

**An Archaeological Desk-Based
Assessment and Watching Brief at
the Former Vulcan Works, Newton-le-Willows,
St. Helens, Merseyside.
NGR SJ 585 940**

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Produced for The Buckingham Group

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Non-Technical Summary

This report describes the results of a desk-based assessment and watching brief conducted on the site of the former Vulcan Railway Works, Earlestown, Nerwton-le-Willows.

The study was aimed at locating remains relating to a Roman Road running between Wilderspool, Warrington and Wigan. The fieldwork found no remains of the road which is presumed to have been destroyed by landscaping works.

Contents

1. Introduction	1
2. Map and Documentary Evidence.....	1
2. Methodology	1
3. Watching Brief.....	3
3.1 Methodology	3
3.2 Results	3
3.2.1 Trench I.....	3
3.2.2 Trench II.....	4
3.2.3 Finds	4
4. Conclusions.....	4
4. Bibliography	5
5. Figures	6
Appendix A. Project Design.....	12

An Archaeological Desk-Based Assessment and Watching Brief at the Former Vulcan Works, Newton-le-Willows, St. Helens, Merseyside. NGR SJ 585 940

1. Introduction

This report provides relates to the redevelopment of land at the former Vulcan Works Newton-le-Willows, St. Helens Merseyside. It was produced for the Buckingham Group, Blackpit Farm, Silverstone Road, Stowe, Buckingham, MK18 5LJ to a project design agreed in advance with the Merseyside Archaeological Service.

The site is located at the former Vulcan Works, Earlestown, Newton-Le-Willows, St. Helens at SJ 585 940, immediately east of Alder Root Road (Fig. 1).

The desk-based assessment provides supplementary evidence to a desk-based assessment undertaken as part of the ES (dated 2003) for the project. The ES found that most of the site was agricultural land until the construction of the Vulcan Railway Works in the 1830s. The works expanded rapidly through the 19th and 20th centuries and continued the production of locomotives until 1970, and diesel engines until its final closure in 2001. The workshops have since been demolished. There is little apparent potential for the presence of any archaeological remains pre-dating the works, as their construction is likely to have resulted in the extensive disruption of the pre-19th century ground surface. However, the projected line of the Roman road between the Roman settlements at Wilderspool (Warrington) and Walton-le-Dale (Preston) passes close to the eastern site boundary and there is some potential for the survival of undisturbed sections of the route to survive within the site boundaries.

Whilst the original desk-study consulted sources such as the Merseyside Sites and Monuments Record, English Heritage and Local Studies Libraries, there were some gaps in the study. These principally related to historic maps such as the Tithe Map which may provide additional information which would allow the road's route across the site to be more accurately located. In addition, fieldwork known to have conducted since 2000 may also allow its likely line to be more accurately located.

This study has been confined to a consideration of those additional sources

2. Map and Documentary Evidence

2. Methodology

The maps and aerial photographs listed in Table 1 were consulted. The full OS sequence is not given as this was presented in the original ES. Full details of the methodology are given in Appendix A.

Map	Description.
Yoxall Estate Map 1745	Doesn't show route, fields numbered but not named.
Estate Map 1827	Doesn't show route, fields not numbered or named
Tithe Map 1839	Doesn't show route. However, the western boundaries of fields 1356, 1355, 1297, 1295, 1294, 1284, 1283, 1164 and 1160 form a consistent straight line aligned with the known orientation of the road. However, this is slightly west (approximately 10-15 m) of the line shown on later OS mapping. The fieldnames in this area largely relate to ownership or field size. The origins of 1297 (Upper Big Cable Hey), 1356 (Middle Cable Hey) and 1355 (Little Cable Hey) is unclear but the cable element doesn't appear to relate to the road.
1849 OS 6in 1 st Edition	Shows route running east of the foundry, slightly east of the line discussed above.
1891 OS 25in 1 st Edition	Shows same route as 1849 OS
1987 Philpott Fig. 2	Shows same route as 1849 OS
Aerial Photograph c. 2001	The route does not appear as a cropmark or earthwork.

Table 1. Maps and aerial photographs consulted.

