

**ARCHAEOLOGICAL MONITORING
AND RECORDING
ON LAND ADJACENT TO 60 HAVEN ROAD,
ST THOMAS, EXETER**

**Prepared on behalf of
D. B. Russell (Construction) Ltd
and Norman Rourke Pryme LLP**

by MFR Steinmetzer

with contributions by Andrew Passmore

Exeter Archaeology

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Contents

Summary	
1. Introduction	1
1.1 The site	1
2. Project Brief	1
3. Aims	1
4. Methodology	1
5. Results	2
5.1 The trenches	2
6. Discussion	3
6.1 The 19 th century turntable	3
7. Conclusions	5
Acknowledgements	5
Bibliography	5

Appendix 1: Method statement.

Appendix 2: Context descriptions by trench.

List of illustrations

- Fig. 1 Site location.
- Fig. 2 Plan showing relative position of trenches.
- Fig. 3 Detailed plan of turntable Trench 1.
- Fig. 4 Sections showing depth of deposits and suggested dates.
- Fig. 5 A detail from the St Thomas Parish Tithe map of 1839.
- Fig. 6 Details from the 1876 Ordnance Survey 1:500 map sheets Devon LXXX 10.2, 3, 7 & 8.

List of plates

- Plate 1 General view of site with Electricity Works in the background. Looking southwest.
- Plate 2 Section through Canal Basin Wall in Trench 5. Looking northwest.
- Plate 3 General view of outside of railway turntable. Looking northwest.
- Plate 4 General view of inside of railway turntable. Looking southeast.
- Plate 5 General view of turning mechanism. Looking south.
- Plate 6 Close-up of turning wheels and internal rail. Looking south.
- Plate 7 Close-up of internal wear groove. Looking south.
- Plate 8 Close-up of external face of railway turntable. Looking northwest.
- Plate 9 General view of stone faced outer edge of railway turntable. Looking northwest.
- Plate 10 Section through railway turntable construction cut. Looking west.
- Plate 11 General view of bras gauge railway track in Trench 3. Looking south.
- Plate 12 General view of Trench 5. Looking northeast.

Summary

Archaeological monitoring and recording on land adjacent to 60 Haven Road, St Thomas, Exeter, Devon (SX 9211 9193), was carried out by Exeter Archaeology from May to July 2008.

Excavation revealed deep modern redeposited soils overlying extensive areas of alluvium and gravels. The remains of a railway turntable dating to 1867 were exposed, as well as the remains of the associated broad and standard gauge tracks.

1. INTRODUCTION

This report has been prepared for D.B. Russell (Construction) Ltd and presents the results of archaeological monitoring and recording undertaken by Exeter Archaeology (EA) between May and October 2008 on land adjacent to 60 Haven Road, Exeter, Devon. The work was required by the local planning authority, Exeter City Council (ECC) under a condition attached to the grant of planning permission (ref: 06/2497/03, condition 6) for the construction of a three-storey building comprising a restaurant and residential accommodation.

1.1 The site

The site (Fig. 1, centred on SX 9211 9193) lies at the NW corner of the Canal Basin at the edge of the Piazza Terracina. It lies entirely within the Riverside Conservation Area and covers a level area of approximately 0.06 hectares, at a height of approximately around 7m AOD. The underlying geology of the immediate area consists of sandstones with breccias, mudstones and siltstones of the Whipton formation, the oldest sequence of Permian sediments in the Exeter district (Bristow *et al.* 1985).

The site lies on reclaimed ground within the former floodplain of the River Exe. A desk-based assessment of the area produced in 2000 (EA report No. 00.18) showed that the site is situated within the area of 19th-century development of the canal basin and its associated structures and also the 17th-century diversion canal, which may contain important preserved waterlogged remains. It was also considered possible that the site may contain palaeochannels (ancient river courses) with the potential to contain preserved organic remains.

2. PROJECT BRIEF

The scope of the works was set out in a guidance letter to Tim Gent (EA) from the ECC Archaeology Officer (ECC AO) in February 2008, and a written scheme of investigation (Appendix 1) was then produced for approval under the planning condition.

3. AIMS

The principal aim of the project was to monitor all groundworks with the potential to disturb archaeological deposits and to ensure that any such deposits exposed were adequately investigated and recorded prior to their removal. As the site was known to contain a 19th century railway turntable, its precise location was to be identified in order to ensure its survival through modifications to the foundation design.

4. METHODOLOGY

The project was undertaken in accordance with a Written Scheme of Investigation prepared by EA (2007), submitted to and approved by Exeter City Council prior to commencement on site. This document is included as Appendix 1.

Groundworks for the new build were limited; the new structure being set on piled foundations which did not require a significant amount of excavation of any significant depth. Five trenches totalling 65m in length, with each trench 1-1.6m wide were excavated. These were positioned randomly to locate an existing water pipe. Groundworks involving the subsequent

re-routing of an overflow pipe along the southeastern edge of the development were also monitored. The positions of trenches as excavated are shown on Fig. 2.

Machining was undertaken under archaeological supervision using a 360° mechanical excavator fitted with a 1m wide toothless grading bucket.

All features and deposits were recorded using the standard EA recording system, comprising context record sheets and individual trench recording forms. Sections and plans for each trench were drawn at 1:10, 1:20 or 1:50. A detailed black and white print and colour digital photographic record was made. Registers were maintained for photographs, drawings and context sheets on *pro forma* sheets. Finds and samples were labelled and bagged on site and taken to the EA offices for processing and cataloguing.

5. RESULTS

Relevant detailed plans and sections are included as Figs 2-4 and detailed context descriptions for each trench set out in Appendix 2.

A generally uniform overlying layer sequence of 20th and 19th century made ground, alluvial clays and gravels was encountered in all the trenches. The combined thickness of these deposits averaged 1.8m.

