

at

**NETHAM LOCK GATES,
EAST BRISTOL.**

for

Bristol City Council Engineering Consultancy



Report No. 2446/2011
BHER No. 24979

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Archaeological Watching Brief
at
**NETHAM LOCK GATES,
EAST BRISTOL.**

Centred on
N.G.R. ST 61594 72702

Client: Bristol City Council Engineering Consultancy

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Abbreviations

AD	Anno Domini	Km	Kilometre
aOD	Above Ordnance Datum	m	Metre
BaRAS	Bristol & Region Archaeological Services	NGR	National Grid Reference
BC	Before Christ	NMR	National Monuments Record
c.	Circa	OS	Ordnance Survey
HER	Historic Environment Record		

NOTE

Notwithstanding that Bristol and Region Archaeological Services have taken reasonable care to produce a comprehensive summary of the known and recorded archaeological evidence, no responsibility can be accepted for any omissions of fact or opinion, however caused.

September, 2011.

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SUMMARY

A programme archaeological recording was carried out during works associated with the lifting and replacement of the lock gates at Netham Lock, East Bristol. The archaeological recording was commissioned to comply with the condition of Listed Building consent the lock, gates, lock sides and the Lock Keeper's Cottage all being listed as Grade II. The site is located in Netham (NGR ST 61594 72702) in the east of Bristol. The site forms the connection between the Feeder Canal and the River Avon which at this point run east to west and is bounded to the south by Feeder Road, to the east by the two bridges of Netham Road and to the north by Netham Park. The upper section of the lock sits at 9.2m aOD and the lower section of the gate at 8.1m aOD.

The lock gates and the associated elements of the lock structure were all fully recorded, and a number of observations made concerning alterations made to the various elements. However few additional details of the lock structure itself were visible. Additional details may be provided by the forthcoming report of the divers' survey.

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1. INTRODUCTION

- 1.1 Bristol and Region Archaeological Services (BaRAS) were commissioned by Bristol City Council Engineering Consultancy to undertake archaeological recording during the lifting and replacement of the lock gates of Netham Lock, East Bristol.
- 1.2 The archaeological recording was commissioned to comply with the condition of Listed Building consent (Consent Application No. 10/05256/LA) and in accordance with a Written Scheme of Investigation prepared by Bristol and Region Archaeological Services (BaRAS 2011).
- 1.3 The fieldwork was undertaken on the 14th February and 29th March 2011 under the supervision of Simon Roper who also compiled this report.
- 1.4 The project archive will be deposited with Bristol City Museum & Art Gallery under the Accession Number BRSMG 2011/2 and a copy of the report will be made available to the National Monuments Record maintained by English Heritage. The project has been entered in the Bristol Historic Environment Record as: BHER 24979 and in the OASIS Online Access to the Index of Archaeological Investigations as: bristola1-93155.

2. THE SITE

- 2.1 The site is located in Netham in the east of Bristol at NGR ST 61594 72702. The site forms the connection between the Feeder Canal and the River Avon which at this point run east to west and is bounded to the south by Feeder Road, to the east by the two bridges of Netham Road and to the north by Netham Park. The upper section of the lock has sides that sit at 9.2m aOD, while the sides of the lower section of the lock sit at 8.1m aOD.
- 2.2 The lock, gates, lock sides and the Lock Keeper's Cottage are all listed as Grade II, and are located within the Avon Valley Conservation Area.

3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 3.1 No previous archaeological assessment has been carried out on the site or within close proximity to the site.
- 3.2 Netham Lock dates from the early 19th century, between 1805 and 1807, when the construction of the New Cut and diversion of the River Avon along the Feeder Canal was carried out. The Feeder Canal diverts water from the Avon into the Floating Harbour of Bristol thus maintaining a constant level of water in the harbour. The tidal River Avon was diverted by the New Cut to the west side of the city where it rejoined its original course through the Avon Gorge. At the opposite end of the harbour Cumberland Basin links the Floating Harbour back with River Avon by two sets of locks. The engineer William Jessop devised this arrangement, which relieved the port of Bristol from the difficulties of a harbour affected by a very high tidal range. Netham Lock as the upstream link between the Floating Harbour, via the Feeder Canal, to the River Avon is a vital component of this arrangement.
- 3.3 Much of the principal structure of the lock, such as the chamber, copings, quoins and recesses are probably original. Other elements including the gates and sluice mechanisms are likely to have been replaced several times during the lifetime of the lock. The current lower gates were replaced in 1988 and the upper gates are believed to be less than fifty years old.