Several excavations have been conducted in Newton-le-Willows along the line of the route (e.g. Anon 1910, Smith 1992, Philpott 2000, Hayes & Adams 2002, Bagwell 2005), though all of the recent work has been to the north of the Vulcan Works. In general this work has found that the road lies on, or very close to the line as shown on the Ordnance Survey mapping discussed above, though the details of its construction and state of preservation vary along the length of the route, for example it was very well preserved at Cole Avenue (Hayes & Adams 2002) but absent at Holly House Farm (Bagwell 2005). In general the road was constructed using compacted sands and gravels and was approximately 5 m wide. It was flanked to each side by shallow ditches with a V-shaped profile, which in some sections exhibited signs of re-cutting suggesting periodic maintenance. At one location (Crow Lane East (Philpott 2000)) an upper surface of sandstone flags survived. The thickness of the sands and gravels varies from 70 mm to 300 mm. The reasons for this variation are probably complex, but will in the main be a consequence of the local availability of materials to the builders and variation in agricultural practices and land-use since its abandonment. At some locations (e.g. Holly House Farm (Bagwell 2005)) the road has been completely destroyed by later activity.

The closest sample to the study area was a section excavated across the route during construction work east of the Vulcan works in 1909 (Anon 1910). Photographs and drawings (Fig. 2) show the road as a layer of pebbles pressed into the top of a hollow in Boulder Clay. At this point the road was c. 7 m wide and c. 0.9 m below the surface but had no flanking ditches. The text states that the road was found 'as shown on the Ordnance Survey map' and the position of the section is marked on the then south-eastern boundary of the works, close to the route as shown on contemporary OS maps. However, the accompanying photograph clearly shows that the section was exposed in the side of a cutting, rail tracks are visible in the foreground. This suggests that the section was actually in the sidings further to the north and casts some doubt on the location given on the plan.

The section excavated at Pine Avenue (Smith 1992) was very similar, consisting of a 'hollow way' c. 5 m across lined with rounded pebbles bedded into the top of Boulder

Clay. There was no evidence for flanking ditches here either. At this point the road was found to lie c. 13 m to the west of the line marked on Ordnance Survey maps which may be consistent with the displacement noted in Table 1.

In conclusion deposits relating to the road were likely to lie on or close to the line shown on Ordnance Survey Mapping of the area. However, there was a slight possibility that it lay 10-20 m to the west (Figs 3 and 4).

3. Watching Brief

3.1 Methodology

The watching brief was undertaken by M. Adams and C. Ahmad on 16 January 2008. An inspection of the site suggested there was very limited potential for the road to survive in the southern area, i.e. that covered by the Vulcan Works. This area had clearly seen extensive disturbance, both during the life of the works and during its demolition and it was agreed with the Buckingham Group to concentrate the watching brief in the area north of the reservoir, formerly occupied by playing fields and a cricket pitch. This area was selected because it had seen comparatively little recent ground disturbance.

Prior to the excavation of the two trenches the cricket ground consisted of a level area covered by coarse, hummocky grass grown since the abandonment of the ground. The area was waterlogged as a result of heavy rain for the preceding day. To the south it was bounded by a c. 15 m high bund constructed as a screen from the railway works and there was evidence that the pitch had been constructed by terracing into higher ground to the west.

Two east-west aligned trial trenches (Trench I and II) were excavated across the projected route of the road at the locations shown in Fig. 5. Allowance was made for the road being further to the west than the line shown on the Ordnance Survey maps of the area. Both trenches were 2 m wide and 30 m long and were excavated using a mechanical excavator, fitted with a ditching bucket, provided by the client. Each trench was excavated in level spits under the supervision of M. Adams or C. Ahmad and excavation was continued for c. 0.5 m into natural deposits.

3.2 Results

3.2.1 Trench I

The deposits in Trench I consisted of 0.3 m of very dark reddish brown humic top soil (Context 1) overlying bedded sands and coarse gravels (Context 2). A c. 50 mm thick layer of modern brick, tile and mortar fragments was present at the base of topsoil along the full length of the trench and was probably deposited as part of the construction of the cricket pitch. The sands and gravels were very loosely compacted and consisted of cross bedded units likely to have been deposited within water and represented the natural geology of this part of the site.

