken".

and continues:

*“Evaluations of this kind help to define the character and extent of the archaeological remains that exist in the area of a proposed development, and thus indicate the weight, which ought to be attached to their preservation. They also provide information useful for identifying potential options for minimising or avoiding damage. On this basis, an informed and reasonable planning decision can be taken.”*³⁵

- 8.2.3 Policy C04.2 of the Newcastle UDP establishes that it is necessary to undertake an archaeological field evaluation where a proposed development has potential to impact upon suspected archaeological remains whose extent and importance are not known and where preservation *in situ* is either not achievable or cannot be justified.
- 8.2.4 Since the DBA has concluded that there is moderate to high potential for locally or regionally significant archaeological remains of the Roman period in the northernmost portion of the site, of the later post-medieval/early modern industrial era in the central and north-easternmost portions of the site and of the modern military era in the south-easternmost portion of the site, it would be in line with both PPG16 and Newcastle UDP policy to undertake an archaeological field evaluation. The aim of any archaeological field evaluation is always to provide information of sufficient quality and detail that reasoned and informed decisions may be made with regard to the preservation, or not, of buried archaeological material.
- 8.2.5 Field evaluation can comprise one or more of the following procedures:
- geophysical survey;
 - surface artefact collection ('fieldwalking');
 - trial trenching.
- 8.2.6 In this instance, geophysical survey would be an entirely unsuitable method for determining whether or not archaeological remains were present at the study site due to the known extent (between c. 0.50m and c. 12m in thickness) and nature (including building rubble and metalwork) of modern overburden.
- 8.2.7 In this instance, surface artefact collection is not practicable due to current and previous land use. 'Fieldwalking' is only of use across recently ploughed, harrowed or drilled fields, preferably after a period of weathering has taken place.
- 8.2.8 Trial trenching would be the only possible method of archaeological field evaluation at the study site. However, in this case it is recommended that Health and Safety issues regarding both the extent and nature (specifically hazardous materials) of modern overburden should take precedence over archaeological considerations. In addition, in the event that initial development groundworks simply involve capping of existing deposits, without any removal of material being undertaken, any archaeological remains at the site would be effectively preserved *in situ*. The final decision regarding the requirement for evaluation fieldwork lies with the Tyne and Wear Specialist Conservation Team, which, using the results of this DBA as a baseline, will advise the LPA accordingly.

³⁵ Department of the Environment 1990, paragraph 21.

9. ACKNOWLEDGEMENTS AND CREDITS

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PCA Credits

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Whaley, R., Morrison, J. and Heslop, D., 2008. *A Guide to the Archaeology of the Twentieth Century Defence Sites of Tyne and Wear*, Newcastle City Council Tyne and Wear Specialist Conservation Team.

Sources for Cartographic, Documentary and Air Photograph Evidence

Tyne and Wear Historic Environment Record

Maintained by the Tyne and Wear Specialist Conservation Team (part of the Historic Environment Section of Newcastle City Council), the HER takes the form of paper mapping cross-referenced with indexed files containing paper entries ordered numerically. Relevant entries were photocopied during a pre-arranged appointment. A simplified version of the HER is available on-line at www.twsitelines.info and this facility was utilised during preliminary research for the DBA. This facility also allows historic versions of the Ordnance Survey map to be examined.

Tyne and Wear Archives Service

The Tyne and Wear Archives Service (at The Discovery Museum, Blandford House, Newcastle) is the record office for the cities and metropolitan districts of Newcastle, Sunderland, Gateshead, South Tyneside and North Tyneside. Initially the computerised on-line catalogue at www.tyneandweararchives.org.uk was searched for relevant material. Then the search room of the Archives Service was visited and the catalogue of material for Walker examined. Numerous items were requested and examined, with relevant information transcribed and, where appropriate, digital photographs taken. These items were examined:

Plan of the Lordship of Walker. Isaac Thompson, 1745. (Archives Service Ref. D/NCP/19/21).

Plan of Walker Colliery, High Main Seam. No surveyor, c. 1799-1807. (Ref. D/NCP/19/3).

Plan of Walker Estate in the County of Northumberland belonging to the Corporation of Newcastle Upon Tyne. Thomas Oliver, 1840. (Ref. D/NCP/19/4).

Walker Colliery Lease (tracing based on the Ordnance Survey 1:2,500 map with overlays of areas around Gosforth Pit and Ann Pit). City Property Office, 1884. Ref. (D/NCP/19/14).

The following Ordnance Survey maps were examined and photographed digitally:

1st edition, 6 inches to 1 mile. Northumberland Sheet XCVIII (surveyed 1858, published 1864).

1st edition, 25 inches to 1 mile. Northumberland Sheet XCVIII.5 (surveyed 1859) and Sheet XCVIII.1 (surveyed 1858, published 1877).

2nd edition, 6 inches to 1 mile. Northumberland Sheet XCVIII NW (surveyed 1894-95, published 1899).

2nd edition, 25 inches to 1 mile. Tyneside Sheet 13 (published 1897).

Special Edition 1912, 25 inches to 1 mile. Tyneside Sheet 13 (published 1912).

Newcastle City Library, Local Studies Section

The City Library, Local Studies Section was visited (this facility was being temporarily housed at Newcastle Civic Centre, during rebuilding of the City Library). The Ordnance Survey map edition surveyed in 1952 (Plans NZ 2865 and 2965 SW at 1:1,250) was available for copy. No additional historical maps were available for the study area.

National Monuments Record (NMR)

The NMR is English Heritage's public archive, maintained at Kemble Drive, Swindon. Following discussions with the Tyne and Wear Archaeology Officer, a copy of an RAF aerial photograph, reference RAF/3G/TUD/UK/124 5038, dated 4 April 1946, was requested.

Other Online Sources

In addition to those online sources mentioned above, the following websites were consulted for this assessment:

Archaeology Data Service (National Monuments Record) website: <http://ads.ahds.ac.uk/>

Communities and Local Government website: www.communities.gov.uk/corporate/. Consulted for national planning policy regarding heritage.

Durham Mining Museum website: www.dmm.org.uk. Consulted for information about the collieries in the vicinity of the study site, particularly Walker Colliery.

MAGIC website: www.magic.gov.uk/website/magic/. MAGIC is a partnership project involving six government organisations including English Heritage and Natural England. The website is essentially an interactive map collecting information on key environmental schemes and designations.

Natural England website: www.naturalengland.org.uk/. This incorporates information compiled for the 'Countryside Quality Counts' project, including information on geology, topography and landuse for the various landscape character areas in North East England.

Newcastle City Council website: www.newcastle.gov.uk. Examined on this local government website was a 'Supplementary Planning Document', the '*List of Sites Inscribed on the Newcastle-upon-Tyne Local List of Buildings, Structures, Parks, Gardens and Open Spaces of Special Local Architectural and Historic Interest*'.

North East Assembly website: www.northeastassembly.gov.uk. Consulted for regional planning policy regarding heritage.

North of England Institute of mining and mechanical Engineers website: www.mininginstitute.org.uk. An online catalogue lists all material in the Institute library, including several 'Special Collections' of coal-mining related documents.