4. AIMS AND METHODOLOGY

- 4.1 The fieldwork complied with the methodology contained within the Written Scheme of Investigation (BaRAS 2011). The fieldwork also followed the *Standard and Guidance for Archaeological Investigation and recording of Standing Buildings and Structures*, issued by the Institute for Archaeologists (2008). The aim of the archaeological recording was to make a comprehensive photographic record of the redundant lock gates and the associated elements of the lock structure that were exposed following their removal.
- 4.2 The archaeological recording involved the examination and recording of the lock gates themselves and those elements of the lock structure not normally visible when the gates are in place.
- 4.3 Plans of the lock gates were made at a scale of 1:20. Photographs were taken in 35mm monochrome print and a digital medium. This included photographs of the gates and the mechanisms of the structure in which they sat.

5. RESULTS

- 5.1 Two site visits were made to Netham Lock during the replacement works, in both cases the gates had already been lifted out of position and set down to the side of the lock. The first visit was made on the 14th of February when the lower set of gates had been removed. These lower gates were less than a quarter of a century old dating from 1988, even so it was noted that one of the sluice gates had been altered during the lifetime of the gates. The north sluice of the south gate had additional strengthening added to three corners (**Plate 5**). A plan was made of the north gate (**Fig. 6**) and a complete photo record made of both gates. The fixings for both gates (**Plates 11-14**) appeared to be part of the original structure of the lock. Unfortunately one bracket on the north side of the lock broke during the removal of the gate from that side (**Plate 12**). The quoins where the lock gate sat in the lock structure were observed and recorded (**Plates 15 & 23**), however few additional details were visible. In addition the balance beams of the gates (**Plate 16**), which were believed to be oak, were found to be made of a softwood and to be rotten in the areas subject to high stress. These were therefore discarded rather than retained as originally intended, and replaced with beams constructed from Ekki wood, the same as the new gates would be.
- 5.2 The second visit was made on the 29th of March when the upper lock gates had been removed, these are believed to be less than fifty years old. A plan was made of the south gate (**Fig. 7**) and a complete photo record made of both gates. The fixings for both upper gates (**Plate 22**) appeared to be more recent replacements than the fixings of the lower gates. As with the lower gates the lock structure normally obscured by the gates was recorded, however no new details were observed.
- 5.3 A number of details of the lock structure, such as the pintles that supported the gates, were not observable due to being below the waterline. A survey of these features was to be carried out by divers, however at this time the results of this survey are unavailable.

6. CONCLUSION

- 6.1 The lock gates and the associated elements of the lock structure were all fully recorded, and a number of observations made concerning alterations made to the various elements. These include the north sluice of the lower south gate and the fixings for the upper gates. However few additional details of the lock structure itself were visible. Additional details may be provided by the forthcoming report of the divers' survey.

7. PROJECT TEAM

- 7.1 The fieldwork was undertaken by Simon Roper who also produced this report. The illustrations were prepared and the report compiled by Ann Linge. The archive was compiled and prepared for deposition by Simon Roper. The project was managed by John Bryant.

8. BIBLIOGRAPHY AND SOURCES CONSULTED

Published Works

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English Heritage 2006 *Management of Research Projects in the Historic Environment*. Swindon.

English Heritage, 2006 *Understanding Historic Buildings: A guide to good recording practice*.

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9. ACKNOWLEDGMENTS

BaRAS would like to thank Anita Robinson of Bristol Engineering Consultancy, and Matt Ewing of Bam Nuttall for their assistance and co-operation and Bob Jones, BCC Archaeological Officer, for their advice.

APPENDIX 1: Policy Statement

This report is the result of work carried out in the light of national and local authority policies.

NATIONAL POLICIES

Statutory protection for archaeology is enshrined in the Ancient Monuments and Archaeological Areas Act (1979), amended by the National Heritage Act, 1983. Nationally important sites are listed in the Schedule of Ancient Monuments (SAM). Scheduled Monument consent is required for any work that would affect a SAM.