The only deposit potentially relating to the road was seen in the south facing section (Plate 1). This was situated c. 8 m from the western end of the trench and consisted of a 2.5 m wide deposit of poorly defined lenses of dark grey and brown very compact clay (Context 3). This lay within a shallow bowl shaped depression c. 0.4 m deep and 2.5 m wide (Context 4). A thin layer of widely spread rounded white pebbles c. 20-40 mm across was present at the base of Context 3. To its immediate

west was a bowl shaped depression 0.4 m wide and 0.20 m deep (Context 5) filled with grey and brown clay (Context 6) similar to Context 3.

The opposing, north facing, section was also cleaned, though the deposits in this area consisted of the sands and gravels of Context 2.

3.2.2 Trench II

The deposits in Trench II consisted of 0.2 m of very dark reddish brown humic top soil (Context 7) overlying a 0.1 m thick layer of friable mixed yellow brown and mid-red clay (Context 8). This overlay a very compact deposit of dark reddish brown clay with occasional white pebbles and pale grey flecking (Context 9) which was interpreted as naturally deposited Boulder Clay.

3.2.3 Finds

No finds were recovered from the excavation.

4. Conclusions

The only documented archaeological site within the proposed development is the Roman road running between Wilderspool and Walton-le-Dale. Its line is principally known from cartographic sources, but has also been proved by excavation, including one section within the former works which was exposed in 1909. Field names listed on the 1839 tithe apportionment do not appear to relate to the road, though a set of north-south aligned field boundaries may be preserving its line within the post-medieval landscape. However, this feature lies slightly west of the line of the road as shown on later mapping, though this would be consistent with excavated evidence from the area to the north.

This evidence suggested that the location of the road could be isolated to a narrow north-south aligned corridor c. 30 m wide (Figs. 3 & 4).

Much of the route of the road within the study area is likely to have been extensively disturbed by the construction of sidings to the Vulcan works and their subsequent removal in c. 1970-1980. Although, short sections may have survived in undisturbed areas between tracks, this area had been extensively disturbed during recent demolition works and it was considered unlikely that deposits relating to the road would survive in this area.

The northern end of the site was occupied by a bowling green and cricket ground and there was a greater potential for remains to survive in this area. However, no clear evidence for the road was found in Trench I or Trench II. The deposits seen in the south facing section of Trench I bore a superficial resemblance to sections across the road seen to the south at the beginning of the 20th century (Anon 1910) and to the north at Pine Avenue in the 1990 (Smith 1992). However, these deposits were not present in the north facing section of Trench I and in addition this feature, at c. 2.5 m wide, is significantly narrower than the road observed to north and south where it is 5-7 m wide. Consequently it is more likely that this feature represents the infilling of a small pit of uncertain date or variation in the top of the natural geology.

The most likely reason for the absence of deposits relating to the road in this area is that they were destroyed during landscaping works for the cricket ground. The deposits of brick and tile at the base of Context 1 and Context 8 probably relate to the levelling of the site suggested by topographic evidence.

