

***Directional drilling project under the River Severn at
Westgate Bridges,
Gloucester,
Gloucestershire
- Archaeological Watching Brief***

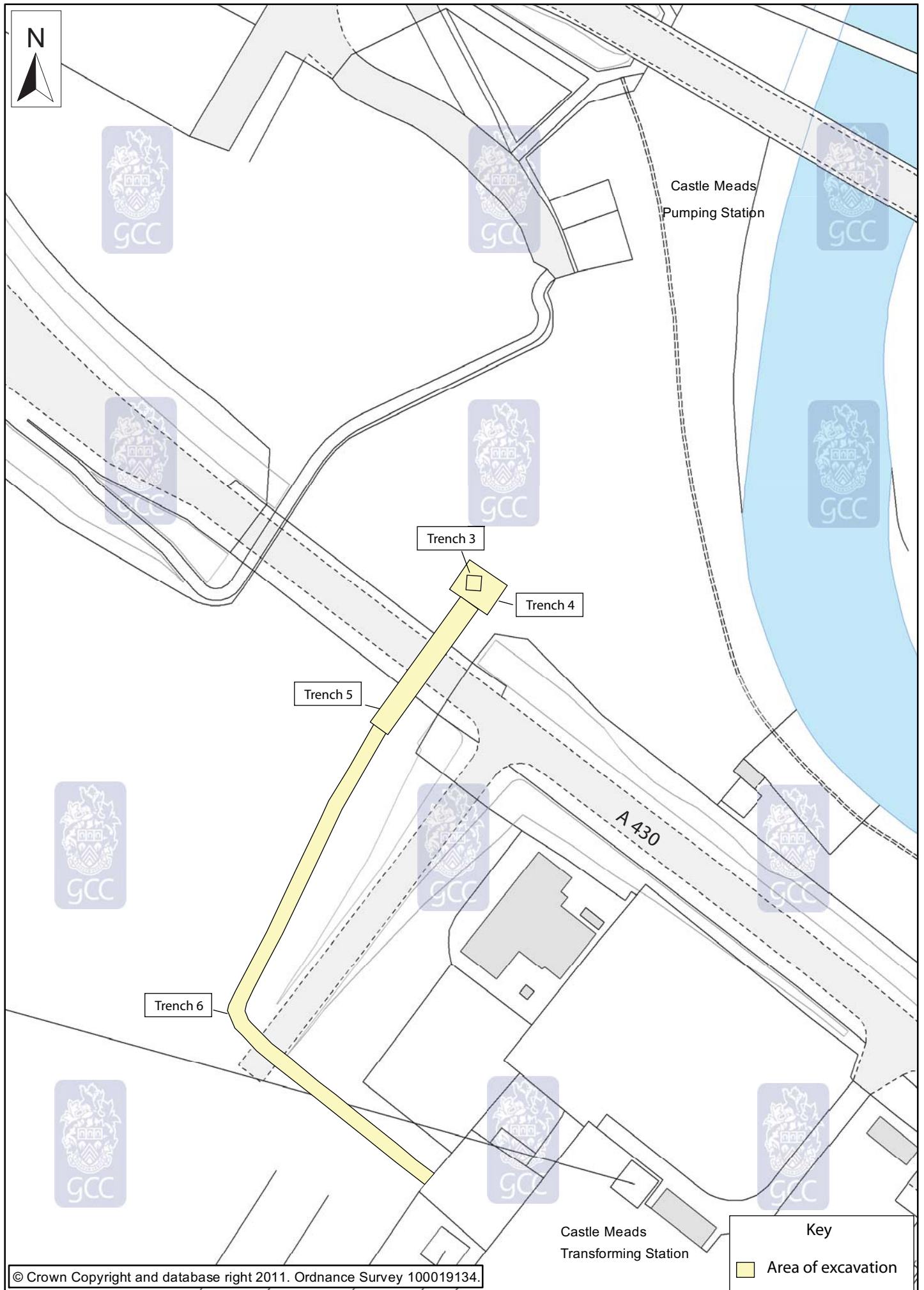
Prepared for

WSE Limited



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Archaeology Service
Environment Directorate*

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Figure 3: Excavations West of the River Severn. (Scale 1:1000)

Report Title: Directional drilling project under the River Severn at Westgate Bridges, Gloucester - Archaeological Watching Brief

Site details

Site address: River Severn at Westgate Bridges, Gloucester, Gloucestershire.
OS NGR: 382415 219058
Site type: Watching Brief.
Client: WSE Limited
GHER No: 36956.
Museum Accession no: GLRCM 2010.28
Date of fieldwork: 28th October 2010 – 7th February 2011.
Recipient museum: Gloucester City Museum and Art Gallery.
Archived finds: No.
Author: Nick Witchell.
Date of Report: 12th September 2011.