GOVERNMENT POLICY GUIDANCE

Planning Policy Guidance Note 15: Planning and the Historic Environment (1994) and Planning Policy Guidance Note 16: Archaeology and Planning (1990) have been replaced (23 March 2010) by Planning Policy Statement 5: Planning for the Historic Environment (2010) which sets out the Government's national policies on conservation of the historic environment. Those parts of the historic environment that have significance because of their historic, archaeological, architectural or artistic interest are called heritage assets.

Of particular relevance within the Planning Policy Statement are:

Policy HE6: Information Requirements for Applications for Consent Affecting Heritage Assets

HE6.1 Local planning authorities should require an applicant to provide a description of the significance of the heritage assets affected and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage asset and no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset. As a minimum the relevant historic environment record should have been consulted and the heritage assets themselves should have been assessed using appropriate expertise where necessary given the application's impact. Where an application site includes, or is considered to have the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where desk-based research is insufficient to properly assess the interest, a field evaluation.

Policy HE9: Additional Policy Principles Guiding the Consideration of Applications for Consent Relating to Designated Heritage Assets

HE9.1 There should be a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be. Once lost, heritage assets cannot be replaced and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Loss affecting any designated heritage asset should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, including scheduled monuments, protected wreck sites, battlefields, grade I or II* listed buildings and grade I and II* registered parks and gardens, World Heritage Sites, should be wholly exceptional.

Policy HE12: Policy Principles Guiding the Recording of Information Related to Heritage Assets

HE12.3 Where the loss of the whole or a material part of a heritage asset's significance is justified, local planning authorities should require the developer to record and advance understanding of the significance of the heritage asset before it is lost, using planning conditions or obligations as appropriate. The extent of the requirement should be proportionate to the nature and level of the asset's significance. Developers should publish this evidence and deposit copies of the reports with the relevant historic environment record. Local planning authorities should require any archive generated to be deposited with a local museum or other public depository willing to receive it. Local planning authorities should impose planning conditions or obligations to ensure such work is carried out in a timely manner and that the completion of the exercise is properly secured.

DISTRICT POLICY

Bristol City Council Supplementary Planning Document (2006) states (policy SPD No.7, p4):

- (i) There will be a presumption in favour of preserving any archaeological features or sites of national importance, whether scheduled or not.
- (ii) Development which could adversely affect sites, structures, landscapes or buildings of archaeological interest and their settings will require an assessment of the archaeological resource through a desktop study, and where appropriate a field evaluation. Where there is evidence of archaeological remains, development will not be permitted except where it can be demonstrated that the archaeological features of the site will be satisfactorily preserved in situ, or a suitable strategy has been put forward to mitigate the impact of development proposals upon important archaeological remains and their settings; or, if this is not possible and the sites are not scheduled or of national importance, provision for adequately recording the site prior to destruction is made, preferably by negotiating a planning agreement to ensure that access, time and financial resources are available to allow essential recording and publication to take place.