5.1 The trenches

Trench 1 (Detailed plan and section Fig. 2-4, Pl. 3-10)

This trench measured 8.5m x 6.5m, was orientated NW-SE and was excavated to a maximum depth of 1.3m. The remains of a 19th century railway turntable were located in the centre of the trench. This cut through alluvial clays (5001) at a depth of 1.04m below current ground level (5.72mAOD). Detailed context descriptions for this trench are set out in Table 1, Appendix 2, and the turntable is described and discussed in detail in section 6.1. A short length of rail forming part of the siding along the southern end of the canal basin was exposed adjacent to the turntable

Trench 2 (Detailed plan and section Fig. 2 and 4)

This trench measured 2m x 1.6m, was orientated NW-SE and was excavated to a maximum depth of 2m. Alluvial clay (204) was exposed at a depth of 1m below ground level (5.68mAOD), overlain throughout the trench by probable 19th century made ground (203), which was in turn overlain by modern made ground (201-2). The rear of the basin wall was exposed along the northeastern edge of the trench (see description in trench 5, below, where a section of the wall was removed). This cut through the alluvial clays and gravels, with the modern deposits dumped against the rear face. No archaeological features, pottery or other finds were present. The layer sequence is set out in Table 2, Appendix 2.

Trench 3 (Detailed plan and section Fig. 2 and 4, Pl. 11)

This trench measured 15m x 1m, was orientated NW-SE and was excavated to a maximum depth of 1.9m. Alluvial clay (304) was exposed at a depth of 0.9m below ground level (5.78mAOD), overlain throughout the trench by probable 19th century made ground (303), which was in turn overlain by modern made ground (301-2). The layer sequence is set out in Table 3, Appendix 2.

Short lengths of two *in situ* rails were exposed, complete with iron chairs and wooden sleepers. Clew (1984, 59) states that the broad gauge route to the canal was opened in 1867, and standard gauge completed in 1876 made by laying a third rail within the existing broad gauge lines (as depicted on the 1876 Ordnance survey map; Fig. 6). The broad gauge track was abandoned in 1892. The narrow gauge of the *in situ* tracks indicates that the eastern rail forms part of the 1867 broad gauge track, and that the western rail represents the third rail added in 1870. A third rail – the western rail – from the broad gauge track did not survive and may have been removed in or after 1892.

Trench 4 (Detailed plan and section Fig. 2 and 4)

This trench measured 4m x 1.5m, was orientated NW-SE and was excavated to a maximum depth of 1.6m. It cut through a 200mm thick 19th century made ground layer (403) and was sealed by a layer of 20th century made ground (402), up to 300mm thick, which contained fragments of concrete and metal. This deposit was in turn overlain by a 200mm thick layer of modern slabs and make-up (401). Alluvial clay (404) was exposed at a depth of 0.7m below ground level (5.98mAOD). No archaeological features, pottery or other finds were present. Detailed context descriptions for this trench are set out in Table 4, Appendix 2.

Trench 5 (Detailed plan and section Fig. 2 and 4)

This trench measured 36m x 1.5m, was orientated NW-SE and NE-SW; and was excavated to a maximum depth of 1.6m. It cut through a 200mm thick 19th century made ground layer (503) and was sealed by a layer of 20th century made ground (502), up to 200mm thick, which contained fragments of concrete and metal. This deposit was in turn overlain by a 300mm thick layer of modern slabs and make-up (501). Alluvial clay (504) was exposed at a depth of 0.7m below ground level (5.98mAOD). The canal basin wall was partially breached along the northeastern edge of the trench. The wall was built of large roughly squared blocks of limestone with a rubble core and a granite coping stone. This cut through the underlying alluvial clays and gravels, with modern deposits dumped against the rear face. No archaeological features, pottery or other finds were present. Detailed context descriptions for this trench are set out in Table 5, Appendix 2.

6. DISCUSSION

6.1 The 19th century turntable, by Andrew Passmore

During recent work at this site part of a turntable associated with the railway system around the canal basin was excavated. The turntable is one of a pair situated at the west end of the canal basin, and was used to turn wagons onto sidings. The turntables date to 1867 (see *section 5.1, Trench 3* above) The 1:500 1876 OS map (Fig. 6) depicts an incoming railway line from the south, a siding to the north and two sidings around the canal basin.

The turntable is of simple construction, and comprises three elements: structural elements set into the canal basin, bearing axles and rollers, and the turntable itself. About half of the turntable was excavated exposing parts of all these structures (Fig. 2 and 3).

The turntable was set in a large pit (5003) with an outer granite wall (5005), flanked by an internal curved iron lining (5006). The interior was covered with a hard surface (5008) into which an iron ‘racer’ rail with external flange was attached. The centre of the pit was not exposed, but probably housed a central raised pivot post (as reconstructed in the other turntable).

The turntable was not attached to any wheels, but rested on a bearing arrangement. This comprised a number of thin circular bars or axles with small rollers or wheels at their ends. Thirteen axles were exposed, and were connected, at their ends to each other by a thin circular ring that probably stopped the axles bending. The inside end of these axles were not exposed but they must have been attached to a central hub that could pivot around the central post. Four reused sleepers were exposed under the axles (5009, 5010, 5014, 5015), two of which displayed bolt holes. These appear to have been added at a later date to support the axles, possibly following disuse.

The turntable itself was partially dismantled at some point in the past. The surviving, exposed *in situ* feature is a curved outer frame (5007) constructed from sections of bolted ironwork that rest on the rollers below. This frame would have been joined to a (unexcavated) hub by a series of ribs (5024). Positions for a further three of these ribs, identified through bolt holes and gaps in the L-plates on the outer frames, were exposed. The ribs were either set in pairs (possibly under the position of the rails) or (less likely) were irregularly spaced. Parts of five dislodged ribs were exposed; these were constructed from bolted ironwork with one curved edge. The framework on which the rails would have been attached has been removed, but pairs of bolt holes for its attachment were present on a flange on the top of the outer frame. This framework could have been constructed of metal or wood.