4. Bibliography

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5. Figures



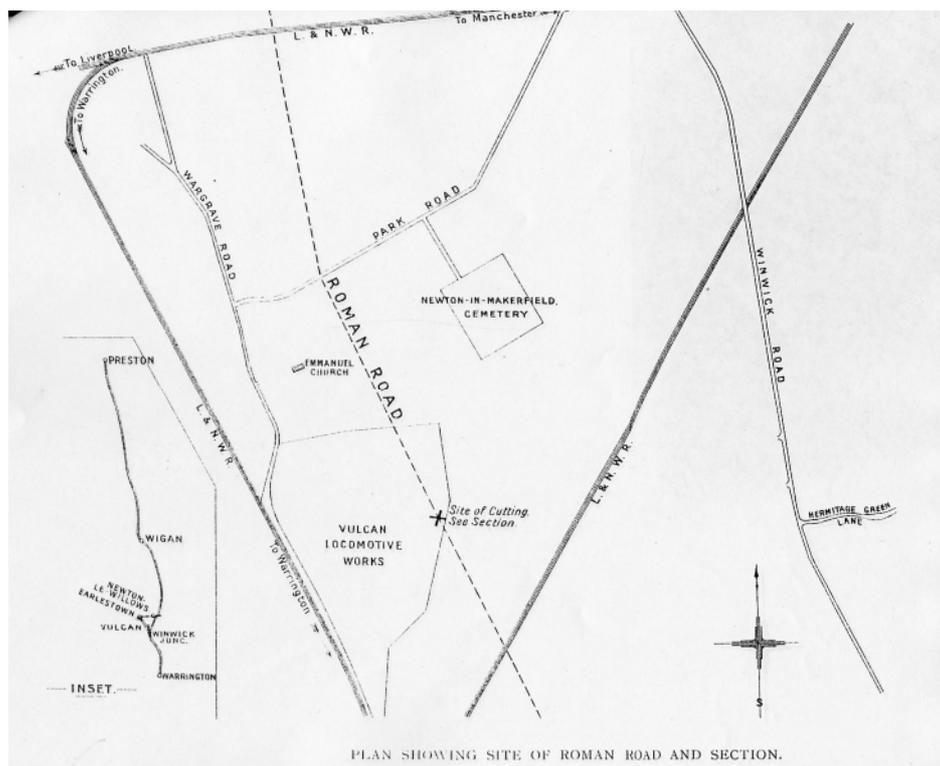


Fig. 2. Location of section excavated in 1909 (Anon 1910)



Fig. 3. The approximate line of the Roman Road (red) in relation to the Vulcan Work