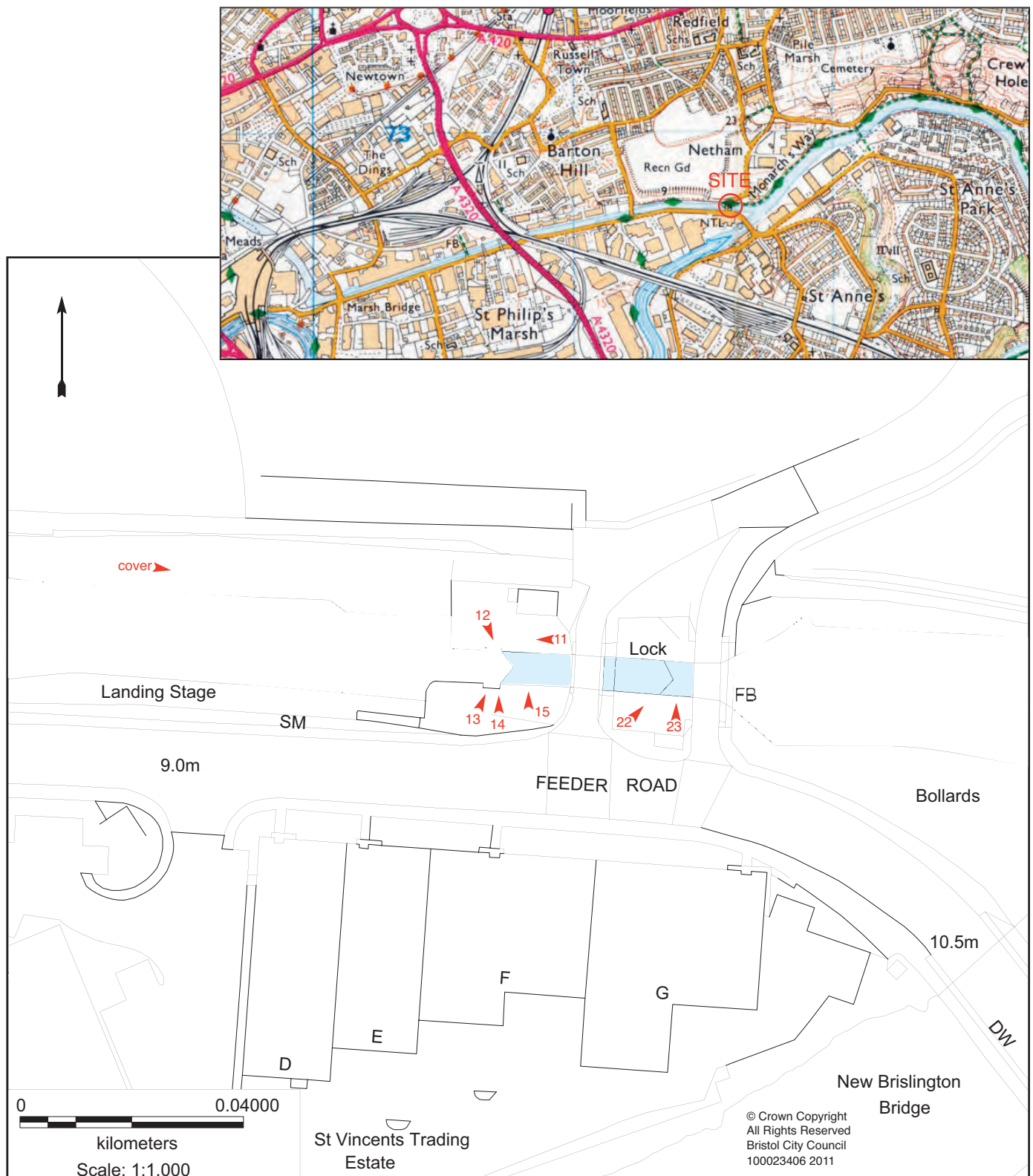


Fig.1 Site location plan, 1:1000 showing plate orientations



Fig.2 Extract from the Parish of St George Tithe map, of 1842

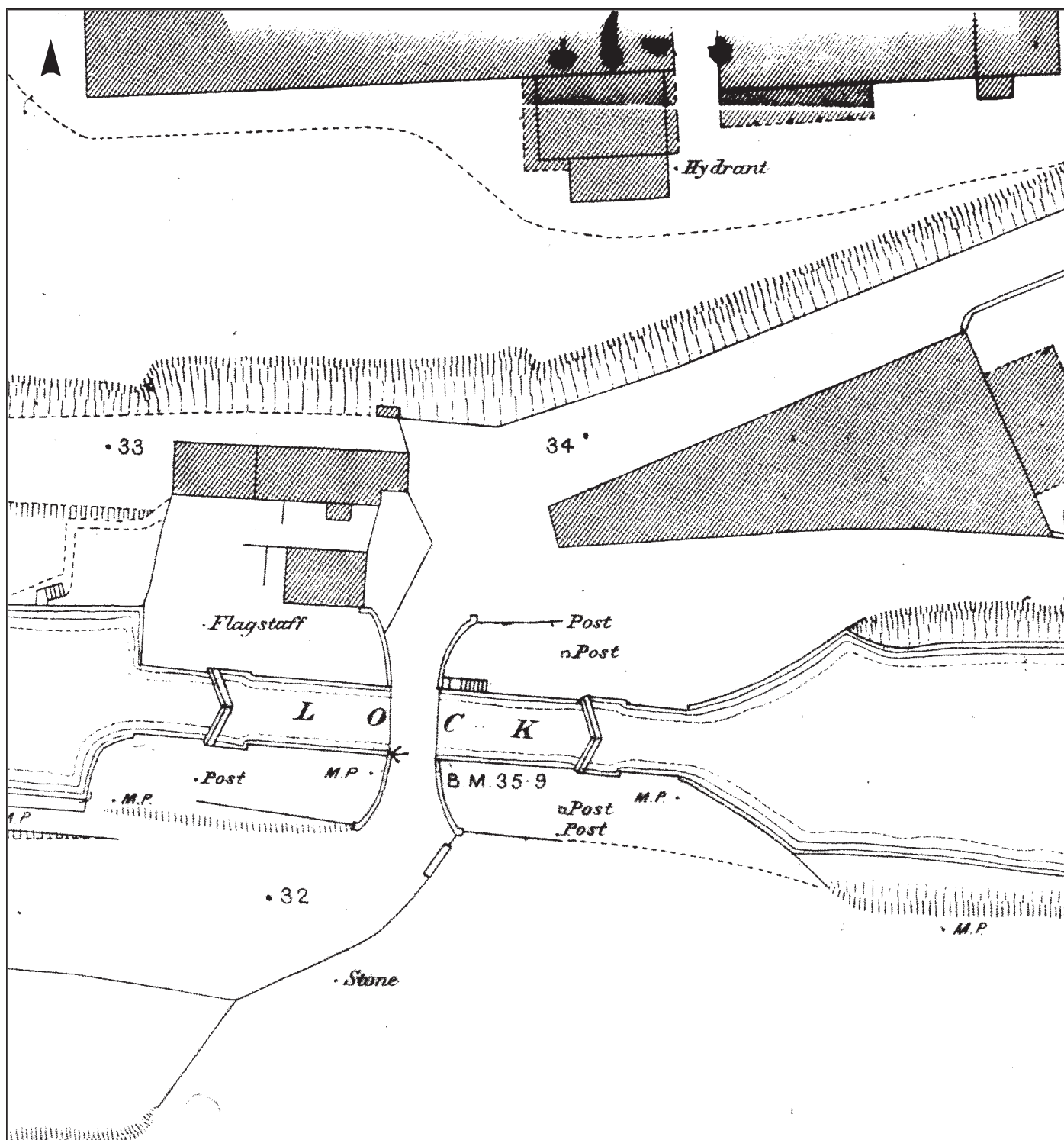


Fig.3 Extract from Ordnance Survey 1:500 plan, of 1882

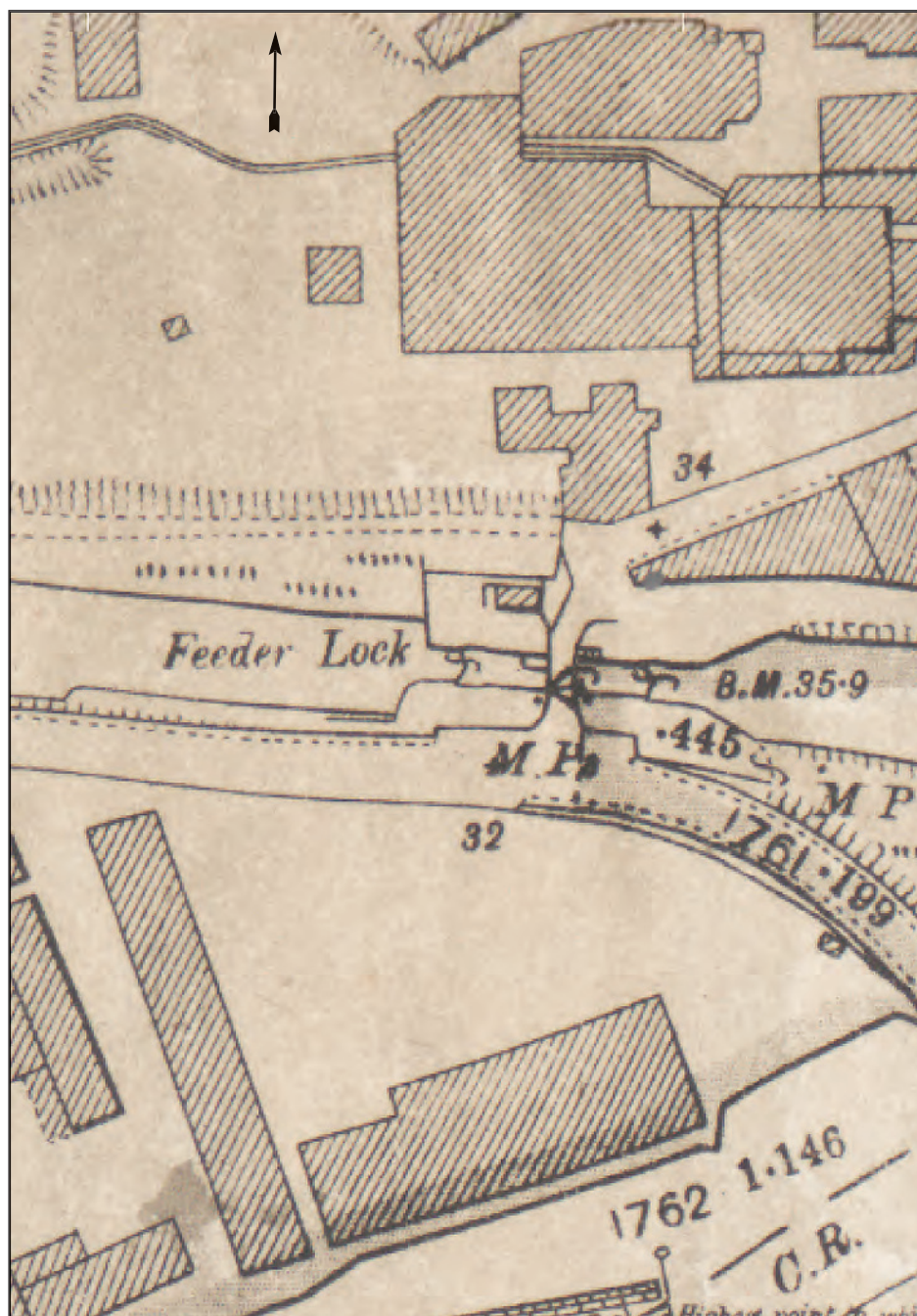


Fig.4 Extract from 2nd Edition Ordnance Survey 1:2500 plan, published 1904

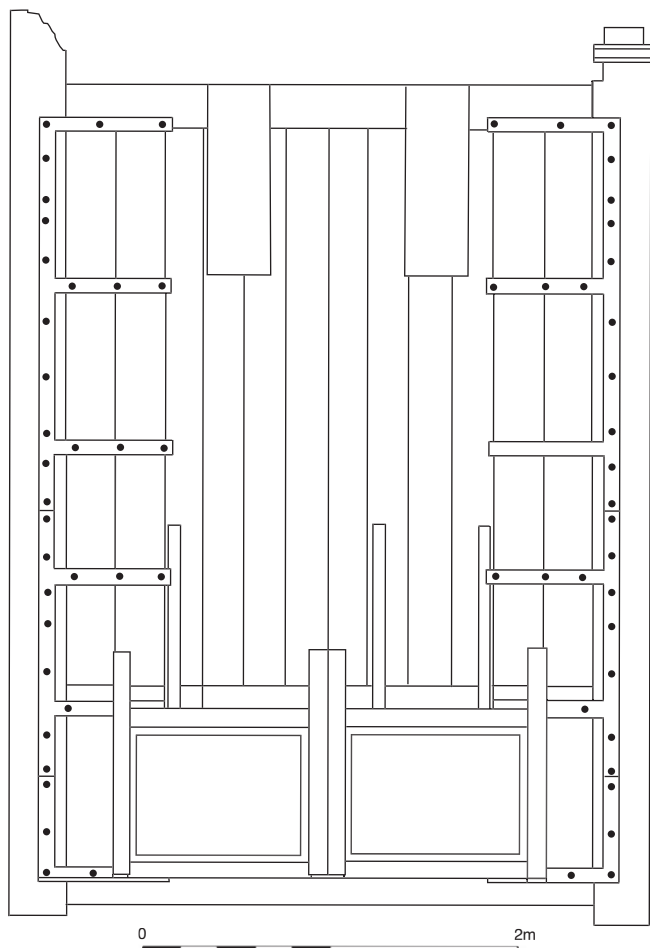


Fig.5 Aerial photo of the site, taken at 14:07 on 26th June 2010

S

N

Fig.6 Lower north gate, 1:40 BRSMG 2011/2