There is no evidence as to how the turntable was operated, and neither the 1876 OS map nor the reconstructed turntable provides any clue. The turntable could have been hand pushed, or turned by a simple geared crank.

The design of the turntable is comparable with, although less robust than, an example dated to c. 1868 from Devonport Dockyard, Plymouth, now removed to the Didcot Railway Centre (www.r.heron.btinternet.co.uk/gwsturntable.html). In his *Practical Railway Engineer*, Dempsey (1855 284-6 and plate XLIV) publishes a drawing of a turntable and describes its construction and use. The example is very similar to the turntable at the Canal Basin and his drawing depicts the upper part of the turntable and the central bearings, either missing or not exposed at Exeter. Unfortunately, Dempsey does not describe the method used to operate the turntable.

7. CONCLUSIONS

The results of the archaeological works demonstrated that deposits associated with the 19th-century development of the canal basin survived below modern deposits, and also demonstrated that no earlier quay surface has survived in this area.

The watching brief on a service trench along the SW and SE edge of the development exposed no significant new deposits associated with the canal basin, although construction details of the canal basin wall were exposed in two places.

Part of an 1867 turntable situated at the head of the canal was exposed, enabling details of its construction and operation to be determined. Further lengths of rail were exposed nearby, all of which were of the 'bullnose' type secured to sleepers with iron chairs. None were flat-headed as used by Brunel in his broad gauge railway, which probably reflects the initiation of the line by the city council rather than a railway company. (The new line linked into the existing South Devon Railway line and connected with St David's Station.)

SITE ARCHIVE

The site records have been compiled into a fully integrated site archive which is currently held at Exeter Archaeology's offices under project number 6339 and 6584, pending deposition at RAMM (693/2007 and 313/2008). Details of the excavations, including a pdf copy of this report, will be submitted to the on-line archaeological database OASIS (exeterar1-67863).

ACKNOWLEDGMENTS

The archaeological recording was commissioned by Norman Rourke Pryme LLP and managed for them by Robin Thorn, and Russell Construction Ltd, and managed for them by Richard Godby. We would like to thank Chris Blaker (Russell Construction) and Andrew Pye (ECC AO) for their help and assistance during the work, and to Simon Kealy of NRP for his assistance during negotiations regarding the alteration of the design of the new building to allow the turntable to be protected and preserved in situ. We would also like to thank Jim Rees from the National Railway Museum in York for providing information on turntables. The fieldwork was directed by Marc Steinmetzer and Chris Smart, and site staff comprised by Jerry Austin, Chris Hooper, Marie Leverett and Helen Rance. The illustrations for this report were prepared by Sarnia Blackmore, Neil Goodwin, Tony Ives and Jane Read.

BIBLIOGRAPHY

- BGS (British Geological Survey), 1995, *Geological Survey of Great Britain (England and Wales) 1:50000 Series Solid and Drift Geology Sheet 325 (Exeter)*.
- Clew, K.R. 1984 *The Exeter Canal*. Phillimore: Chichester.
- Collings, A.G. & Thorp, J. 2000. *Archaeological, Historical and Conservation Study of the Exeter Canal Basin*. EA Report No. **00.18**.
- Dempsey, G.D 1855 *The Practical railway engineer: A concise description of the engineering and mechanical operations and structures which are combined in the formation of railways for public traffic; embracing an account of the principal works executed in the construction of railways to the present time, with facts, figures, and data, intended to assist the civil engineer in designing and executing the important details required for those great public works*. John Weale: London.
- Henderson, C. 1991. *The Archaeology of Exeter Quay*. Devon Archaeology No. 4
- Hoskins, W.G. 1974. *Two thousand years in Exeter*. Phillimore: Chichester.
- Ordnance Survey 1:500 map sheet Devonshire (Eastern Division) LXXX.10.2 (1876)
- Great Western Society Bristol Branch website <www.r.heron.btinternet.co.uk/gwsturntable.html>.

APPENDIX 1: METHOD STATEMENT

WRITTEN SCHEME FOR ARCHAEOLOGICAL MONITORING AND RECORDING AT LAND ADJACENT TO 60 HAVEN ROAD, EXETER, DEVON

Prepared by Exeter Archaeology
for
Norman Rourke Pryme LLP

1. BACKGROUND

- 1.1 This document has been produced by Exeter Archaeology (EA) for Norman Rourke Pryme LLP, to describe the methods for archaeological monitoring and recording at land adjacent to 60, Haven Road, Exeter, Devon (SX 9211 9193). As such, it represents the 'Written scheme of archaeological work' required under Condition 6 attached to the grant of planning permission (No. 06/2497/03, Exeter City Council) for the construction of a three storey building comprising a restaurant and accommodation, and describes the archaeological fieldwork and reporting work required by the local planning authority under this condition.
- 1.2 The area including the site has been subject to a desk-based assessment (EA report No. 00.18). This shows that the site is situated within the area of 19th-century development of the canal basin and its associated structures, and also the 17th-century diversion canal, which may contain important preserved waterlogged remains. Work undertaken recently at Exton Road c. 600m to the south of the site, has exposed archaeological deposits, including preserved worked timbers of early medieval date, sealed beneath modern made ground. Palaeochannels (ancient river courses), with the potential to contain preserved organic remains, have also been exposed during developments nearby on the Exe floodplain.
- 1.3 A geoenvironmental survey undertaken at the site by Tweedie Evans Consulting indicates localised, but significant below ground contamination beneath the proposed development area.

2. AIMS

Watching brief

- 2.1 The watching brief will monitor groundworks associated with the development in order to identify surviving archaeological deposits, and to preserve these remains through record before the continuation of the works.

3. METHOD

Watching brief

- 3.1 Liaison will be established with the client and their contractor prior to works commencing in order to advise on EA requirements.
- 3.2 Where contamination issues allow, all groundworks associated with the development, including the provision of services will be monitored and recorded by an EA archaeologist, as per EA standard recording procedures (see below). Where archaeological remains or deposits are exposed, machining will cease in that area to

allow the EA archaeologist sufficient time to investigate and record exposed deposits (safe working practice allowing). Spoil will also be examined for the recovery of artefacts.

