

IN THE HILL HOUSE (FORMER RESERVOIR), WATLEY LANE, TWYFORD, HAMPSHIRE: HISTORIC BUILDING RECORDING REPORT

Site Code: AY612

Central NGR: SU 49206 24173

Local Planning Authority: South Downs National Park Authority

Planning Reference: SDNP/15/05626/FUL

Commissioning Client: Rosie Inman-Cook

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DOCUMENT VERIFICATION

Site Name: In the Hill House (Former Reservoir), Watley Lane, Twyford, Hampshire

Type of project: Historic Building Recording

Report: R12872

Quality Control

Pre-Construct Archaeology Limited Project Code			K4665
	Name & Title	Signature	Date
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Graphics Checked by:	J Brown		24.04.2017
Project Manager Sign-off:	P McCulloch		05.05.2017

Revision No.	Date	Checked	Approved

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Figure 1: Site Location

Figure 2: Detailed Site Location

Figure 3: Ordnance Survey 1869

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Figure 6: Ordnance Survey 1963

Figure 7: Ordnance Survey 1993

Figure 8: Existing Plan

Figure 9: Section through brick arching

Figure 10: Topographic Survey

1 NON-TECHNICAL SUMMARY

Pre-Construct Archaeology Ltd was commissioned by Rosie Inman-Cook to carry out historic building recording of an early 20th century reservoir on land off Watley Lane, Twyford, Hampshire. The former reservoir is the subject of a proposal for conversion to a private dwelling.

The photographic survey and site visit was undertaken on the 19th of October 2016. The photographic survey records both exterior and interior features of the reservoir. Documentary research was undertaken at the Hampshire Records Office, Winchester.

The history and development of the site is directly linked to the construction of Twyford Pumping Station and the expanding water supply demands of the City of Southampton at the beginning of the 20th century. Built in 1905, as a service reservoir for Twyford Pumping Station, it shortly became clear that greater capacity was needed to serve the growing population of Southampton. As such a larger reservoir was constructed to the south-east of subject reservoir in the 1930's. Both reservoirs remained active until the 1960's, at which point the 1905 reservoir was decommissioned in favour of the larger reservoir. There appears to have been no developments made to the 1905 reservoir during its operational lifetime. The first, and only, major alteration made to the reservoir was made in the late 1980's with the construction of a nuclear bunker to act as a communication base for Southern Water in the event of nuclear war. This truncated more than a third of the original reservoir. The bunker was completed in 1990 and decommissioned in 1997. It was subsequently sold by Southern Water and operated as computer server centre during the early 2000's.

2 INTRODUCTION

2.1 Background

2.1.1 Pre-Construct Archaeology Ltd was commissioned by Rosie Inman-Cook to carry out historic building recording of an early 20th century reservoir on land off Watley Lane, Twyford, Hampshire. The former reservoir is the subject of a proposal for conversion to a private dwelling for which planning consent has been granted by the South Downs National Park Planning Authority (SDNP 15/05626/FUL). Planning consent was conditional upon the completion of a Historic Building Record of the reservoir to satisfy Conditions 6 and 7, which state:

6. No development/demolition or site preparation shall take place until the applicant or their agents or successors in title has secured the implementation of a programme of archaeological mitigation work (historic building recording) in accordance with a Written Scheme of Investigation(s) that have been submitted to and approved by the local planning authority in writing. No demolition/development or site preparation shall take place other than in accordance with the Written Scheme of Investigation approved by the LPA. The Written Scheme of Investigation shall include:

- 1. An assessment of significance and research questions*
- 2. The programme and methodology of site investigation and recording*
- 3. Provision for post investigation assessment, reporting and dissemination*
- 4. Provision to be made for deposition of the analysis and records of the site investigation (archive)*

Reason: To mitigate the effect of the development upon any heritage assets and to ensure that information regarding these heritage assets is preserved by record for future generations, in compliance with policy HE.1 of the Winchester District Local Plan Review.

7. Following completion of all archaeological fieldwork a report will be produced in accordance with an approved programme.

Reason: To ensure that evidence from the historic environment contributing to our knowledge and understanding of our past is captured and made publicly available, in compliance with policy HE.1 of the Winchester District Local Plan Review.

2.1.2 A written scheme of investigation (WSI) was prepared in advance of the recording fieldwork, addressing condition 6 (PCA 2016). This document presents a report on the fieldwork, addressing condition 7.

2.2 Location and Topography

2.2.1 The site is located towards the east of the village of Twyford, approximately 4km to the south of Winchester, on Watley Lane (**Figure 1**). The site is bounded to the north and

east by open farmland, to the west by Watley lane and to the south by the current Southern Water reservoir (**Figure 2**).