Pictures in Print website: www.dur.ac.uk/picturesinprint/. Consulted for its catalogue, with viewable images, of printed maps and topographical prints of Tyneside before 1860. The following show the wider study area, but are at insufficient scale to be worthy of inclusion herein:

John Gibson, 1788. '*Plan of the collieries on the rivers Tyne and Wear.....*'

Lambert, 1807. *'Plan of the Rivers Tyne and Wear with the Collieries, Waggon-ways & Staiths.....'*

John Thomas William Bell, 1847. *'Plan of part of the Newcastle coal district in the County of Northumberland.....'*

Planning Portal website: www.planningportal.gov.uk. Consulted for information regarding local planning policy relating to archaeology and the historic built environment.

APPENDIX A
HER ENTRIES

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Figs. 4 & 5 Ref. No.	HER No.	Grid Reference	Description	Period	Notes
1	1393	429410/565680	Burial Mound	Prehistoric/ Roman	Two mounds which formerly existed either side of a burn flowing to the south-west past Stott's House Farm. The features were published by Horsley in 1732 as 'tumuli', and later mapped by MacLauchlan. Both appear on the Ordnance Survey 1st edition but only one appears on the 2nd edition. In 1929 Wake investigated the feature and described it as 72 feet in diameter and more than 6 feet high; he uncovered charcoal and a platform of stones and interpreted the feature as a prehistoric barrow. Jobey further investigated the feature in 1964 in advance of its levelling; he described it as a grass-grown mound. Jobey also found early plough marks (HER 1417) but no evidence for either the date or function of the mound was discovered.
2	1417	429410/565680	Ploughmarks	Prehistoric/ Roman	Possible ploughmarks found by Jobey below the surviving mound (HER 1393) at Stott's House Farm in 1964. These formed the earliest evidence for human activity at the site and, because they predated the Military Way associated with Hadrian's Wall, he concluded they were either of prehistoric or early Roman date.
3	199	429960/566020-429310/565720	Frontier Defence	Roman	Hadrian's Wall between Wallsend fort and St. Francis Presbytery on Stott's Road. Contains two scheduled sections: SAM 28(2) - comprising two lengths of curtain wall, the first 88m between Wallsend fort and Benton Way and the second extending 80m east of The Avenue; SAM 28(3) - comprising a 170m length of curtain wall extending from the western end of Tumulus Avenue and running almost parallel with Eastfield Avenue.
4	200	427640/565000-429275/565700	Frontier Defence	Roman	Hadrian's Wall between St. Francis Presbytery and Tunstall Road. Contains three scheduled sections: SAM 28(4) - 52m of the curtain wall in the grounds of the presbytery and 100m - in three sections - of the curtain wall west of Stott's Road; SAM 28(6) - 30m of the curtain wall in the grounds of The Fosse public house; SAM 28(7) - 171m of the curtain wall in Miller's Dene playing
5	806	430000/565980 (estimated centre)	Vicus (<i>Segedunum</i>)	Roman	The Roman civilian settlement (<i>vicus</i>) attached to <i>Segedunum</i> fort probably extended along the north bank of the Tyne. Defensive ditches and a possible earth bank formed its western boundary some 65m from the fort and the Branch Wall from the fort to the Tyne formed its eastern boundary. Excavations in advance of a new dry dock at Swan Hunter's in 2002 revealed a sequence of banks and ditches 75m south of the fort, forming elements of a defensive cordon most probably defining the south side of the vicus. These lay parallel to the Roman riverbank, some 160m north of the modern highwater mark.
6	818	429500/565700	Temple	Roman	One or more temples may have existed in the area of the modern street of Philiphaugh, c. 500m west of Wallsend fort. Altars, dedication slabs and sculpture (HER 819, 820, 822, 823 & 824), representing at least three deities, have been recovered, particularly in a former area of allotment gardens on the western side of Philiphaugh. In one allotment, the tenant noted 'two stone foundations of broad walls, one running east-west and the other running north-south'.
7	819	429580/565710	Find (altar)	Roman	Altar on a socketed base found in the Philiphaugh allotment gardens in 1892. Inscribed 'To Jupiter, Best and Greatest, the Fourth Cohort of Lingonians, part-mounted, under the command of Julius Honoratus, centurion of the Second Legion Augusta, willingly and deservedly fulfilled its vow'.
8	820	429500/565700	Find (altar)	Roman	Two fragments of an altar found in the 1890s in the Philiphaugh allotment gardens. Inscribed 'To Jupiter, Best and Greatest, Cornelius Celer, prefect of the Fourth Cohort of Lingonians, set this up'.
9	822	429500/565700	Find (sculpture)	Roman	Two fragments of a sculptured slab found in the 1890s in the Philiphaugh allotment gardens. Inscribed 'To the god Mercury, the Second Cohort of Nervians from the district of.....dedicated and set-up this statuette'.
10	823	429500/565700	Find (dedication stone)	Roman	Fragments of a dedication slab found in the 1890s in the Philiphaugh allotment gardens. Inscribed 'To the god Mercury....'. To the right of the figure of Mercury stands a cock on an altar, to his left a goat.
11	824	429670/565820	Find (dedication stone)	Roman	Fragments of a dedication slab seen by Horsley prior to 1732. Little of the inscription survived and the item is now lost.
12	827	429500/565700	Parade Ground	Roman	A parade ground was postulated by the archaeologist E.J. Phillips who suggested that the statue of Minerva (HER 828) may have stood on the parade ground of the fort, since it was found with an official dedication to Jupiter (HER 819) and 'an image of a martial goddess would be appropriate in such a context'. Both objects were recovered from the Philiphaugh allotment gardens.
13	828	429850/565710	Find (sculpture)	Roman	Fragment of sculpture found in the Philiphaugh allotment gardens in 1892. Comprised a shield with gorgoneion from a statue of Minerva and was found along with the altar to Jupiter (HER 819). Fashioned in local buff sandstone, the style of carving is Celtic.
14	1392	428400/565330	Find (coins, etc.)	Roman	Small group of bronze objects discovered in debris of the Wall at Walker, probably in the 1860s. Comprised a fibula, four coins of the higher Empire and what was probably a peltate mount later presented to the Society of Antiquaries, this being a superb example of such an object, depicting two griffin's heads and a crouching feline.
15	1397	429430/565770	Inscription	Roman	Fragment of a Roman inscription seen in 1783 incorporated into a building that became Stott's House Farm.