- 3.3 All ground level reductions will be undertaken by a 360° or wheeled JCB-type excavator fitted, where possible, with a toothless grading bucket, under the supervision of the site archaeologist. Machines should be kept clear of resultant exposed areas until inspected and recorded by an EA archaeologist.
- 3.4 *General project methods*
The project will be organised so that specialist consultants who might be required to conserve artefacts or report on other aspects of the investigations can be called upon (see below).
- 3.5 Health and Safety requirements will be observed at all times by any archaeological staff working on site, particularly when machinery is operating nearby (see below), when as a minimum, reflective jackets, safety helmets and protective footwear will be worn.
- 3.6 As appropriate, the Exeter Archaeology Scientific Officer will assess deposits on site to determine the possible yield (if any) of environmental or microfaunal evidence, and its potential for radiocarbon dating. If deposits of potential survive, these would be sampled using the EH Guidelines for Environmental Archaeology (EH CfA Guidelines 2002/1).
- 3.7 Initial cleaning, conservation, packaging and any stabilisation or longer term conservation measures will be undertaken in accordance with relevant professional guidance (including *Conservation guidelines No 1* (UKIC, 2001); *First Aid for Finds* (UKIC & RESCUE, 1997).
- 3.8 Should any human remains be exposed, these will initially be left *in situ*. If removal at either this or a later stage in the archaeological works is deemed necessary, these will then be fully excavated and removed from the site in compliance with the relevant Department of Justice regulations; any consents or licenses required will be obtained by EA on behalf of the client. Any remains will be excavated in accordance with Institute of Field Archaeologist Technical Paper No. 13 (McKinley and Roberts 1993). Where appropriate bulk samples will be collected.
- 3.9 Should gold or silver artefacts be exposed, these will be removed to a safe place and reported to the local coroner according to the procedures relating to the Treasure Act 1996. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the finds from theft.
- 3.10 The project will be monitored by the Exeter City Council Archaeology Officer (ECCAO), who will be informed of the progress of the work and may wish to inspect the excavations.
- 3.11 All works associated with the project will be carried out in accordance with the Code of Conduct and the relevant Standards and Guidance of the Institute of Field Archaeologists.

4 ARCHAEOLOGICAL RECORDING

- 4.1 Standard Exeter Archaeology recording and sampling procedures will be employed, consisting of:
- standardised single context record sheets; survey drawings, plans and sections at scales 1:10, 1:20, 1:50 as appropriate;
 - black and white print and colour digital photography;
 - survey and location of finds, deposits or archaeological features, using EDM surveying equipment and software where appropriate; and
 - labelling and bagging of finds on site from all excavated levels, post-1800 unstratified pottery may be discarded on site with a small sample retained for dating evidence as required.

5. REPORTING AND ARCHIVING

- 5.1 The reporting requirements will be confirmed with the ECCAO on completion of the site work. If little or no archaeological deposits are exposed, then only a completed City Historic Environment Record is likely to be required. More significant archaeological exposures would require the production of a summary illustrated report and of other reporting as set out below.
- 5.2 The summary report, if required, will contain the following elements as appropriate:
- location plan;
 - a written description of the exposed remains and a discussion and interpretation of their character and significance in the context of any locally available historical evidence;
 - copies of relevant historic maps and images;
 - plans and sections at appropriate scales showing the exact location of any significant archaeological deposits; and
 - specialist reports as appropriate.
- 5.3 Copies of the report will be produced for distribution to the Client, the local planning authority, usually within three months of the completion of the fieldwork. A copy will also be deposited with the site archive.
- 5.4 An ordered and integrated site archive will be prepared with reference to *The Management of Archaeological Projects* (English Heritage, 1991 2nd edition) upon completion of the project. This will be deposited with RAM Museum, Exeter in consultation with the Curator of Antiquities, usually within six months of the completion of the final report on the project. The guidelines in the *Procedures for the Deposit of Archaeological Archives from Developer Funded Fieldwork to Exeter City Museum (2005)* will be followed. The project has been allocated the museum accession No. 693/2007.
- 5.5 Details of the project, including a .pdf copy of the summary report, will be submitted to the national OASIS (Online Access to the Index of Archaeological investigationS) database.
- 5.6 A short report summarising the results of the project will be prepared for inclusion within the “round up” section of the appropriate national journal, if merited.

5.7 Should particularly significant remains, finds and/or deposits be encountered, then these, because of their importance, are likely to merit wider publication in line with government planning guidance. If such remains are encountered, the publication requirements – including any further analysis that may be necessary – will be confirmed with the ECCAO, in consultation with the Client. Exeter Archaeology, on behalf of the Client, will then implement publication in accordance with a timescale agreed with the Client, and the ECCAO.

6. PROJECT ORGANISATION

6.1 The project will be undertaken by suitably qualified and experienced EA archaeologists, and completed under the general management of Timothy Gent, BA MPhil, who produced this document. Exeter Archaeology is directed by a member of the Institute of Field Archaeology.

Health & Safety

6.2 Exeter Archaeology operations are subject to Health and Safety policies prepared by Exeter City Council which include all aspects of work covered by the *Health and Safety at Work Act* (1974). All monitoring works within this scheme will be carried out in accordance with current *Safe Working Practices* and a *Risk Assessment* will be prepared in advance.