Contents

	Page
1 Introduction	2
2 Site location (Figure 1).....	2
3 Archaeological, historical and cartographic background	2
4 Purpose of the monitoring.....	3
5 Methodology	3
6 Results	4
7 Conclusions	4
8 References.....	5

Plates

Plate 1: Excavation of Trench 4 Looking Southwest. No Scale.

Plate 2: Excavation of Trench 5 to the South of Trench 4; Looking Northeast. No Scale.

Figures

Figure 1: Figure 1: Directional drilling project under the River Severn at Westgate Bridges, Gloucester.

Location of works (Scale 1:3000)

Figure 2: Excavations East of the River Severn. (Scale 1:1000)

Figure 3: Excavations West of the River Severn. (Scale 1:1000)

Summary

Gloucestershire County Council Archaeology Service (GCCAS) were commissioned by WSE Ltd to undertake archaeological monitoring during groundworks associated with the installation of new electricity cables, using directional drilling, beneath Westgate Bridges and the River Severn, Gloucester (OS NGR 382415 219058). No significant archaeological deposits or features were encountered during this project.

1 Introduction

1.1 Gloucestershire County Council Archaeology Service (GCCAS) was commissioned by Simon Green (WSE Ltd) to undertake archaeological monitoring during groundworks associated with the installation of new electricity cables beneath Westgate Bridges and the River Severn, Gloucester (OS NGR 382415 219058). The Heritage Service Manager of Gloucester City Council, who advises the local planning authority, recommended that a programme of archaeological monitoring and recording was carried out during the groundwork stage of the project, because of the potential for heritage assets of archaeological interest to be present within this site.

1.2 Archaeological recording on site was carried out in accordance with the brief issued by the Heritage Service Manager at Gloucester City Council's Heritage Service, and in accordance with the Institute for Archaeologists guidelines '*Standard and Guidance for an Archaeological Watching Brief*' (IfA 2008). The Archaeology Service is a Registered Organisation of the Institute for Archaeologists (IfA RO 42).

1.3 Nick Witchell (GCCAS Senior Archaeological Assistant) carried out the archaeological monitoring on the 28th October 2010 and 14th January 2011 and Edmund Stratford (GCCAS Project Officer) carried out the archaeological monitoring on the 9th and 10th November 2010 and 7th February 2011. Paul Nichols (GCCAS Senior Project Officer) managed the project.

2 Site Location (Figure 1)

2.1 The two existing road bridges are located 900m north-west of Gloucester city centre on the A417 and traverse the eastern arm of the River Severn. The river is also traversed by a footbridge located between the two road bridges. The development area is geologically located on Mudstone of the Blue Lias formation and Charmouth Mudstone Formation (BGS 2008).

3 Archaeological, historical and cartographic background

3.1 The following is taken from the written scheme of investigation (Williams 2010). Information regarding the historical and archaeological background of the study area and its immediate surroundings was sought from Gloucestershire Historic Environment Record (GHER) and archaeological sites are detailed below with reference to the GHER numbers and also Scheduled Monument (SM) numbers, where applicable. Ordnance Survey plans held on Gloucestershire County Council GIS were consulted.

3.2 Roman

3.2.1 There appears to be no archaeological evidence for a Roman Westgate Bridge although one must have been present on the site of the current southern bridge in order to link the known Roman causeway with Westgate Street. It is suggested (Hurst 1974) that the site of Foreign Bridge was the main western exit from the city. It straddled the now in filled eastern arm of the River Severn which is considered to have been the main navigable channel at that time.

3.2 Medieval

3.2.1 Archaeological recording work was carried out by Hurst in 1973 during the construction of the present bridges. The southern carriageway of the present road is located directly over the line of successive bridges dating from the later 12th century onwards. The structure of the West Gate was also investigated by Hurst as it was also on the line of the present southern carriageway. Hurst's report contains a compilation of the known history of the bridge and gatehouse and its connection to St Bartholomew's Hospital. The 1973 road scheme also included the excavation of an area to the front of St Bartholomew's Almshouses.