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16	1400	429000/565000	Find (building stone)	Roman	Inscribed stone seen by Horsley prior to 1732. Inscribed 'from the second cohort the century of Varius Celer (built this)'. Probably found west of Wallsend fort.
17	6853	428975/565510	Find (stone head)	Roman	Found in 1936 but not accessed to the Museum of Antiquities until 1975. Third such 'Celtic head' found in the eastern sector of Hadrian's Wall. Triangular in shape with primitive features, such as a broad nose and wide off-centre mouth. Measured 250mm high.
18	1411	428400/565300	Village (Walker)	Medieval	Medieval village of Walker. Documented from the 12th century.
19	1191	436480/569030-425530/564110	Toll Road	Post-medieval	Newcastle to North Shields turnpike road. No date for opening is known, but it is likely to have been in the post-medieval period. Mentioned by Eneas Mackenzie in his 1827 account of Newcastle.
20	4184	428480/565490	Colliery (Walker, Gosforth Pit)	Post-medieval (industrial)	Documentary evidence gives the date of sinking this pit as 1780-82. Appears on the Ordnance Survey 1st edition, annotated 'Old Shaft'.
21	4185	429380/565870-428520/565490	Waggonway (Gosforth Pit-Fair Pit)	Post-medieval (industrial)	This waggonway ran between Gosforth and Fair Pits of Walker Colliery. Appears on Greenwood's map of 1828 but out of use by Bell's plan of 1847 and annotated 'Old Wagonway' on the Ordnance Survey 1st edition, surveyed in 1858.
22	4186	428860/565750	Windmill	Post-medieval	The 'Walker Mill (Corn)' appears on Ordnance Survey 1st edition, standing close to Fair Pit, Walker Colliery. Documentary evidence indicates that a lease was first granted in 1808.
23	4187	429030/565810	Colliery (Walker, Fair Pit)	Post-medieval (industrial)	Walker Colliery opened before 1765 and closed in 1920. Fair Pit, which lay to the north of Hadrian's Wall, is documented from at least as early as 1775 and appears on the Ordnance Survey 1st edition from the 1850s.
24	4206	429290/564470	Colliery (Walker, B Pit)	Post-medieval (industrial)	Walker Colliery opened before 1765, possibly in 1713, and closed in 1920. B Pit may have been one of the first workings. Marked as 'Old Shaft' on the Ordnance Survey 1st edition.
25	4207	429210/564600	Colliery (Walker, Ann Pit)	Post-medieval (industrial)	Walker Colliery opened before 1765, possibly in 1713, and closed in 1920. Ann Pit may have been the first working. Marked as 'Old Shaft' on the Ordnance Survey 2nd edition.
26	4209	429160/565030-429240/564700	Waggonway (Delight Pit-Low Walker)	Post-medieval (industrial)	Possible waggonway on the Ordnance Survey 1st edition. Branches from the Gosforth and Delight Pits Waggonway (HER 4210) and runs SSE into Low Walker
27	4210	429480/564800-428540/565420	Waggonway (Gosforth & Delight Pits-Low Walker)	Post-medieval (industrial)	Shown as an 'Old Waggonway' on the Ordnance Survey 1st edition. Ran south-east from Gosforth Pit, Walker Colliery, served Delight Pit, then continued into Low Walker.
28	4211	429600/565870-429480/564800	Waggonway (East Pit-Low Walker)	Post-medieval (industrial)	Shown as an 'Old Waggonway' on the Ordnance Survey 1st edition. Ran south from Stott's House Farm, on the line of Hadrian's Wall, past East Pit, Walker Colliery into Low Walker.
29	4212	428890/565150-428460/565050	Waggonway (Delight Pit-Old Walker)	Post-medieval (industrial)	Short length of 'Old Waggonway' shown on the Ordnance Survey 1st edition. Ran WSW from Delight Pit, Walker Colliery crossing with the line of another waggonway (HER 4213), but the working it served, to the south of Old Walker, is not named.
30	4213	428460/565360-429040/564630	Waggonway (Gosforth Pit-Low Walker)	Post-medieval (industrial)	Line of waggonway which first appears on Thompson's plan of 1745. Runs from Gosforth Pit, Walker Colliery past Old Walker on the Ordnance Survey 1st edition, but not annotated in anyway, so presumably out of use. Ran down to the western end of the developed area of Low Walker as it was in the mid 19th century.
31	4214	428910/565190	Colliery (Walker, Delight Pit)	Post-medieval (industrial)	Walker Colliery opened before 1765 and closed in 1920. Delight Pit is documented from 1824 but may be of late 18th century origin. It was evidently still working at the time of Ordnance Survey 2nd edition.
32	4215	429410/565320	Colliery (Walker, East Pit)	Post-medieval (industrial)	Walker Colliery opened before 1765 and closed in 1920. East Pit dates from the late 18th century - documentary records mention it operational in 1770. Marked 'Old Shaft' on the Ordnance Survey 2nd edition.
33	4265	429620/565470-429390/565290	Waggonway (East Pit-Walker)	Post-medieval (industrial)	Shown as an 'Old Waggonway' serving East Pit, Walker Colliery on the Ordnance Survey 1st edition. Ran to the north-east to meet another waggonway (HER 4266).
34	4266	429310/565720-429860-565380	Waggonway (Stott's House Farm-Walker)	Post-medieval (industrial)	The line of probable former waggonway marked on the Ordnance Survey 1st edition. Ran from near Stott's House Farm on the line of Hadrian's Wall to the Walker riverfront. Met the East Pit Waggonway (HER 4265) north-east of that working.
35	4941	429660/565830	House	Post-medieval	Cosyn's Hall or Carville Hall. Built c. 1635 by John Cosyn a wealthy Newcastle draper. Its fabric incorporated several Roman sculptured stones. Eventually came into the hands of Robert Carr, who renamed it Carville Hall. Appears, in its spacious grounds, on the Ordnance Survey 1st edition. By the 2nd edition the site was covered with terraced housing.
36	6224	428770/564400	House	Post-medieval	Scrogg House on Scrogg Road. Appears on Thompson's estate plan of 1745.
37	7884	428410/565330	Farmstead	Post-medieval	Walker East Farm. Appears on Ordnance Survey 1st edition, but supposedly appears on a plan of 1675. Demolished c. 1937. Buildings reportedly incorporated much Roman material.