ADDITIONAL INFORMATION

Specialists contributors and advisors

The expertise of the following specialists can be called upon if required:

Bone artefact analysis: Ian Riddler;

Dating techniques: University of Waikato Radiocarbon Laboratory, NZ; Alex Bayliss (EH);

Charcoal identification: Rowena Gale;

Diatom analysis: Nigel Cameron (UCL);

Environmental data: Vanessa Straker (English Heritage);

Faunal remains: Southampton University Faunal Remains Unit and sub-consultants, Dale Seargantson, Polydora Baker (EH); Lorraine Higbee (Taunton);

Fish bone identification: Alison Locker;

Foraminifera analysis: Mike Godwin;

Finds conservation: Alison Hopper-Bishop (Exeter Museums); Salisbury Conservation Centre;

Human remains: Louise Loe (Oxford Archaeology); Dr. James Steele (Centre for Human Ecology, Southampton);

Lithic analysis: Dr. Linda Hurcombe (Exeter University); John Newberry (Paignton);

Medieval and post-medieval finds: John Allan (Exeter Archaeology) and sub-consultants;

Metallurgy: Chris Salter (Oxford University); Ancient Monuments Laboratory (English Heritage) Peter Crew (Snowdonia National Park), Gill Juleff (Exeter University);

Molluscan analysis: Terrestrial-Paul Davis (Bristol); Marine- Jan Light (Godalming);

Numismatics: Norman Shiel (Exeter);

Petrology/geology: Roger Taylor (RAM Museum); Dr R. Scrivener (British Geological Survey);

Plant remains: Julie Jones (Bristol); Wendy Carruthers (Llantrisant)

Pollen: Dr Heather Tinsley (Bristol); Elizabeth Huckerby (Lancaster University Archaeological Unit);

Prehistoric pottery: Henrietta Quinnell (Exeter);

Radiocarbon dating: University of Waikato, New Zealand: Scottish Universities Research and Reactor Centre, East Kilbride

Roman finds: Paul Bidwell & associates (Arbeia Roman Fort, South Shields);

Soil Science: Matthew Canti (EH) and sub-consultants;

Textiles: Penelope Rogers (York)

APPENDIX 2: CONTEXT DESCRIPTIONS BY TRENCH

Table 1: Trench 1

Context No.	Depth (b.g.s.)	Description	Interpretation
5000	1.8+	Silts and gravels	Alluvial gravel
5001	1.1-1.8m	Light to mid red brown silty clay	Alluvial clay
5002	0.6-1.1m	Successive dumps of material	19 th century made ground
5003	0.6+	Circular cut	Foundation trench for turntable
5004	0.6+	Mid red brown silty clay	Fill of foundation trench [5003]
5005	0.6+	Stones	Outer curbstones
5006	0.8+	Curved iron lining	Iron lining
5007	0.9+	Curved iron frame	Outer frame
5008	1.4+	Base	Turntable base
5009	1.2+	Railway sleeper	Axle support
5010	1.2+	Railway sleeper	Axle support
5011	1.1+	Axle	Axle
5012	1.1+	Axle	Axle
5013	1.1+	Axle	Axle
5014	1.2+	Railway sleeper	Axle support
5015	1.2+	Railway sleeper	Axle support
5016	1.1+	Axle	Axle
5017	1.1+	Axle	Axle
5018	1.1+	Axle	Axle
5019	1.1+	Axle	Axle
5020	1.1+	Axle	Axle
5021	1.1+	Axle	Axle
5022	1.1+	Axle	Axle
5023	1.1+	Axle	Axle
5024	0.9+	Metal rib	Rib support
5025	0.4-0.6m	Dark brown silty clay	19 th century made ground
5026	0.3-0.4m	Dark brown black silty clay	20 th century made ground
5027	0-0.3m	Slabs	Modern surface

Table 2: Trench 2

Context No.	Depth (b.g.s.)	Description	Interpretation
201	0-0.2m	Slabs	Modern surface
202	0.2-0.5m	Dark brown black silty clay	20 th century made ground
203	0.5-1m	Successive dumps of material	19 th century made ground
204	1-2m	Light to mid red brown silty clay	Alluvial clay
205	2+	Silts and gravels	Alluvial gravel

Table 3: Trench 3

Context No.	Depth (b.g.s.)	Description	Interpretation
301	0-0.4m	Slabs	Modern surface
302	0.4-0.6m	Dark brown black silty clay	20 th century made ground
303	0.6-0.9m	Successive dumps of material	19 th century made ground
304	0.9-1.9m	Light to mid red brown silty clay	Alluvial clay
305	1.9+	Silts and gravels	Alluvial gravel

Table 4: Trench 4

Context No.	Depth (b.g.s.)	Description	Interpretation
401	0-0.2m	Slabs	Modern surface
402	0.2-0.4m	Dark brown black silty clay	20 th century made ground
403	0.4-0.7m	Successive dumps of material	19 th century made ground
404	0.7-1.9m	Light to mid red brown silty clay	Alluvial clay
405	1.9+	Silts and gravels	Alluvial gravel

Table 5: Trench 5

Context No.	Depth (b.g.s.)	Description	Interpretation
501	0-0.3m	Slabs	Modern surface
502	0.3-0.5m	Dark brown black silty clay	20 th century made ground
503	0.5-0.7m	Successive dumps of material	19 th century made ground
504	0.7-1.6m	Light to mid red brown silty clay	Alluvial clay
505	1.6+	Silts and gravels	Alluvial gravel