3.3 Recent Archaeological Work

3.3.1 In February to March 1999, Gloucestershire County Council Archaeology Service carried out an archaeological watching brief during groundworks at the Westgate Bridges on the A417, Gloucester (GHER 20092). Two possible stone wall foundations were recorded between the two existing roads to the west of the river. These walls did not correspond with anything shown on the First, Second or Third edition OS maps, and may have been for the bridge piers of the 19th century Bridge.

3.4 Cartographic evidence

3.4.1 Speed's map of Gloucester (Speed 1610) shows a double towered West Gate straddling the road on the eastern side of Westgate Bridge, which was on the line of the present southern bridge. The area to the east of the river and north of Westgate Street is shown as a field.

3.4.2 Hall and Pinnell's map of Gloucester (Hall & Pinnell 1780) shows two buildings to the immediate east of the river and the immediate north of Westgate Street.

3.4.3 The First Edition Ordnance Survey County Series map (OS 1885-6) shows the areas to the north of Westgate Bridge with an iron foundry on the western bank and a field with two structures on the eastern bank, immediately adjacent to the northern edge of Westgate Street. To the south of the bridge, the eastern bank comprised a coal wharf and the western bank open fields with a bank separating the fields from the river.

3.4.4 The Second Edition Ordnance Survey County Series map (OS 1902) shows a few minor differences to the First Edition Ordnance County Series survey map. These differences included a landing stage marked on the eastern bank to the north of the bridge. The coal wharf on the eastern bank, to the south of the bridge had been converted into a boat building yard.

3.4.5 The Third Edition Ordnance Survey County Series map (OS 1923) shows a building on the north side of Westgate Street immediately adjacent of the position of the present bridge pier.

4 Purpose of the monitoring

4.1 In the IfA document referred to at 1.2 above:

"The definition of an archaeological watching brief is a formal programme of observation and investigation conducted during any operation carried out for non archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is the possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive."

"The purpose of a watching brief is to allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works" (IfA 2008).

5 Methodology

5.1 All monitored excavations were carried out using a 360° excavator equipped with a toothless bucket.

5.2 All deposits were recorded on a pro-forma context sheet. A site location plan indicating north and based on the Ordnance Survey 1:2500 map (OS 1996) was prepared (Figure 1). A digital photographic record of the investigations was completed.

5.3 The site archive is presently being stored at Shire Hall, Gloucester under a unique site code (GHER 36956) issued by the Gloucestershire Historic Environment Record Officer. It is intended that it will eventually be deposited with Gloucester City Museum and Art Gallery.

6 Results

6.1 The results of the monitoring are outlined below, with the deposits discussed in stratigraphic order starting with the earliest. Cut numbers are shown in square brackets [], all other context numbers are shown in rounded brackets ().

The groundworks comprised the following:

- The excavation of three trenches for the entry and exit of the directional drill, Trenches 1, 2 and 3 which each measured 3m in length and 3m in width, and were excavated to a depth of between 1.2m and 1.5m below ground level (b.g.l).
- An area of ground level reduction (Trench 4), which measured 9m in length and 7m in width, and was excavated to a maximum depth of 1m b.g.l.
- The excavation of an access road beneath the A430 (Trench 5). The area excavated measured 30m in length and 4.5m in width, and was excavated to a maximum depth of 1.35m b.g.l.
- The excavation of a cable trench (Trench 6) linking up with the transforming station at Alney Island. The trench measured 155m in length and 3.50m in width, and was excavated to a depth of up to 1.5m b.g.l.

6.2 Trenches 1 & 2

6.2.1 These trenches were excavated by the contractors prior to GCCAS presence on site. Later site visits recorded the location of the trenches. No stratigraphy was visible, due to mud splashed on the trench edges by the directional drill, and access to investigate these trenches was not possible due to ongoing drilling.