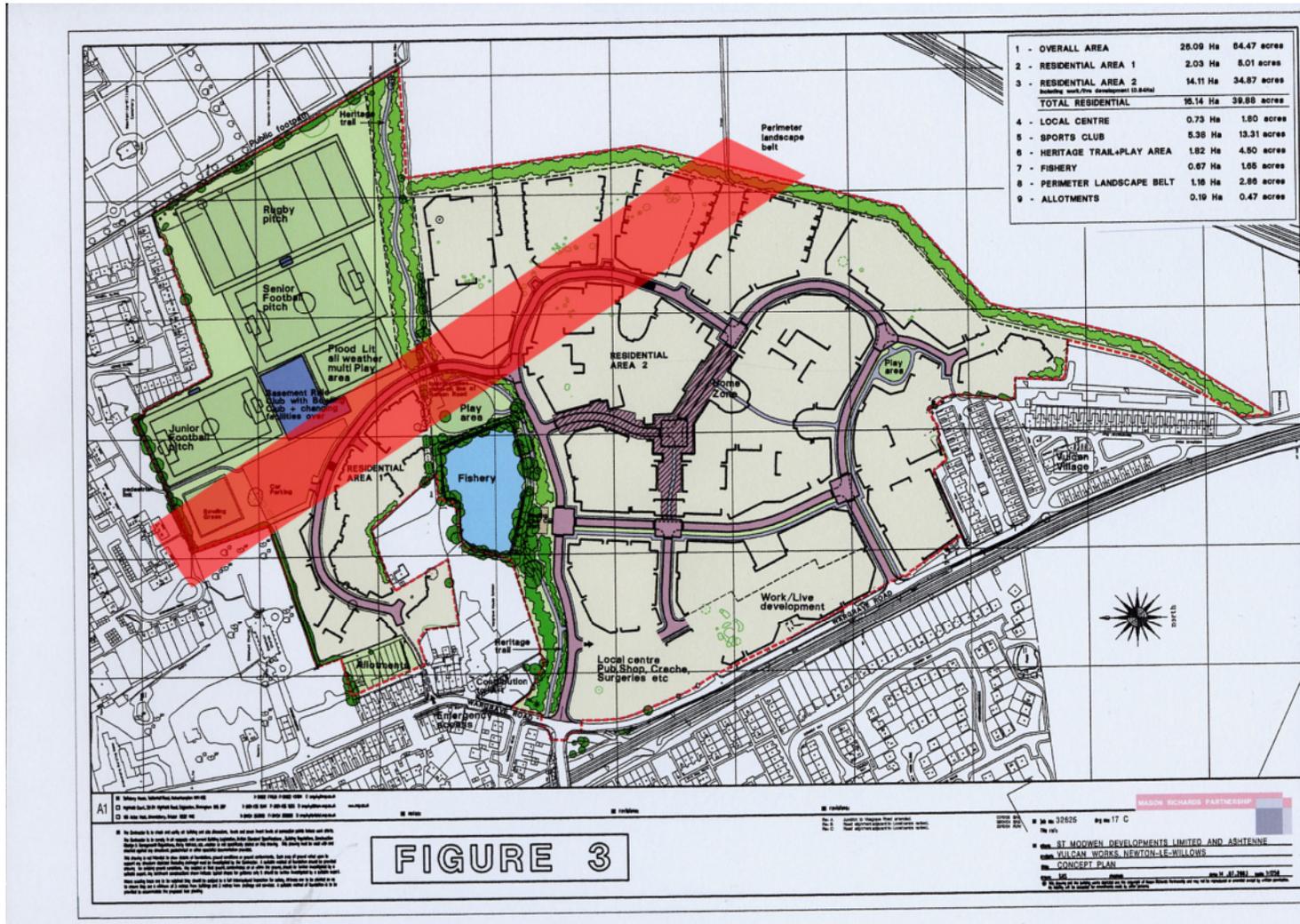


Fig. 4. The approximate line of the Roman Road (red) in relation to the scheme.