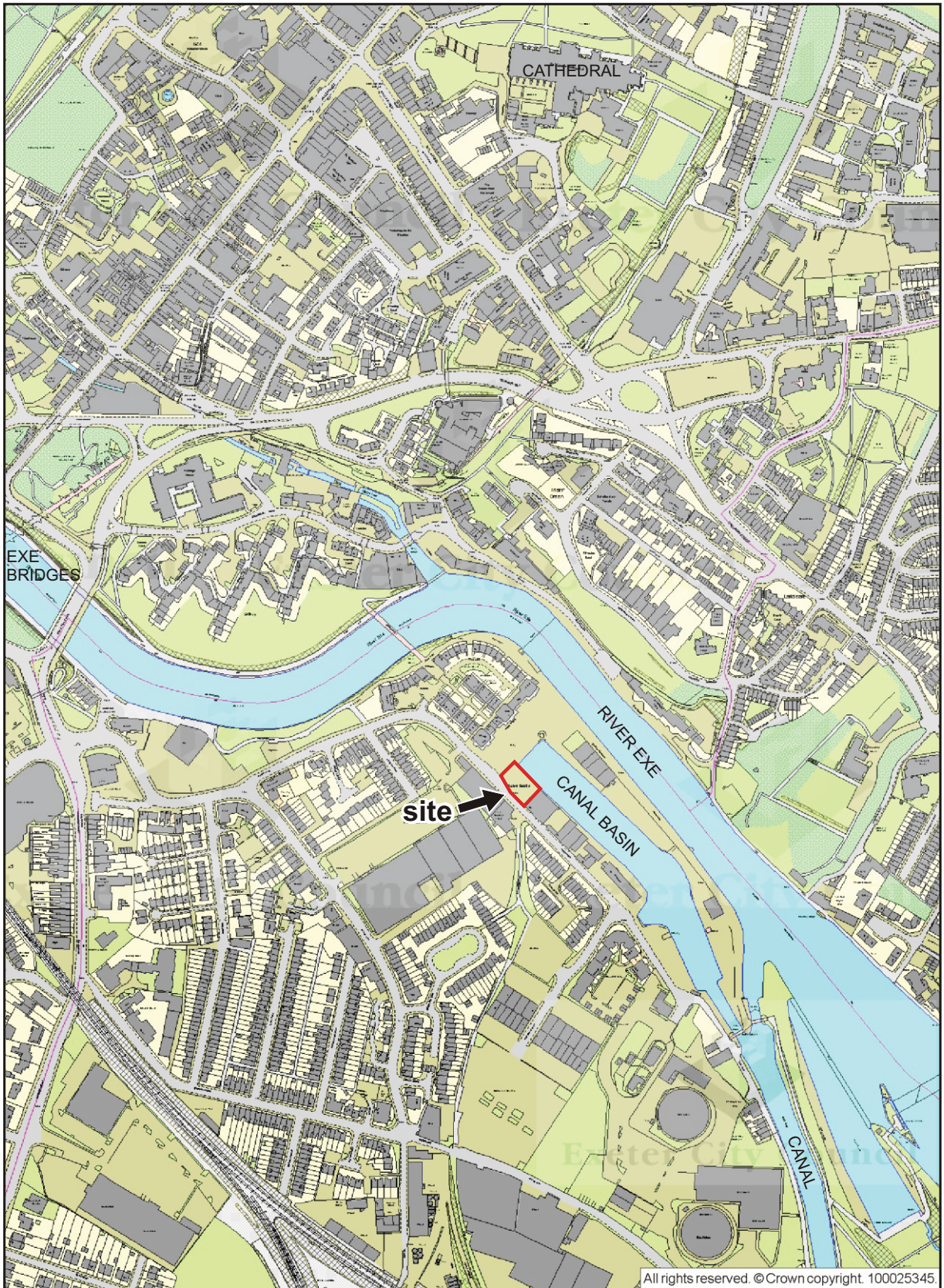


Fig. 1 Location of site.