6.3 Trenches 3, 4 and 5.

6.3.1 The stratigraphy present over Trenches 3, 4 and 5 was the same and is referenced to the deepest excavation, which was Trench 3. The earliest deposit encountered was reddish brown clay (302) which measured up to 0.75m in depth; Overlying (302) was a mixed deposit of reddish brown silty clay and black silty clay (301), which contained inclusions of modern red brick, waste plastic and lenses of clinker and tarmac, and measured up to 0.45m in depth. Deposit (301) was sealed by a layer of reddish brown silty clay (300) which measured up to 0.30m in depth. It was unclear whether (302) was redeposited material or a natural geological deposit. The deposits overlying (302) were obviously modern and appear to represent landscaping/dumping, which may date to the construction of the bypass.

6.4 Trench 6

6.4.1 The earliest deposit encountered was reddish brown clay (600) which measured up to 1.10m in depth; At the northern end of Trench 6 (adjacent to Trench 4) the clay (600) was overlain by a mixed deposit of reddish brown silty clay and red clay (601) with inclusions of limestone pebbles and modern red brick rubble, which measured up to 0.40m in depth. At the southern end of the trench the clay (600) was overlain by reddish brown subsoil (602) which measured up to 0.25m in depth, which was itself sealed by a topsoil deposit of grey silty clay, measuring up to 0.20m in depth

7 Conclusions

7.1 No archaeological deposits or features were encountered during the monitored excavations, the deposits encountered within the area of Trenches 3, 4 and 5 show that the area has been greatly disturbed, with modern dumped deposits, (301) and (300), overlying apparently natural clays (302). The modern material may have been deposited following the construction of the A430 bypass; Other deposits observed within Trench 5 reflect agricultural use of the land.