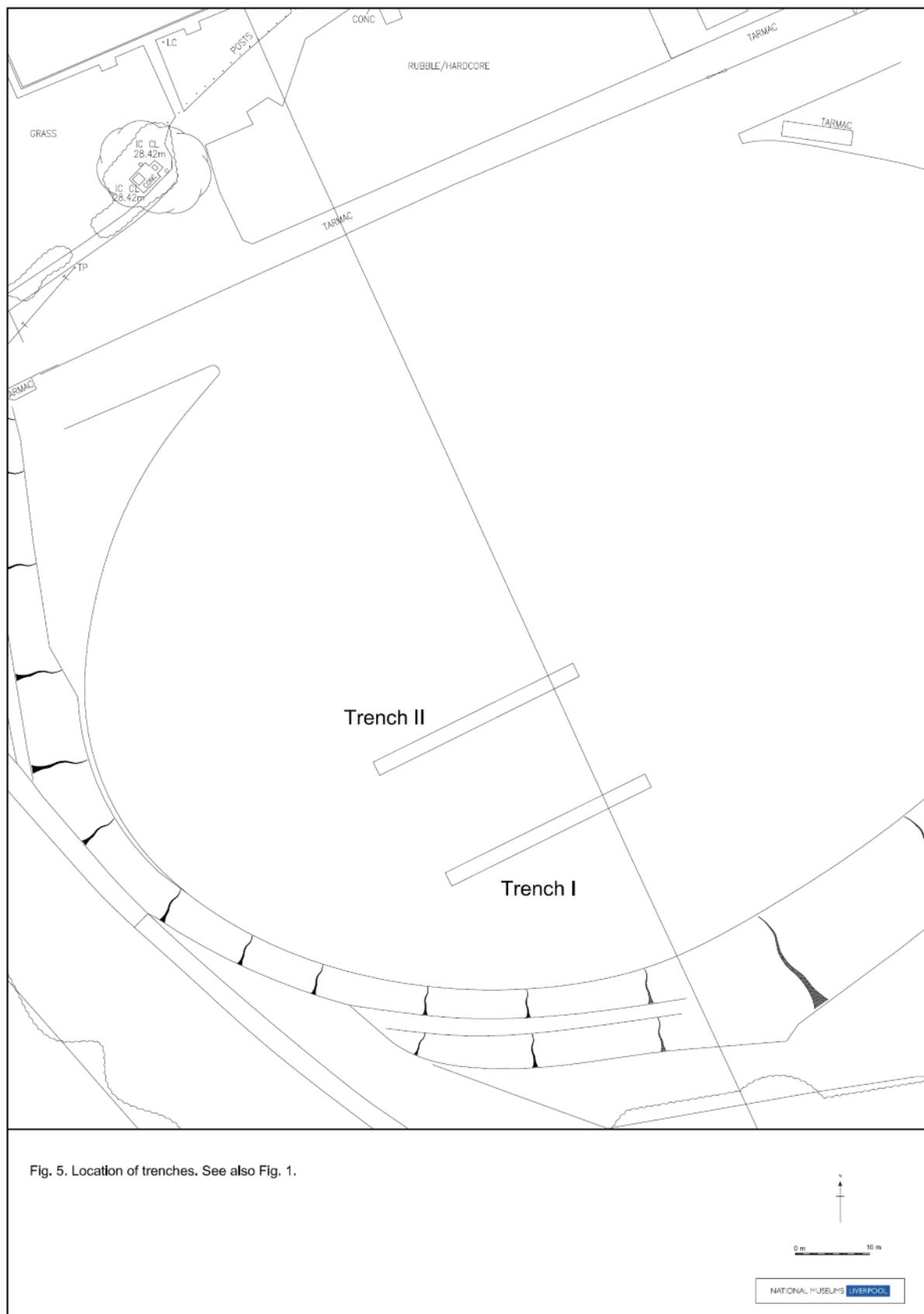


Fig. 5. Location of trenches. See also Fig. 1.

6. Plates



Plate 1. South facing section of Trench 1 showing Context 3.

Appendix A. Project Design.

1. Introduction and Non-Technical Summary

- 1.1 National Museums Liverpool Field Archaeology Unit (NMLFAU) have been approached by The Buckingham Group to carry out an archaeological watching brief at the former Vulcan Railway Works, Wargrave Road, Newton-le-Willows, Merseyside. The investigations are being undertaken in accordance with an archaeological condition on outline planning permission for the redevelopment of the site.
- 1.2 This document will be agreed with Sarah Jane Farr, Archaeological Officer, Merseyside Archaeological Service (MAS) before the commencement of on site works.
- 1.3 This document defines the areas to be investigated and the methodologies to be used.

2. The Development Area

- 2.1 The site covers approximately 27 hectares and is situated to the south of Earles town at NGR SJ 585 940. The site was formerly occupied by the Vulcan Railway works, which have since been demolished, and sports grounds at the northern end of the site.

3. Geology

- 3.1 The solid geology in this part of Merseyside consists of Pebble Beds and Upper Mottled Sandstone overlain by Boulder Clay (BGS Sheet 96 (Drift Edition)).

4. Archaeological and Historical Background

- 4.1 A desk-based assessment was undertaken as part of the ES (dated 2003) for the project. This found that most of the site was agricultural land until the construction of the Vulcan Railway Works in the 1830s. The works expanded rapidly through the 19th and 20th centuries and continued the production of locomotives until 1970 and diesel engines until its final closure in 2001. The workshops have since been demolished. There is little apparent potential for the presence of any archaeological remains of an earlier date, as the construction of the works is likely to have resulted in the extensive disruption of the pre-19th century ground surface. However, the projected line of the Roman road between the Roman settlements at Wilderspool (Warrington) and Walton-le-Dale (Preston) passes close to the eastern site boundary and there is some potential for the survival of undisturbed sections of the route to survive within the site boundaries.
- 4.2 Whilst the original desk-study consulted sources such as the Merseyside Sites and Monuments Record, English Heritage and Local Studies Libraries, there are some gaps in the study. These principally relate to historic maps such as the Tithe Map which may provide additional information which would allow the road's route across the site to be more accurately located. In addition, fieldwork known to have conducted since 2003 may also allow its likely line to be more accurately located.

5. Areas of Archaeological Potential

- 5.1 At present the watching brief covers the whole of the proposed development. However, this will be refined as part of the enhanced desk-study described below and agreed with the MAS.

6. Aims and Objectives

- 6.1 The objective of the watching brief is, where possible, to identify and record the presence/absence, nature, extent, and date of any archaeological deposits or features which are disturbed or revealed during the construction of the proposed development.