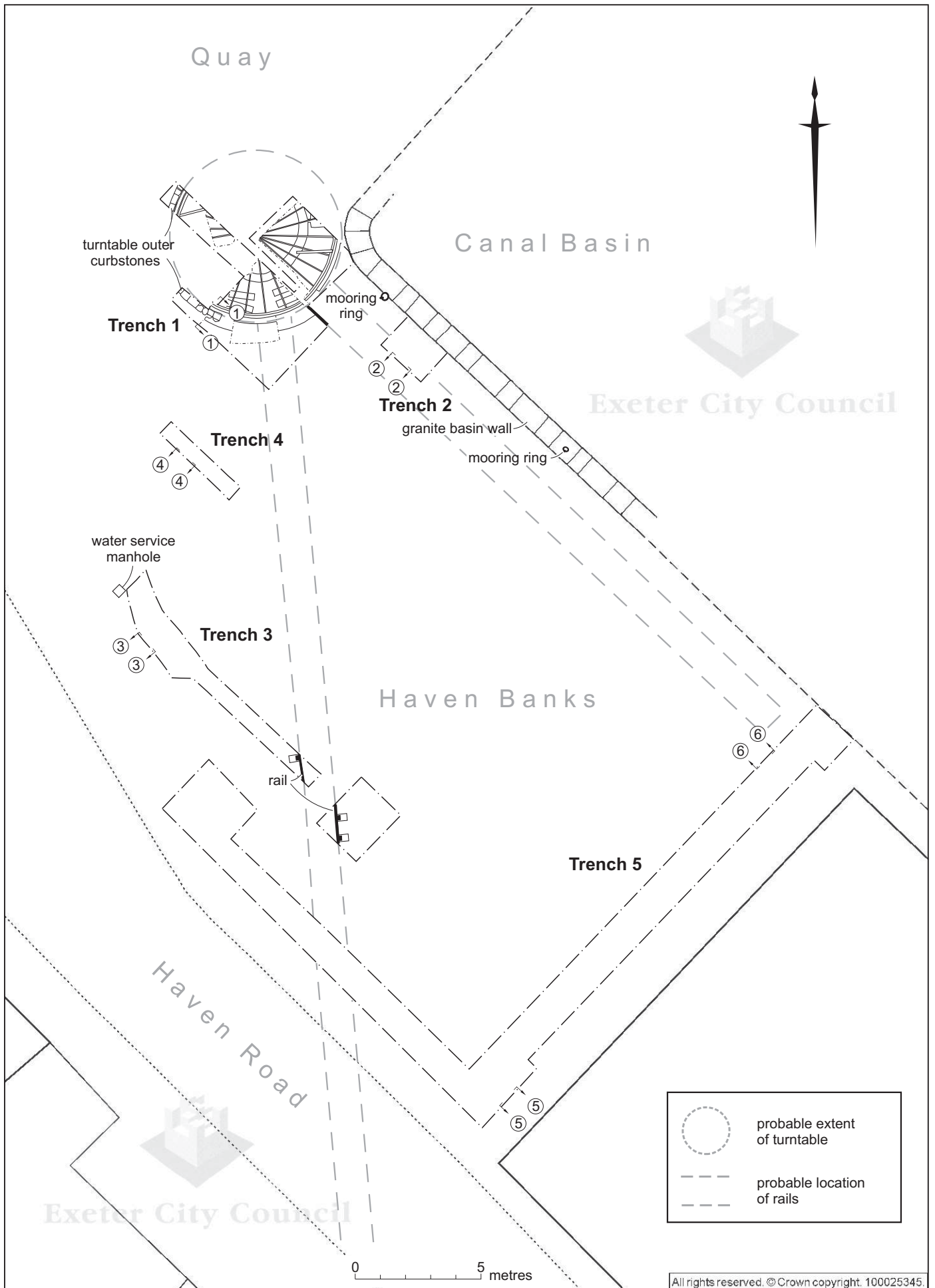


Fig. 2 Plan showing relative positions of trenches. Scale 1:200.

Sections:

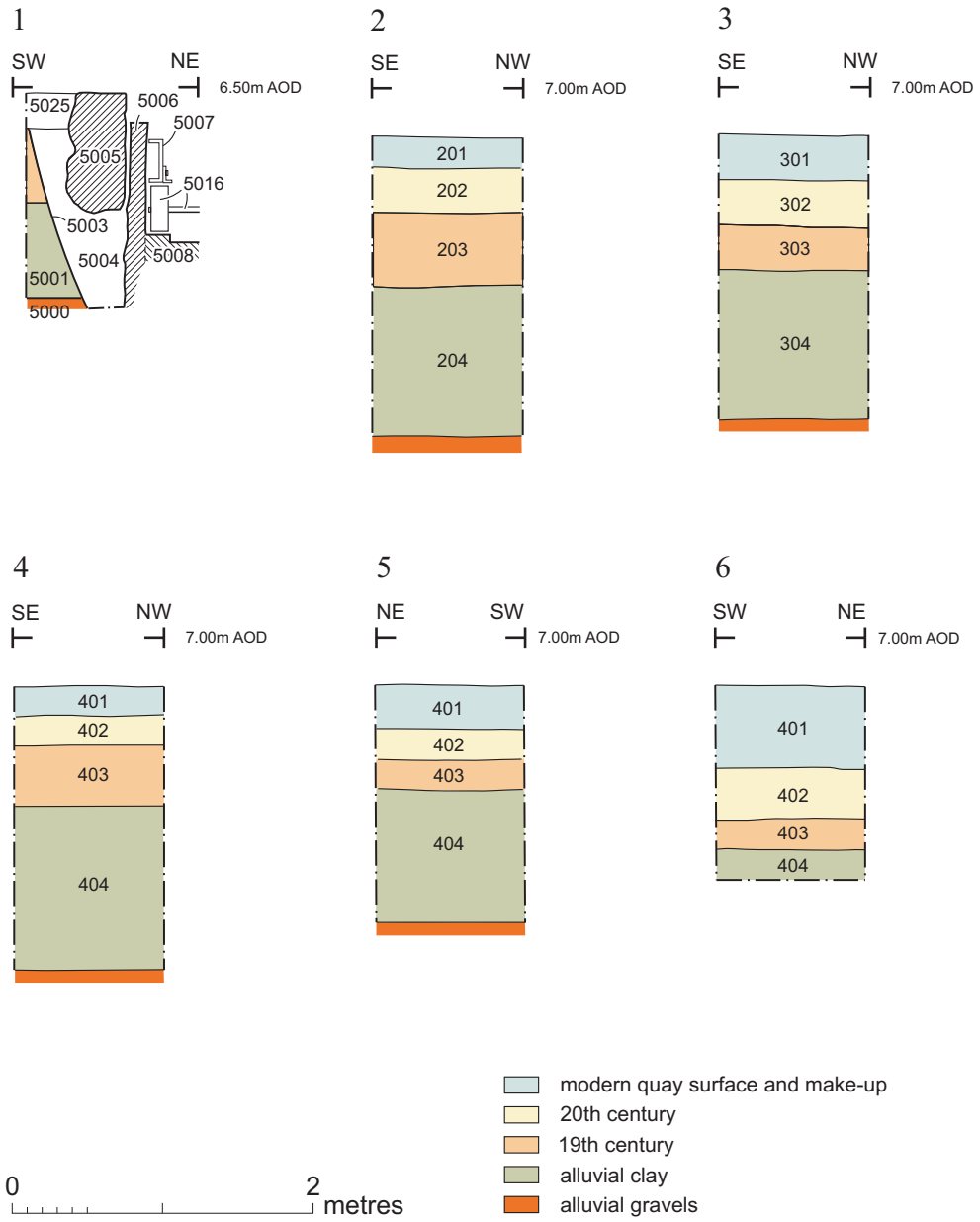


Fig. 4 Sections showing depth of deposits and suggested dates.