8 References

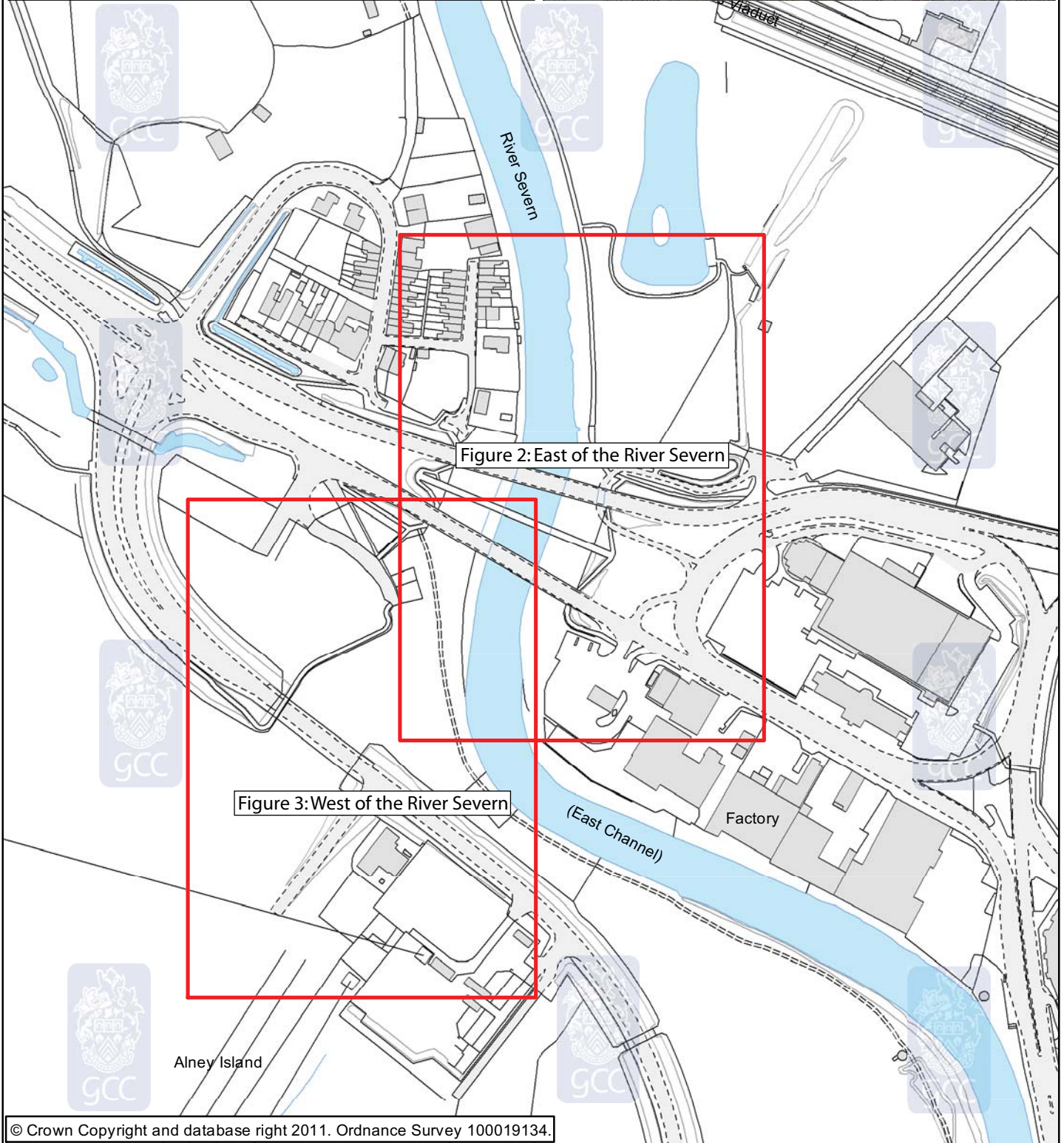
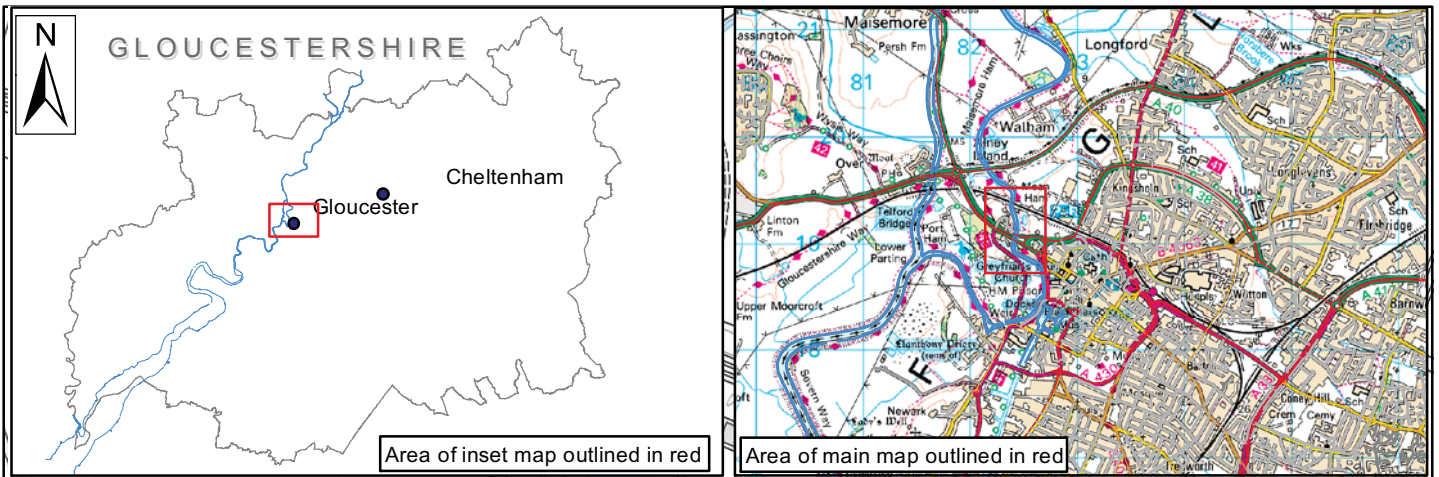
BGS	2011	British Geological Survey data held on County Council GIS.
Hall & Pinnell	1780	A Plan of the City of Gloucester (1 st edition 1780), Gloucestershire Archives (Glos. Archives) MA71.
IfA	2008	<i>'Standard and Guidance for an Archaeological Watching Brief'</i> . Institute for Archaeologists. London.
OS	1885-86	Ordnance Survey County Series Map, First Edition. Landmark Digital Data held on County Council GIS.
OS	1902	Ordnance Survey County Series Map, Second Edition. Landmark Digital Data held on County Council GIS.
OS	1923	Ordnance Survey County Series Map, Third Edition. Landmark Digital Data held on County Council GIS.
OS	1996	Ordnance Survey Digital Data held on County Council GIS.
Smith, J	2010	Directional drilling project under River Severn at Westgate Bridges, Gloucester. Brief for archaeological monitoring and recording.
Speed, J	1610	Map of Gloucester in 'The Theatre of the Empire of Great Britaine'.