7. Location of Watching Brief Areas

- 7.1 The area of the watching brief is the extent of the proposed development as detailed by the client.
- 7.2 The size and location of geotechnical test-pits is to be determined by the client. Whilst it is not proposed to monitor any boreholes, the results of these will be made available for archaeological interpretation if available. If this proves that no significant archaeological deposits are present, the watching brief will be halted at this point, in consultation with the Archaeological Officer for Merseyside. If proof of this is not recovered, the archaeological watching brief will continue during any further ground works as appropriate. This specification covers all ground remediation work within the watching brief area, until this has been agreed sufficient in consultation with the Archaeological Officer for Merseyside.

8. Methodology

- 8.1 All work shall be carried out in accordance with the Standard and Guidance for Archaeological Watching Briefs and the Standard and Guidance for Archaeological Desk-Based Assessments produced by the Institute of Field Archaeologists (1999) and with the IFA Code of Conduct.
- 8.2 The first phase of the project will be a rapid desk-based assessment aimed at more accurately locating the route of the Roman road and any features relating to industrial archaeology. This will principally be a review of historic map evidence, particularly tithe and estate maps, not consulted by the original ES. Excavation reports post-dating 2003 will also be consulted.
- 8.2 Monitoring will be undertaken in locations specified and agreed with the MAS.
- 8.3 An archaeologist should be present on site as necessary and appropriate to monitor all excavation and/or soil disturbance. The archaeologist will monitor the area as groundworks proceed, and will, where possible and practicable, view any available trench sections after excavation is completed.
- 8.4 NMLFAU will record the date, time and duration of all visits and the nature and extent of the works being monitored.
- 8.5 If archaeological features or deposits are identified the area should be rapidly cleaned. The archaeological sub-contractor will be allowed sufficient time, where required, to record any archaeological deposits identified. This stoppage time will be a minimum of 2 hours and to a maximum of 8 hours.
- 8.6 **The Archaeological Officer at MAS will be notified by NMLFAU immediately significant/extensive archaeology is uncovered by the watching brief.**

- 8.7 Any archaeological deposits/features identified will be hand excavated in an archaeologically controlled and stratigraphic manner sufficient to meet the aims and objectives of the investigation.
- 8.8 The areas of excavation/ground disturbance (even if they reveal no archaeological features) will be recorded on a suitable base map/development plan and the stratigraphy and depth of the excavation will be recorded.
- 8.9 A full written, drawn and photographic record will be made of all archaeological features. Hand drawn plans and sections of features will be produced at an appropriate scale (normally 1:20 for plans and 1:10 for sections). Drawings will include spot heights relative to Ordnance Datum in metres, correct to two decimal places.
- 8.10 Digital and monochrome negative photographs will be taken at a minimum format of 35mm as required. In addition to records of archaeological features, a number of general site photographs will also be taken to give an overview of the site and the scope of the works taking place.
- 8.11 All non-modern artefacts will be retained. If appropriate all 'small finds' will be recorded three dimensionally. Bulk finds will be collected by context. Finds will be treated in accordance with the English Heritage guidance document 'A strategy for the care and investigation of finds' (1995) and stored in controlled conditions where appropriate. All artefacts will be retained, cleaned, labelled and stored as detailed in the guidelines of the IFA. Conservation, if required, will be undertaken by approved conservators. United Kingdom Institute for Conservation (UKIC) guidelines will apply (UKIC 1998). All ferrous objects and a selection of non-ferrous objects (including all coins) will be x-rayed.
- 8.12 Should significant archaeological deposits be encountered an appropriate soil sampling strategy will be implemented in accordance with Centre for Archaeology Guidelines (English Heritage 2002).
- 8.13 Should human remains be discovered during the course of the excavations the remains will be covered and protected and left in situ in the first instance. The removal of human remains will only take place in accordance with the appropriate Home Office and Environmental Health regulations and the Burial Act 1857 and Disused Burial Grounds (Amendment) Act, 1981. In such an event the contractor will notify MAS immediately.
- 8.14 Any artefacts which are recovered that fall within the scope of the Treasure Act 1997 will be reported to H. M. Coroner. Where removal cannot take place on the same working day as discovery, suitable security will be taken to protect the finds from theft.
- 8.15 The intention of the watching brief is not to delay unduly the work of other contractors on site. NMLFAU will make every reasonable effort to complete archaeological excavation and recording works without impacting upon the programme of other site contractors.