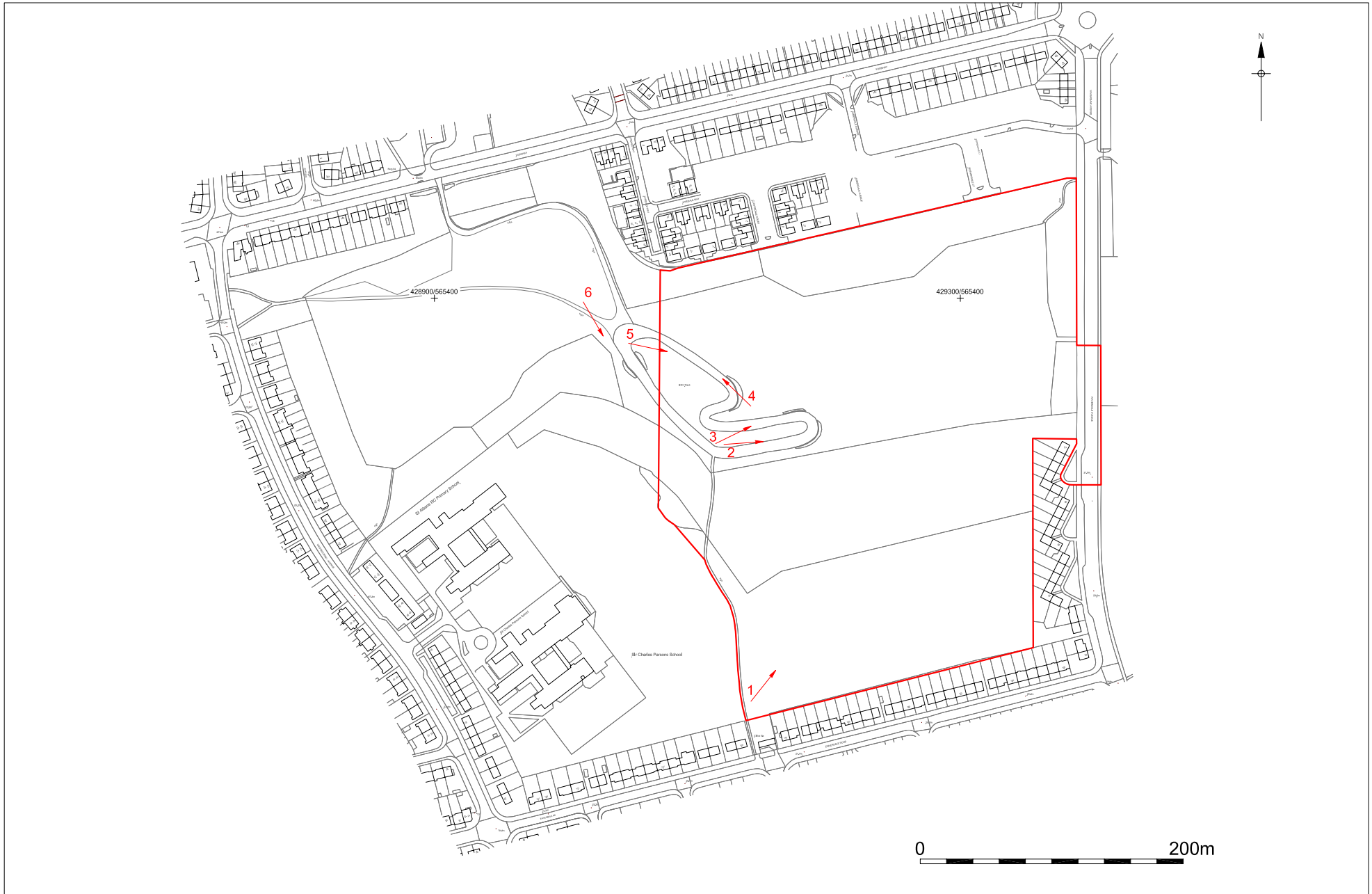
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38	1186	424720/563830-436710/569100	Railway	Early modern (industrial)	North Eastern Railway, Newcastle to Tynemouth. An Act of Parliament in 1836 gave consent for a line between Pilgrim Street , Newcastle (although a terminus as never built there) and North Shields. Built by Robert Nicholson, it included the Ouseburn Viaduct and a 3/4 mile long cutting at Heaton.
39	2146	433500/567260-426390/564850	Railway	Early modern (industrial)	North Eastern Railway, Newcastle to Tynemouth, Riverside Branch. Opened in 1879 to serve the riverside industries, with stations at Byker and Walker. Passenger trains ceased in 1973. Line now closed and converted into a pathway.
40	4182	428330/565680	Toll House	Early modern	Walker Turnpike toll house on the Newcastle to North Shields Road. Out of use by the Ordnance Survey 2nd edition.
41	4203	429830/564680 - 429740/563530	Waggonway (Low Walker)	Early modern (industrial)	Depicted in the form of a loop, with both ends on the riverfront, on the Ordnance Survey 1st edition. Northern part is annotated 'Walker Incline'. The 2nd edition shows the route truncated, with only the northern part operational.
42	4205	429470/564580	Brick Works	Early modern (industrial)	Wincomblee Brick and Tile Works. Appears on the Ordnance Survey 1st edition surveyed in 1858, but not on the 2nd edition.
43	4208	429810/564840	Shipyards	Early modern (industrial)	Coutts' Shipyards. Subsumed into the Neptune Yard by the time of the Ordnance Survey 2nd edition in the 1890s, it appears on the 1st edition to the east of Battle Hill.
44	4216	429530/565190	Brickfield	Early modern (industrial)	Appears to the south-east of East Pit, Walker Colliery on the Ordnance Survey 1st edition, and as a 'Brick Works' on the 2nd edition.
45	4217	429810/564960	Shipyards	Early modern (industrial)	Miller, Ravenhill and Co. Shipyards. Annotated on the Ordnance Survey 1st edition as 'Shipbuilding Yard (Iron)', the company had left the Tyne by 1855 and these works were subsumed into the Neptune Yard by the time of the Ordnance Survey 2nd edition in the 1890s.
46	4218	429810/565030	Shipyards	Early modern (industrial)	Appears on the Ordnance Survey 1st edition, these works were subsumed into the Neptune Yard by the time of the Ordnance Survey 2nd edition in the 1890s.
47	4219	429830/565090	Copperas Works	Early modern (industrial)	Southfield Copperas Works. Appears on the Ordnance Survey 1st edition, but evidently out of use by the time of the 2nd edition in the 1890s.
48	4220	429810/565170	Brick Works	Early modern (industrial)	Probably the site of Hunter's Brick and Tile Works, operational from 1832 to 1921.
49	4221	429850/565230	Copperas Works	Early modern (industrial)	Walker Copperas Works. Appears on the Ordnance Survey 1st edition, but evidently out of use by the time of the 2nd edition in the 1890s.
50	4222	429960/565300	Boatyard	Early modern (industrial)	Annotated 'Raft Yard' on the Ordnance Survey 1st edition on the Walker riverfront; this may have been either the name of the premises or its function, but it was evidently out of use by the time of the 2nd edition in the 1890s.
51	4264	429160/564650	School	Early modern	Walker Colliery School, stood north of Ann Pit, Walker Colliery. Annotated on the Ordnance Survey 1st edition, but not on the 2nd edition.
52	4286	429270/564520	Blacksmiths	Early modern (industrial)	Appears on the Ordnance Survey 2nd edition, surveyed in the 1890s.
53	5022	429810/564920	Shipyards	Early modern (industrial)	The Neptune Yard. Begun by John Wigham Richardson in 1860. An order for a train ferry for the Prussian Government in 1865 sparked an increase in production. By 1889 it had produced 178 ships, totalling more than 200,000 tons. In 1903 it amalgamated with Swan Hunter.
54	6213	429550/564790	School	Early modern	Unnamed school in Low Walker. Appears on Ordnance Survey 2nd edition.
55	6218	429110/564370	Church	Early modern	Christ Church, Walker. Mid 19th century. Appears on Ordnance Survey 1st edition.
56	6219	429100/564490	Chapel (Methodist)	Early modern	Methodist Chapel, Walker. Mid-late 19th century. Appears on Ordnance Survey 2nd edition.
57	6220	429060/564650	Chapel (Wesleyan Methodist)	Early modern	Wesleyan Methodist Chapel, Low Walker. Appears on Ordnance Survey 1st edition.
58	6221	428980/564660	Chapel (RC)	Early modern	Roman Catholic Chapel, Low Walker. Appears on Ordnance Survey 2nd edition.
59	6222	428970/564640	School	Early modern	Unnamed, off Welbeck Road, Walker. Appears on Ordnance Survey 2nd edition.
60	6223	428690/564500	Inn	Early modern	Scrogg Inn on Scrogg Road. Appears on Ordnance Survey 2nd edition.
61	7885	428340/565640	Chapel (Methodist)	Early modern	Methodist Chapel, Walkergate. Mid-late 19th century. Appears on Ordnance Survey 2nd edition.
62	7886	429410/565750	Farmstead	Early modern	Stott's House Farm. Described by Horsley in 1732 as 'Bee Houses'. Built on the line of Hadrian's Wall (HER 199). Demolished
63	9905	429730/564900	Public House	Early modern	The Royal George Hotel. 19th century public house, noted for its brown tiled ground floor elevations. Appears on the Newcastle City Council 'Local List of Buildings'.
64	9907	429080/564370	Memorial	Early modern	Sandstone memorial to Robert Chambers made by George Burn in 1869. Chambers was a 19th century Tyneside hero who died an early death - aged 37 - in 1868 after becoming a world champion in rowing.