Plate 1: Excavation of Trench 4 Looking Southwest. No Scale.



Plate 2: Excavation of Trench 5 to the South of Trench 4; Looking Northeast. No Scale.



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Figure 1: Directional drilling project under River Severn at Westgate Bridges, Gloucester. Location of works (Scale 1:3000)

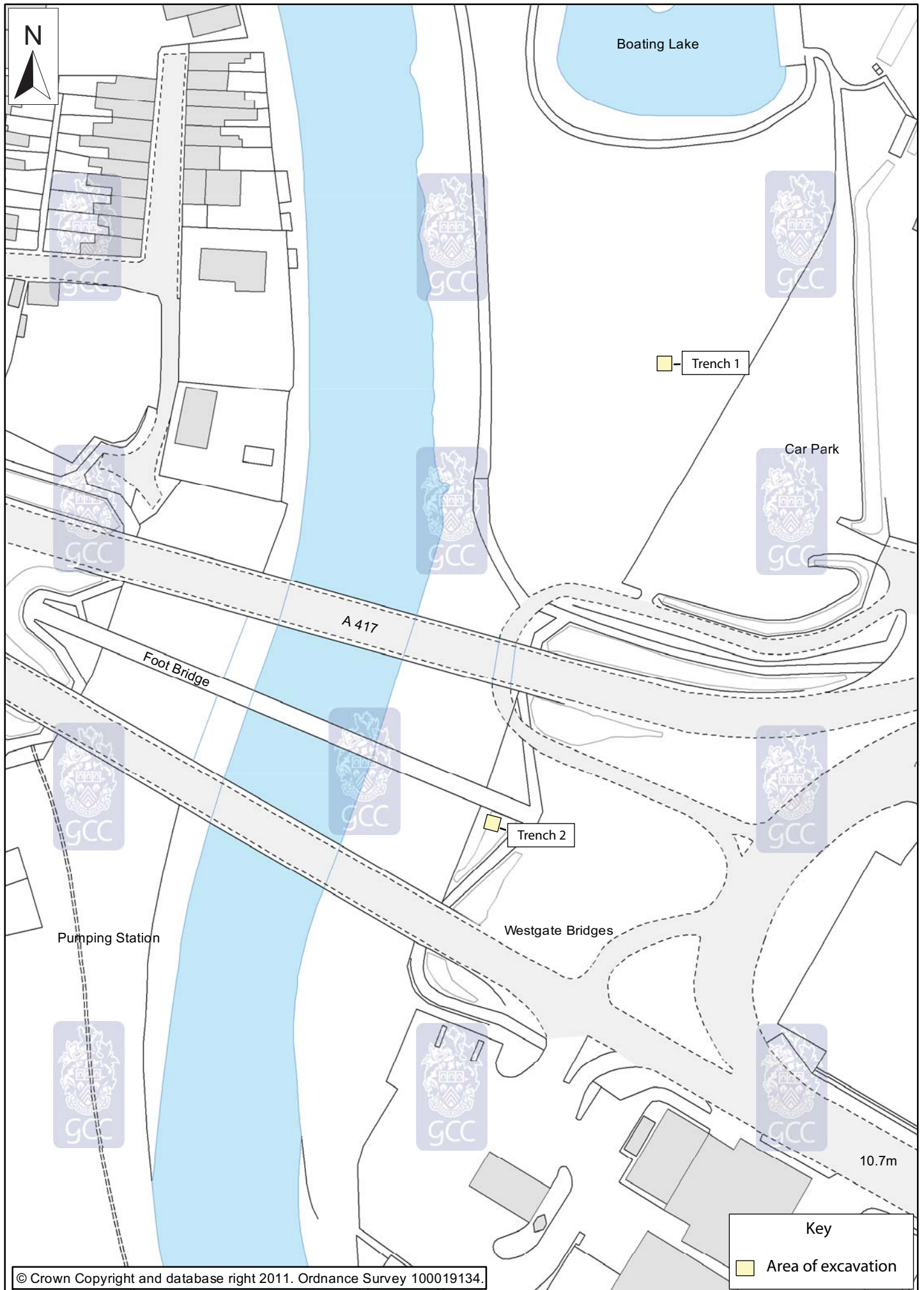


Figure 2: Excavations East of the River Sever. (Scale 1:1000)