2.2.2 The subject of the recording project, the former reservoir, is of an early 20th century construction and is related to the Twyford Water Works, Hazeley Road, Twyford, a Scheduled Monument.

3 AIM & METHOD

3.1 Historic Building Recording

3.1.1 The aim, as set out in the Written Scheme of Investigation (PCA 2016), was to provide a record of the former reservoir, incorporating a photographic survey and historical research. The purpose of the project was to clarify the history and development of the site, ahead of proposed re-development.

3.1.2 The broader aims of the project were to provide a better understanding of the site, to compile a lasting record, to analyse the results and to disseminate the results.

3.2 Methodology

3.2.1 A detailed methodology was included within the WSI (PCA 2016) and is not repeated here. This Historic Buildings Record forms a Level 2 record, as defined in '*Understanding Historic Buildings*' (Historic England 2016)

3.2.2 The site archive is currently held at the PCA West office in Winchester under site code **AY612** and will be deposited with the Hampshire Cultural Trust in due course.

3.3 Documentary Research

3.3.1 Documentary research was undertaken at the Hampshire Records Office, Winchester. This consisted of a consultation of a variety of primary and secondary source material, held by Hampshire Records Office, in order to expand and supplement the understanding of the site and its context. The results of this research are presented in section 4 of this report.

3.4 Site Visits

3.4.1 The photographic survey and site visit was undertaken on the 19th of October 2016. The photographic survey records both exterior and interior features of the reservoir. A selection of survey photographs are included within this report (Appendix 1 Plates).

4 HISTORICAL BACKGROUND

4.1 Introduction – Twyford Pumping Station

4.1.1 The reservoir on Watley lane was directly linked to the Twyford Pumping Station (approximately 675m to the north of the Site), located on Hazeley Road, between Twyford and Morestead.

4.1.2 The first well at Twyford Pumping Station was sunk in 1898 and within a year this had been expanded with a second well and reservoir being under construction. Steam operated pumps were in operation by 1900, with water being pumped from 125ft above sea level at the pumping station engine house to the service reservoir at 302ft above sea level. The reservoir that is the subject of this report is the service reservoir that served Twyford Pumping Station (Course 1997).

4.1.3 Southampton saw a very noticeable rise in population and industry during the late 19th/early 20th century, with the Twyford Pumping Station designed to meet a consequent increased demand on the water supply (Course 1997). The station was constructed by the South Hampshire Water Company, but was subsequently administered by the Southampton Corporation and later by Southern Water.

4.2 Watley Lane Service Reservoir

4.2.1 The Watley Lane Service Reservoir (the subject site) was initially constructed as a covered reservoir in 1905 and functioned as the service reservoir for Twyford Pumping Station (Moore 1988). It continued in use until 1962, when it was decommissioned in favour of a larger reservoir located immediately to the south, which is still in use at present (HRO 154A06/115).

4.2.2 In 1990 part of the study site was converted into a Cold War nuclear bunker, designed as a base of communication for Southern Water in the event of the breakout of nuclear war. This was decommissioned in 1997.

4.2.3 Before being purchased by the current owners the reservoir was used to host a server bank for a major computer company.

4.3 Historical Mapping

4.3.1 The 1st edition Ordnance Survey (OS), 1869, does not show the Watley Lane Reservoir or the Twyford Pumping Station, as they had not been constructed at this time. The arrangements of the surrounding fields are also depicted as being different from the current arrangement (**Figure 3**). No change is shown in the 2nd edition OS.

4.3.2 The first map to show the reservoir and Twyford Pumping Station was the 3rd edition OS, 1909 (**Figure 4**). Both of the installations are shown to be operated/owned by 'South Hampshire Water Works Co.' at this time. Changes had been made to the surrounding fields, with part of the field to the north of the Site being used as a miniature rifle range.

- 4.3.3 The 1939 OS map shows that the larger covered reservoir had been constructed to the south-east of the study site by this point, highlighting the continued increase in demand in Southampton leading up to the second world war (**Figure 5**). Both the Twyford Pumping Station and the Watley Lane reservoirs are shown as being operated by the 'Southampton Corporation Water Works' at this time. The surrounding field boundaries have been changed and more closely resemble the current arrangement.
- 4.3.4 Very little change can be seen between the 1939 OS map and the 1963 OS, showing a lack of development throughout the middle of the 20th century. Small changes to the field arrangements can be seen though (**Figure 6**). The 1993 OS shows the layout of the Site and the surrounding fields as they are presently organised, however there is no sign of the creation of the 1990 nuclear bunker (**Figure 7**).