WOS 08: HER Entries

65	9911	428610/564550	Library	Early modern	Walker Library on Welbeck Road. Opened in 1908. Brick and stone Edwardian building with coat of arms of Lady Stephenson above original doorway, she being the wife of the local industrialist who presented the library to the City of Newcastle. Appears on the Newcastle City Council 'Local List of Buildings'.
66	1787	429800/565100	Pillbox	Modern	Formerly located at a NEEB sub-station.
67	2093	429940/565400	Oil Refinery	Modern	The Walker Oil Works, depicted on the Ordnance Survey 1st edition.
68	4942	429750/565750	Offices	Modern	Offices of Thermal Syndicate (formed in 1903 to develop the technique of fusing quartz). Built c. 1906. Brick with ashlar dressings and slate roof. Free Baroque style. Listed at Grade II.
69	5106	429700/565600	Power Station	Modern	Neptune Bank Power Station. Generating Hall and possible adjacent boiler house, both now embedded in later buildings. The engine house dates from 1901, designed by Merz and McLellan. This was the first such facility for bulk electricity in the UK.
70	5503	429310/565150	Anti-Aircraft Battery	Modern	Site of a Second World War heavy anti-aircraft battery. Shown in detail on a 1946 RAF AP. Of standard layout with four hexagonal gun emplacements, central command post and outlying ancillary buildings, barracks, canteens, stores, etc. close to its access road.
71	11113	428400/565500-430000/565400	Watercourse (Stott's Burn)	Unknown	Originally discharged into the Tyne in the area of Low Walker that was later developed as dry docks north of Neptune Shipyard. It began much further inland as several minor watercourses. The first (known as Miller's Burn) originated at the (modern) junction of Benfield Road and Shields Road, the second rose in the area of Gosforth Pit of Walker Colliery, these two combining south of Hadrian's Wall, then continuing to the south-east to join a third burn at 'Dean Well' (shown on the Ordnance Survey 1st edition), this third burn having run north-eastwards from an origin at (modern) Elgin Gardens. The watercourse then continued roughly north-eastwards to meet another burn, which began at Stott's House Farm on the line of Hadrian's Wall, the meeting point being the south end of (modern) Neptune Road, close to the 19th century railway line.

APPENDIX B
PLATES



Location and direction of plates



Plate 1. Looking to the north-east across the southern portion of the site.



Plate 2. Looking to the east across the central portion of the site.



Plate 3. Looking to the north-east across the northern portion of the site.



Plate 4. Looking towards the BMX park in the north-western portion of the site.



Plate 5. Looking to the south-east across the central portion of the site.

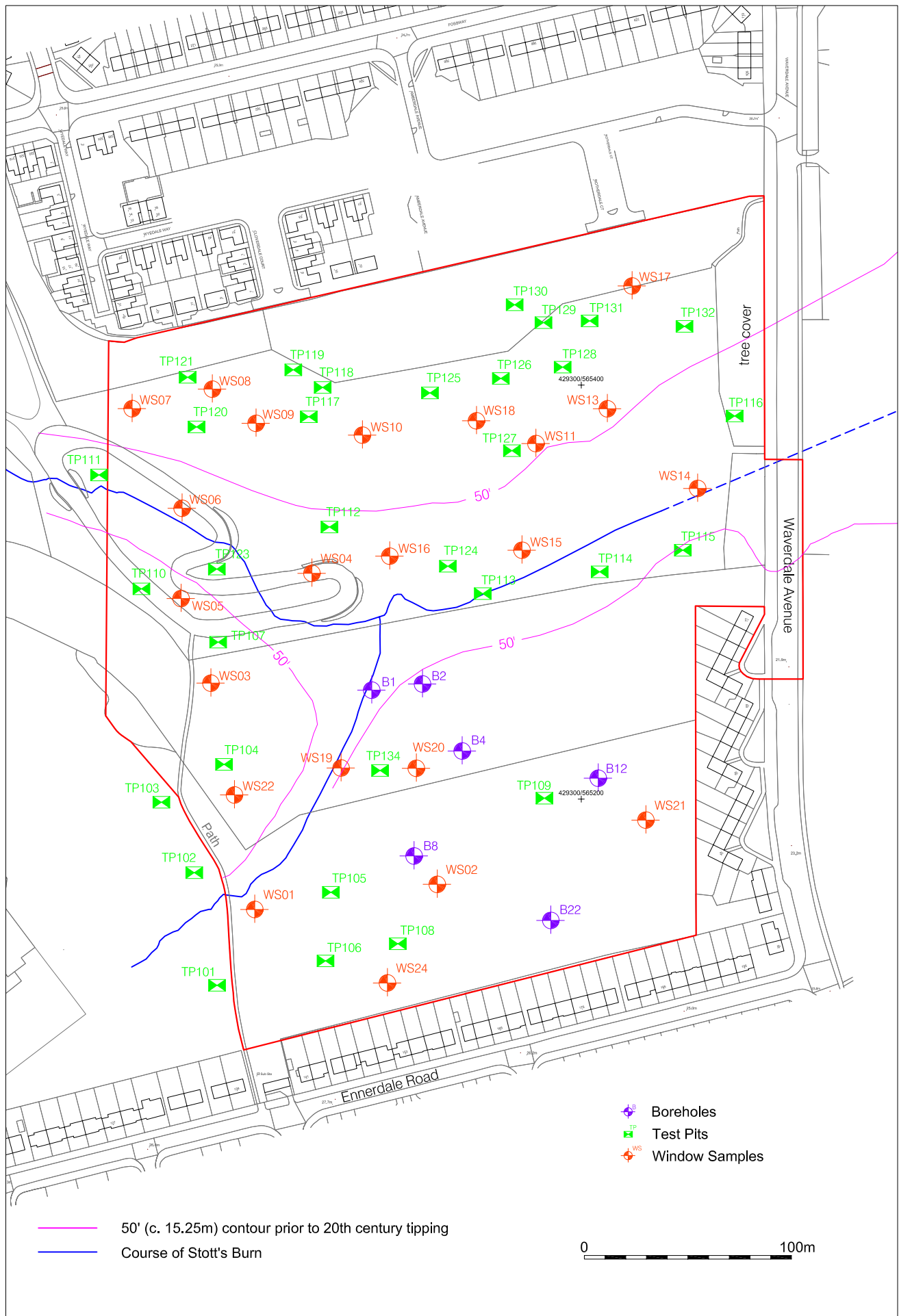


Plate 6. Looking to the SSE across the BMX park.