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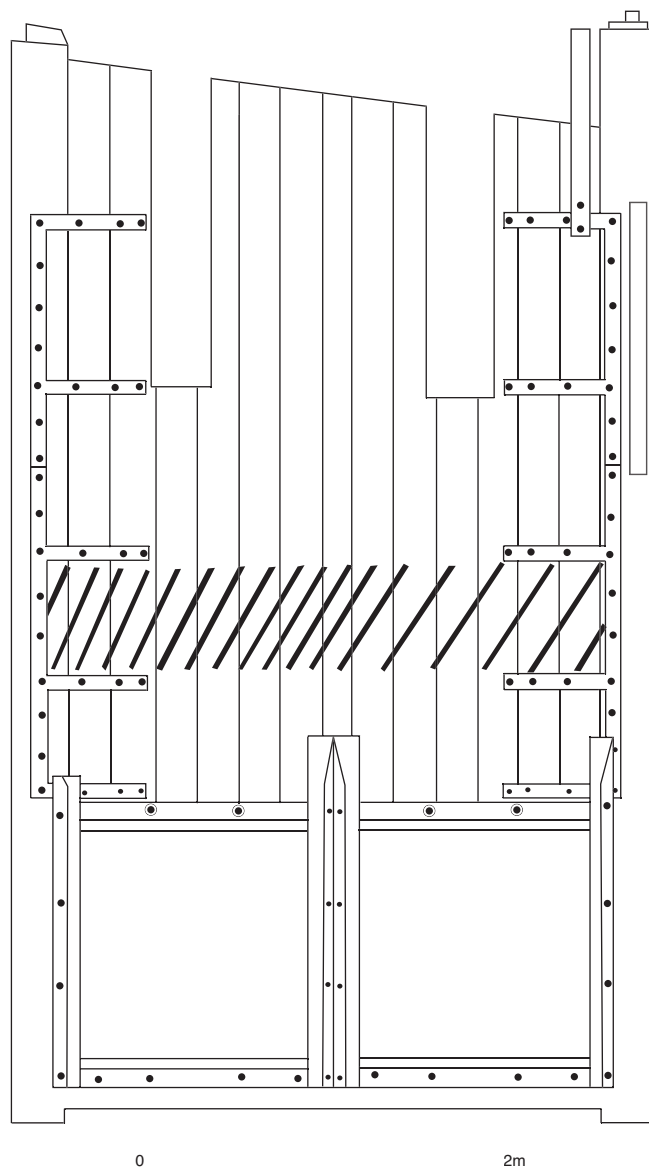


Fig.7 Upper south gate, 1:40



Plate 1 South gate of the lower lock gates, east face viewed from the top



Plate 2 South gate of the lower lock gates lifted upright, west face



Plate 3 North gate of the lower lock gates lifted upright, west face



Plate 4 South sluice of the lower south gate, east face



Plate 5 North sluice of the lower south gate, with alterations made to three of the corners, east face



Plate 6 Sluices of the lower north gate, east face



Plate 7 Lock-side fixing for the balance beam on the upper section of the lower north gate



Plate 8 Centre of the lock fixing for the balance beam on the upper section of the lower north gate



Plate 9 Base of the lower north gate pintle point



Plate 10 Base of the lower north gate south side



Plate 11 North side of lock structure, lower gates fixing point, looking south-west



Plate 12 North side of lock, lower gates fixing brackets, looking south-east



Plate 13 South side of lock structure, lower gates fixing point, looking north-east



Plate 14 South side of lock, lower gates fixing brackets, looking north-east



Plate 15 Lower lock north side gate recess, looking north



Plate 16 Lower lock north side balance beam, looking south-east



Plate 17 South gate of the upper lock gates, east face viewed from the base



Plate 18 North gate of the upper lock gates, east face viewed from the base



Plate 19 Top of the upper south gate, north side



Plate 20 Top of the upper south gate, balance beam fixing, south side



Plate 21 Sluice paddle of the upper gates



Plate 22 South side of lock structure, upper gates fixing point, looking north-east



Plate 23 Upper lock north side gate recess, looking north