9. Reporting

- 9.1 Immediately after the completion of fieldwork the finds and samples will be processed (cleaned and marked) as appropriate. Each category of find or environmental material will be examined by a suitably qualified archaeologist or specialist. The integrity of the site archive should be curated and maintained.
- 9.2 An assessment report will be submitted as soon as possible after completion of fieldwork. The report will include the following:
- a non-technical summary
 - site location
 - archaeological and historical background
 - methodology
 - aims and objectives

- results (to include full description, assessment of condition, quality and significance of the remains)
- an appraisal of the results within their local, regional and national context
- publication proposals if warranted
- archive storage and curation
- general and detailed plans showing the location of the stripped areas accurately positioned on an OS base map (to a known scale)
- detailed plans and sections as appropriate (to a known scale)
- a cross-referenced index of the project archive

One copy of the complete report will be submitted to The Buckingham Group as a draft.

Five bound copies, one unbound copy and a digital version of the report and illustrations will be required within one week of the receipt of The Buckingham Groups comments on the draft report. (Digital text to be in Microsoft Word format and illustrations in AutoCAD and/or PDF format).

9.5 NMLFAU will submit a copy of the report to the Archaeological Officer for MAS for deposition in the Merseyside SMR.

10. Publication

10.1 Provision should be made for the publication of the results in an appropriate archaeological journal, if of regional or national significance.

10.2 A summary of findings will be submitted to the regional Council for British Archaeology group, CBA North West (c/o Dr. M. Nevell, UMAU, University of Manchester, Oxford Road, Manchester, M13 9PL who will provide a pro-forma sheet).

11. Archive Preparation and Deposition

11.1 The archive of finds and records generated during the fieldwork will be kept secure at all stages of the project. All records and materials produced will be quantified, ordered, indexed and internally consistent. The archive will be produced to the standards outlined by English Heritage 1991, Appendix 3;

11.2 The archaeological sub-contractor shall, prior to the start of fieldwork, liaise with the appropriate museum, in this instance Liverpool Museum, National Museums and Galleries on Merseyside, to obtain agreement in principle to accept the archive for long term storage and curation. The sub-contractor shall be responsible for identifying any specific requirements or policies of the museum in respect of the archive (National Museums Liverpool (NML) Guidelines on the Deposition of Archaeological Archives), and for adhering to those requirements.

11.3 The deposition of the archive forms the final stage of the project. The archaeological sub-contractor shall provide copies of the communication with the recipient museum and written confirmation of the deposition of the archive. The archive will be presented to the Archive Curator within 12 months of completion of the fieldwork, unless alternative arrangements have been agreed.

12. Monitoring

12.1 NMLFAU will liaise with the Merseyside Archaeological Service to inform them of the commencement of site works and to offer them the opportunity to visit and monitor the work in progress.

13. Confidentiality and Publicity

13.1 The archaeological sub-contractor will not disseminate information or images associated with the project for publicity or information purposes without the prior written consent of The Buckingham Group.

14. Copyright

- 14.1 Copyright in all reports and documentation/images produced as part of this project to reside with National Museums Liverpool who retain the right to be identified as the author/originator of the material. This applies to all archaeological aspects of the project.
- 14.3 The results of the archaeological work will be submitted to the clients and Merseyside Archaeological Service by NMLFAU and will ultimately be made available for public access.

15. Resources and Timetable

- 15.1 All archaeological personnel involved in the project will be suitably qualified and experienced professionals.
- 15.2 The timetable for the work will be dependant upon the geo-technical and groundworks contractors programme.

16. Insurances and Health and Safety

- 16.1 NMLFAU is covered by public and professional indemnity insurance.
- 16.2 NMLFAU has its own Health and Safety policy compiled using national guidelines and which conform to all relevant Health and Safety legislation. A copy of the Health and Safety policy may be submitted to the client in advance of fieldwork.
- 16.3 NMLFAU will undertake a risk assessment detailing project specific Health and Safety requirements. The risk assessment shall be submitted to the client and MAS in advance of commencement of site work. Health and Safety will take priority over archaeological issues.
- 16.4 The archaeological sub-contractor will familiarise themselves with, and comply with, the Health and Safety requirements of the principal contractor on site.

References

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