APPENDIX C
SUMMARY OF GEOTECHNICAL INVESTIGATIONS

Part of site	Geotechnical reference	Overall thickness of topsoil & 'made ground'	Nature of lowermost 'made ground' or topsoil (where encountered) & recorded thickness	Depth to natural sub-stratum (m) & nature of deposit
South of dene	WS02	1.06m	Brown sand & grey sandy clay with coal, brick, ceramic; 0.87m	1.06m; orange/brown/grey sandy clay
	WS20	3.0m+	Black sand with coal, slag, ash, clinker; 0.40m	Unknown, but 3.0m+
	WS21	1.0m	Brown sandy clay with brick, sandstone, rootlets; 0.18m	1.0m; grey/orange sandy clay
	WS24	0.14m	Brown sandy clay; topsoil; 0.14m	0.14m; brown/grey sandy clay
	TP105	2.50m+	Black clayey sandy ash with glass, timber, bricks, paper; 1.10m	Unknown, but 2.50m+
	TP106	1.08m	Grey/brown sandy clay with timber, brick, metal; 0.42	1.08m; grey/brown clay
	TP108	0.18m	Grey sandy clay; topsoil; 0.18m	0.18m; orange/brown clay
	TP109	0.60m	Orange/brown sandy clay with brick, tile, concrete boulders; 0.33m	0.60m; orange/brown clay
	TP135	2.70m	Red brown sand with ash, glass, metal, asbestos , cement; 0.66m	2.70m; orange/grey clay
	BH4	4.70m	Brown ashy clay with coal, sandstone, glass, paper, wires; 0.90m	4.70m; red/brown gravelly sandy clay; 4.70m
	BH8	4.50m	Brown/yellow/black clayey sand with glass, tile, brick, timber, clinker, shale, sandstone; 0.50m	4.50m; yellow/brown/grey clay
	BH12	0.50m	Topsoil; 0.50m	0.50m; orange/brown/grey clay
BH22	0.20m	Topsoil; 0.20m	0.20m; orange/brown sandy silty clay	
Within dene	WS01	2.50m+	Black silty sand with concrete, coal, glass, brick, plastic; 1.55m	Unknown, but 4.0m+
	WS04	3.0m+	Black clayey sand with brick, chert, plastic, textile; 1.0m	Unknown, but 3.0m+
	WS06	3.0m+	Black clayey sand with sandstone, glass, timber; 2.04m	Unknown, but 3.0m+
	WS14	3.0m+	Dark brown organic clay with solid wood, coal, brick, glass; 1.0m	Unknown, but 3.0m+
	WS15	3.0m+	Black (wet) clay with coal, organic material, incl. solid wood; 0.44m	Unknown, but 3.0m+
	WS16	3.0m+	Black (wet) clay with brick, cement, slate, wood; 0.50m	Unknown, but 3.0m+
	WS19	3.0m+	Black (very wet) clayey sand with brick, coal, glass, wood; 0.20m	Unknown, but 2.90m+
	TP112	2.90m+	Black sandy clay with brick, ash, timber, metal, glass; 2.17m	Unknown, but 3.0m+
	TP113	3.0m+	Black sandy ash with brick, glass, plastic; 0.30m	Unknown, but 3.0m+
	TP114	3.0m+	Black sandy ash with clinker, timber, glass, metal; 1.01m	Unknown, but 3.0m+
	TP115	1.65m+	Grey/brown sandy clay with brick, organic material	Unknown, but 1.65m+
	TP116	3.0m+	Grey/brown sandy clay with brick, concrete; 1.02m	Unknown, but 3.0m+
	TP123	1.30m+	Orange/brown sandy ash with metal, glass, plastic, asbestos	Unknown, but 1.30m+
	TP124	2.30m+	Black clayey sandy ash with concrete, brick, plastic, glass, metal; 0.73m	Unknown, but 2.30m+
	TP134	1.80m+	Black clayey sand with brick, concrete, slate, glass; 1.80m	Unknown, but 1.80m+
	BH1	11.50m	Brown gravelly slightly organic clay with ceramic; 0.40m	11.50m; brown gravelly clay
	BH2	8.30m	Brown clayey sandy organic ash with brick, glass, coal, clinker, metal; 2.0m	8.30m; brown/grey sandy clay
	Western central	WS03	3.0m+	Black clayey sand with flint, brick, clinker, paper, textile; 0.30m
WS05		3.0m+	Brownish grey sandy clay with sandstone, brick, concrete; 1.20m	Unknown, but 3.0m+
WS22		3.0m+	Black (wet) sand with coal, brick, glass, plastic, textile, slag; strong hydrocarbon odour; 1.08m	Unknown, but 3.0m+
TP104		3.45m	Black silty sand with glass, newspaper, metal, plastic, ?medical waste ; 1.75m	3.45m; orange/brown/grey sandy organic clay
TP107		3.45m+	Brown sandy clay with brick, ceramic, sandstone, concrete boulders; 1.95m	Unknown, but 3.45m+
TP110	0.77m+	Black sandy clay with brick, plastic, metal, asbestos , cement; 0.61m	Unknown, but 0.77m+	

North of dene	WS07	3.0m+	Black clayey sand with concrete, brick, sandstone, newspaper, plastic; slight hydrocarbon odour; 0.70m	Unknown, but 3.0m+
	WS08	2.50m+	Black clayey sand with brick, sandstone, clinker, glass, rope, plastic; 0.62m	Unknown, but 2.50m+
	WS09	3.0m+	Black clayey sand with clinker, brick, chert, plastic, timber; 0.50m	Unknown, but 3.0m+
	WS10	3.0m+	Grey clayey sand with concrete, sandstone, brick, chert; 0.30m	Unknown, but 3.0m+
	WS11	3.0m+	Black (very wet) sand & gravel with coal; 0.40m	Unknown, but 3.0m+
	WS12	3.0m?	Brown/yellow sandy clay with coal, sandstone; 0.55m; redeposited natural?	3.0m?; sandy clay
	WS13	2.34m?	Grey (wet) sand & gravel with brick, cement, sandstone, ?pumice; 0.34m	2.34m?; clayey gravelly sand
	WS17	2.50m?	Sandstone gravel with textile (geotextile?); 0.90m	2.50m?; organic (incl. solid wood & leaves) clay
	WS18	2.50m?	Grey sand with coal, brick, sandstone, slate & cement; 1.10m	2.50m?; sandstone cobbles
	TP117	2.50m+	Black sandy clay with plastic, timber, glass; 0.70m	Unknown, but 2.50m+
	TP118	3.30m+	Grey/brown clay with crushed brick; 0.30m	Unknown, but 3.30m+
	TP119	2.50m+	Red/brown clayey sand with newspaper, glass, plastic, metal; 1.20m	Unknown, but 2.50m+
	TP120	1.38m+	Black ashy sand with textiles/shoes, glass, plastic, metal; 0.03m	Unknown, but 1.38m+
	TP121	2.90m+	Black sandy clay with brick, ceramic, metal, timber, plastic, textile	Unknown, but 2.90m+
	TP125	0.38m+	Brown sandy clay with brick, concrete, asbestos ; 0.20m	Unknown, but 0.38m+
	TP126	0.20m+	Brown topsoil with asbestos ; 0.20m	Unknown, but 0.20m+
	TP127	2.60m+	Black clayey sand with brick, concrete, timber; 0.90m	Unknown, but 2.60m+
	TP128	2.50m+	Grey/brown sand with brick, concrete boulders, slate; 2.31m	Unknown, but 2.50m+
	TP129	1.70m?	Black sand with brick, slate, sandstone, timber; 0.73m	1.70m?; grey sandy clay
	TP130	3.60m+	Black ash with brick, concrete, sandstone, metal, slate, timber; 1.95m	Unknown, but 3.60m+
	TP131	3.30m+	Black clayey sand with concrete, brick, glass, slate, timber, rubber tyres, bones ; 1.46m	Unknown, but 3.30m+
	TP132	3.10m+	Black ash with glass, timber, plastic; 0.70m	Unknown, but 3.10m+



Location of geotechnical investigations
Scale 1:2,500

APPENDIX D
PROJECT SPECIFICATION

**Specification for an Archaeological Desk Based Assessment of Waverdale
Open Space, Waverdale Avenue, Walker, Newcastle upon Tyne (bounded by
Waverdale Road, Ennerdale Road, Westbourne Avenue and Fossway)**

Introduction

Walker Technology College is to be built in the south-east corner of the above site.