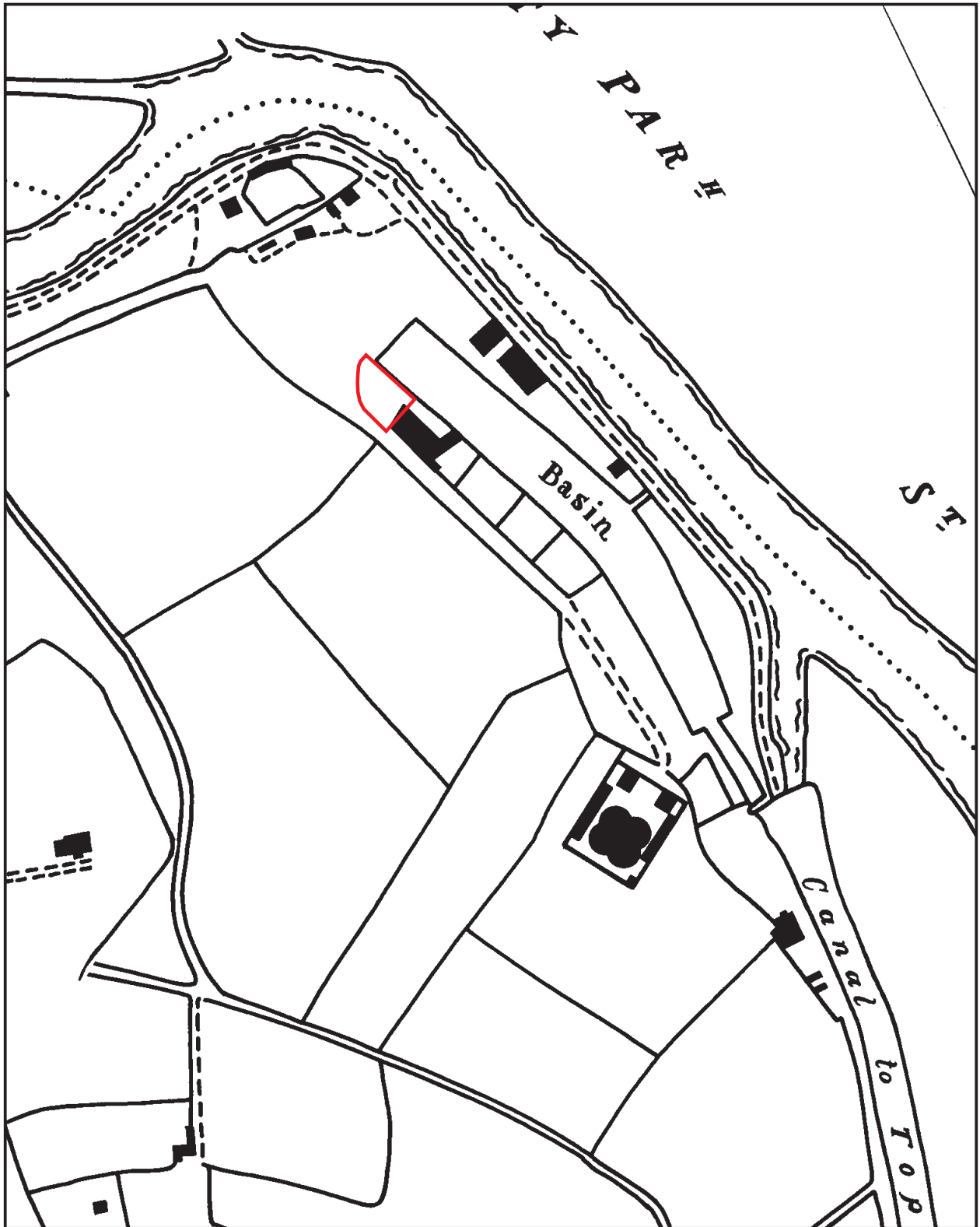


Fig. 5 A detail from the St Thomas Parish Tithe Map of 1839. Reproduced at original scale of 1:3168.



Fig. 6 Details from the 1876 Ordnance Survey 1:500 map sheets Devon LXXX.10.2, 3, 7 & 8, (rectified and with later additions) reproduced at 1:2000.



Plate 1 General view of site with Electricity Works in the background. Looking southwest.



Plate 2 Section through Canal Basin Wall in Trench 5. Looking northwest. 0.25m scale.



Plate 3 General view of outside of railway turntable. Looking northwest. 2m scale.



Plate 4 General view of inside of railway turntable. Looking southeast. 2m scale.



Plate 5 General view of turning mechanism. Looking south. 1m scale.



Plate 6 Close-up of turning wheels and internal rail. Looking south. 0.25m scale.



Plate 7 Close-up of internal wear groove. Looking south. 0.25m scale.



Plate 8 Close-up of external face of railway turntable. Looking northwest. 0.25m scale.



Plate 9 General view of stone faced outer edge of railway turntable. Looking northwest. 0.25m scale.



Plate 10 Section through railway turntable construction cut. Looking west. 1m scale.

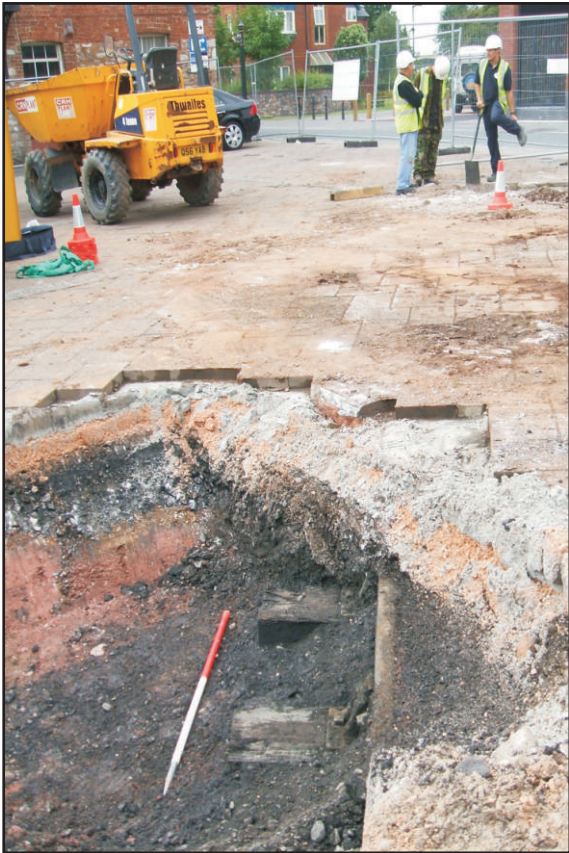


Plate 11 General view of broad gauge railway track in Trench 3. Looking south. 1m scale.



Plate 12 General view of Trench 5. Looking northeast. 1m scale.