The site is of archaeological interest given the close proximity of Hadrian's Wall, which is protected as a Scheduled Ancient Monument (28 (4) and (7)) and designated as a Unesco World Heritage Site. Could the associated Military Way have run through the site? Segedunum Roman Fort lies some 550m to the east. The vicus associated with the fort spread westwards along the road leading to the fort and bridge at Newcastle. Roads leading from forts were often the focus for Roman cemeteries associated with the vicus.

Roman activity has been found north of the study area. In 1892 altars, dedication slabs and sculpture, possibly indicating the site of a temple, were found at the allotments on Philiphaugh. In 1964 a tumulus (Stott's Mound, HER 1393) was excavated, revealing the military way.

HER 200 Hadrian's Wall (St. Francis Presbytery to Tunstall Avenue)
Curtain. Located in 1928 W of the Grange 53 yds E of Stott's Pow; in 1978 in 2 places between Stott's Road and Finchley Crescent (NZ 292 657); and in 1929 in a sewer trench on N side of Fossway at its junction with Whinney Field Road (NZ 2862 6544), and E of the junction of Fossway and West Farm Road (NZ 2842 6539). Unlike the typical Narrow Wall foundation width of 8' (2.44 m), the footings at Stott's Road were of Broad Wall gauge, nearly 10' wide (3 m). Ditch. Still visible in 1930, - "the hollow of the ditch is still called Double Dykes and is occupied by gardens". The Fossway has always been thought to cover it in the western part of this stretch, and upper levels of ditch fill were seen in 1981 in a trench under the S pavement from 174 Fossway to Barret Road. Milecastle 2 was seen by Horsley and MacLauchlan though they did not agree on its location, but nothing was found near Tunstall Avenue in 1928. No turrets have been discovered in this Wall mile. A watching brief in 2003 during the installation of a security camera at the junction of Courtfield Road and Vauxhall Road revealed a mixed deposit containing sandstone fragments. This may possibly represent material associated with Hadrian's Wall or its demolition or robbing. An archaeological watching brief during the installation of gas mains on Fossway in April 2004, recorded the Roman ditch. An evaluation in advance of the construction of a retail park on Fossway in September 2004, revealed a number of cut features within 0.10m of the present ground surface - it is probable that these represent features of Roman date lying on the berm between Wall and ditch. A 2.4m length of Wall foundation was found during a watching brief at Tunstall Avenue in 2004. In 2005 the ditch, the northern side of the Wall foundation and the robbing trench of the Wall were found during an evaluation at Fossway in advance of installing an electric cable for the new Fossway retail park.

HER 6853 Stone head

Found in 1936 by a man digging for topsoil in Walker Dene. Accessioned into the Museum of Antiquities in 1975. The head is triangular in shape. The features are primitive with oval eyes, curved eyebrows in relief, a broad nose and wide off-centre

mouth with thick lips. Part of right forehead and right eyebrow are missing. The head is 250mm high, it would have been 220mm wide maximum and 136mm thick.

The site is also of industrial archaeological interest. There were two nineteenth century collieries within the study area – Delight Pit (HER 4214), now covered by school buildings, and East Pit (HER 4215). The collieries were served by a complex of wagonways (HER 4210, 4211).

The site is situated towards the upper end of the dene of Miller's Burn, which ran west to east, outfalling into the River Tyne at Walker. Tributaries enter the site from north, west and south-west. In 1860 the main stream was partially in-filled at the eastern part of the site with colliery waste from East Pit. The stream was probably culverted under the pit heap.

During the 1940s allotment gardens were developed over the western part of the site. By the 1960s the stream was mostly culverted in a 600mm diameter concrete pipe, which discharges into a brick barrel arch culvert under Waverdale Avenue. The culvert reaches a depth of 15-16m below current ground level. The two schools were built in the late 1960s. The rest of the site was subject to large scale tipping of refuse until the early 1970s, burying the streams and raising ground levels. During the 1970s and 1980s landscaping works took place. A 300mm thick layer of soil was imported and a BMX track and pony riding track constructed. Part of the site was grassed over and trees planted around the perimeter.

Geotechnical investigations show that tipping has affected much of the site with depths known to reach a thickness of 13.8m. Unaffected natural ground exists only intermittently around the perimeter of the site.

Given the presence of Hadrian's Wall, a Desk Based Assessment is required to appraise the likelihood that important archaeological deposits survive on the site, and assess the impact on those deposits by construction work associated with the proposed development. A key aim of the assessment is to identify those parts of the site unaffected by landfill, where archaeological deposits may still survive closer to the surface.

In accordance with PPG16 and UDP policy C4.2 a Desk Top Assessment is required to appraise the likelihood that important archaeological deposits survive on the site, and assess the impact on those deposits by construction work associated with the proposed development. It will make recommendations for further archaeological work required.

NEWCASTLE CITY COUNCIL, UNITARY DEVELOPMENT PLAN, 1998 POLICY C4.2

'WHERE A PROPOSAL MAY AFFECT A SITE OR AREA OF ARCHAEOLOGICAL INTEREST, THE DEVELOPER WILL BE REQUIRED TO SUBMIT AN APPROPRIATE ASSESSMENT OF ITS POTENTIAL IMPACT UPON THE ARCHAEOLOGICAL REMAINS AND WHERE NECESSARY UNDERTAKE AN ARCHAEOLOGICAL FIELD EVALUATION'.

The assessment must be carried out by a suitably qualified and experienced archaeological organisation. The purpose of this brief is to obtain tenders for this work. The report must be the definitive record for deposition in the Tyne and Wear HER.

The assessment must make reference to national and regional research agendas. The North-East Regional Research Framework for the Historic Environment (2006) notes the importance of research as a vital element of development-led archaeological work. It sets out key research priorities for all periods of the past allowing commercial contractors to demonstrate how their fieldwork relates to wider regional and national priorities for the study of archaeology and the historic environment. The aim of NERRF is to ensure that all fieldwork is carried out in a secure research context and that commercial contractors ensure that their investigations ask the right questions.

Archaeological Brief

1. The Assessment must inform the planning authority of the archaeological and historical importance of the site.
2. All relevant documentary (such as local history books, journals, papers, documents, county histories, trade directories, census returns, council minutes, court rolls, wills, newspaper cuttings, historic photographs and postcards, prints and engravings etc.) and cartographic records (including historic mapping, archive plans, surveys, Goad Insurance Plans, estate plans, tithe maps and OS mapping) relating to the vicinity must be consulted and synthesised.

The archaeological consultant is expected to consult:

Northumberland Museum and Archives at Woodhorn, Queen Elizabeth II Country Park, Ashington NE63 9YF (open Wed-Sun) 01670 528041

Tyne and Wear Archives at Blandford House, Blandford Square, Newcastle upon Tyne NE1 4JA (tel. 0191 2326789 ext 407)

Newcastle City Library local studies section, Civic Centre, Barras Bridge, Newcastle upon Tyne NE1 8PD (0845 0020336)

North Tyneside Central Library, Northumberland Square, North Shields (tel. 2005424)

National Monuments Record, Kemble Drive, Swindon SN2 2GZ (tel. 01793 414600)
www.english-heritage.org.uk/NMR

and any other local resource with relevant information.

Useful websites:

www.twsitelines.info - **not** to be used instead of visiting the HER in person because it is only updated every six months and does not include event data

<http://local.live.co.uk> – aerial photographic coverage

<http://museums.ncl.ac.uk/archive/index>

www.sine.ncl.ac.uk

www.helm.org.uk

www.wellinever.info

www.tynesidelifeandtimes.org.uk

www.magic.gov.uk/website/magic/

www.tomorrows-history.com

www.dur.ac.uk/picturesinprint/

www.neemark.com

Geological bedrock and drift mapping for the area must be analysed.

There must be a search of aerial photographs. The Museum of Antiquities, University of Newcastle has a collection. Newcastle City Council has a collection (Ian Ayris 0191 2777190 or ian.ayris@newcastle.gov.uk). The NMR at Swindon should be checked.

The County Historic Environment Record housed at the West Chapel, Jesmond Old Cemetery must be consulted. *Archaeological contractors are advised that there is a search fee payable for consulting the HER (Access and Pricing Policy available on request). Contractors visiting the HER in person and conducting their own research will be charged the basic search fee of £50 plus photocopying costs.*

Any relevant Building Control Plans for the site must be consulted at Tyne and Wear Archives, to provide information on the location of cellars or basements or other features which may have destroyed or truncated archaeological deposits. The location of the cellars or areas of disturbance must be marked on a plan in the finished report.

The County Industrial Archaeologist, Ian Ayris must be consulted on the industrial aspects of the Assessment (tel. 0191 2777190 or email ian.ayris@newcastle.gov.uk)

Information on nearby listed buildings and Conservation Areas must be included and is available from the HER.

3. The Assessment must describe the land-use history of this part of Walker and assess the probability that archaeological deposits survive on this plot

4. The Assessment must describe the geology, topographic position, soil type and drainage of the site, using geological and soil survey maps. The report must make reference to the anticipated preservation conditions likely to be encountered on the site, especially relating to variables affecting the preservation of biological or organic remains.

5. The archaeological contractor must make at least one site visit and the finished Assessment will briefly describe the current condition of the site. Site photographs must be included in the finished report.

6. The archaeological contractor will assess the impact of the proposed development on archaeological deposits by analysing the plans and foundation designs (where available) for the proposed new building. The commissioning client will provide copies of available plans.

The Assessment Report

The Assessment report must contain and synthesise the results of the analysis of all the sources mentioned above. As far as possible, all maps shown should be at the same scale, to assist in comparing maps of different date and scale, ideally as overlays on a modern base-map, although highlighted enlargements may be used to facilitate the addition of extra annotation.

The report must include a catalogue of features of archaeological or historical interest within or close to the study area. Their location must be shown on a site plan. This must include all sites of interest, not just those currently included in the HER.

A final section of the report should consist of recommendations (in the opinion of the consultant, after assessing all evidence available at the present time) about the type, scale and location of any future archaeological work needed to locate and record historic buildings or archaeological deposits suspected on the site. If evaluation is recommended then the finished report will include a site plan showing the scale and location of suggested trial trenches.

The report must have the following features:-

1. Site location plan and grid reference
2. List of all sources consulted, and their location
3. Details of field visits undertaken by the consultant
4. Site photographs
5. Geology of site
6. Period by period discussion of site history and development
7. Historic map regression
8. Copies of any relevant archive plans and historic photographs
9. Brief discussion of the potential of the site in relation to NERRF, EH research agenda and other relevant agenda
10. A card cover with title, date, author, consultant organisation and commissioning client
11. Some form of binding which allows easy copying of the report
12. Copy of this specification

Four paper copies of the report need to be submitted:

- one for the commissioning client
- one for the planning authority (Newcastle City Council)
- and one for deposition in the County HER. A digital copy of the report on CD is also required by the HER – to be sent with the paper report but not attached to it. ***The report and CD for the HER must be sent by the archaeological consultant directly to the address below. If the report is sent via the planning department, every page of the report will be stamped with the planning application number which ruins the illustrations. Also the HER is often sent a photocopy instead of a bound colour original which is not acceptable.***
- one for Mike Collins, English Heritage's Hadrian's Wall Archaeologist (Bessie Surtees House, 41-44 Sandhill, Newcastle upon Tyne NE1 3JF)

OASIS

The Tyne and Wear County Archaeologist supports the Online Access to the Index of Archaeological Investigations (OASIS) project. This project aims to provide an

online index/access to the large and growing body of archaeological grey literature, created as a result of developer-funded fieldwork.

The archaeological contractor is therefore required to register with OASIS and to complete the online OASIS form for their desk based assessment at <http://www.oasis.ac.uk/>. Please ensure that tenders for this work takes into account the time needed to complete the form.

Once the OASIS record has been completed and signed off by the HER and NMR the information will be incorporated into the English Heritage Excavation Index, hosted online by the Archaeology Data Service.

The ultimate aim of OASIS is for an online virtual library of grey literature to be built up, linked to the index. The unit therefore has the option of uploading their grey literature report as part of their OASIS record, as a Microsoft Word document, rich text format, pdf or html format. The grey literature report will only be mounted by the ADS if both the unit and the HER give their agreement. The grey literature report will be made available through a library catalogue facility.

Please ensure that you and your client understand this procedure. If you choose to upload your grey literature report please ensure that your client agrees to this in writing to the HER at the address below.

For general enquiries about the OASIS project aims and the use of the form please contact: Mark Barratt at the National Monuments Record (tel. 01793 414600 or oasis@english-heritage.org.uk). For enquiries of a technical nature please contact: Catherine Hardman at the Archaeology Data Service (tel. 01904 433954 or oasis@ads.ahds.ac.uk). Or contact the Tyne and Wear Archaeology Officer at the address below.

Jennifer Morrison
Tyne and Wear Archaeology Officer
West Chapel
Jesmond Old Cemetery
Jesmond Road
Newcastle upon Tyne
NE2 1NL
Tel (0191) 2816117
jennifer.morrison@newcastle.gov.uk

Ref: Waverdale Open Space
9 October 2008
Planning Application: pre-application

For HER use only:
Quality control

Sources used:

- Northumberland Record Office
- Tyne and Wear Archives
- Newcastle City Library Local Studies
- Durham Record Office
- local library
- Special collections Palace Green
- HER

- Building Control Plans
- Good Insurance plans
- Conservation Officer
- APs

Report content:

- site location plan
- grid reference
- use of documentary sources (books/journals/papers/county histories/trade directories/court rolls/census returns/documents etc)
- use of cartographic sources (estate maps/tithe/archive plans/OS)
- land-use history
- historic photographs/drawings/engravings
- geology
- anticipated preservation conditions
- evidence of site visit and site photograph
- listed buildings and Conservation Areas
- map regression
- plan of cellars/areas of disturbance
- catalogue and plan
- impact of proposed development
- recommendations
- trench location plan
- CD
- OASIS form