5 BUILDING DESCRIPTIONS

5.1 Introduction

5.1.1 The original 1905 covered reservoir consisted of a rectangular subterranean structure measuring approximately 40m by 20m (**Figure 8**). The nuclear bunker constructed into the north-east of the reservoir shortened the remaining original reservoir void to an approximate 23m by 20m. The nuclear bunker was not the subject of the historic building recording project, with the project only focusing on the remaining section of the original 1905 reservoir.

5.2 External

5.2.1 The entrance to the site, off to the east of Watley Lane, leads into a levelled area. The reservoir, subject to the historic building recording, is located to the north-west of the entrance, with the roof on the same level as the entrance (**Plate 1**). The larger 1930's reservoir is located to the south-east of study building and is raised above the ground level.

5.2.2 The ground drops steeply to farmland to the north-west and north-east, with the reservoir having been constructed into the natural slope (**Figure 10 and Plates 2 & 3**). The north-west and north-east sides of the reservoir have been covered by earthen banks, covering any external elevations.

5.2.3 The top of the reservoir is covered by turf, with access to the reservoir interior through a hatch and ladder in the roof (installed during the 1990 conversion of part of the reservoir, as an escape hatch) (**Plates 2 & 3**). A ventilation flue is also present in the western corner of the reservoir roof (**Plate 1**).

5.2.4 Concrete ventilation shafts, relating to the nuclear bunker, can be seen protruding from the former reservoir surface, to the north-east of the subject site (**Plate 3**).

5.3 Internal

5.3.1 The roof was constructed out of brick in the form of shallow barrel vaults. Seven equally spaced aisles remain (originally five more aisles would have been present before the construction of the nuclear bunker) (**Figure 8**). Each of the vaulted arches span approximately 3.2m between cast iron beams, each of the cast iron beams are supported by two cast iron columns (a total of twelve remain) (**Plates 13-16**). The arches themselves were tied laterally with five tie bars per aisle (**Plate 14-16**).

5.3.2 A structural survey prepared in connection with the current planning proposal investigated the make-up of the reservoir roof and identified that there were three brick courses forming the arch, subsequently covered in a concrete screed, chalk and soil backfill, a membrane and a topsoil (PTA 2015).

- 5.3.3 The perimeter wall was of a brick construction, backed with concrete with a rendered internal face. The original perimeter wall is still extant on the north-west, south-west and south-east, however north-eastern wall is an internal concrete dividing wall that was installed during the construction of the 1990 nuclear bunker (**Plates 4 – 12**).
- 5.3.4 The floor is of concrete and brick construction, laid on top of the natural chalk.
- 5.3.5 An original feature of the buildings use as a reservoir is a large metal inlet and valve, located immediately behind the escape hatch steps, on the south-western wall (**Figure 17-19**). This is likely to have originally been part of a larger arrangement, including a ball cock, however this feature is no longer intact; with the arm of the valve having been cut away at some point before the installation of the escape hatch and steps.
- 5.3.6 The north-eastern wall has been used to hold a bank of air conditioning units (that are still present), relating to the use of the reservoir and bunker as a server room in the early 2000's (**Plate10**). A store room had also been constructed in the northern corner of the reservoir as a part of the 1990 nuclear bunker development. This provides access between the reservoir and the nuclear bunker.

6 DISCUSSION AND CONCLUSION

- 6.1 This Historic Building Recording project aimed to provide a record of the former reservoir, incorporating a photographic survey and historical research. The purpose of the project was to clarify the history and development of the site, ahead of proposed re-development.
- 6.2 The history and development of the site is directly linked to the construction of Twyford Pumping Station and the growing demands of the city of Southampton. Built in 1905, as a service reservoir for Twyford Pumping Station, it shortly became clear that greater capacity was needed to serve the growing population of Southampton. As such a larger reservoir was constructed to the south-east of subject reservoir in the 1930's. Both of the reservoirs remained active until the 1960's, at which point the 1905 reservoir was decommissioned in favour of the larger reservoir. There appears to have been no developments made to the 1905 reservoir during its operational lifetime. The first, and only, major alteration made to the reservoir was made in the late 1980's with the construction of a nuclear bunker to act as a communication base for Southern Water in the event of nuclear war. This truncated more than a third of the original reservoir. The bunker was completed in 1990 and decommissioned in 1997. It was subsequently sold by Southern Water and operated as server centre during the early 2000's.

7 ARCHIVE AND DEPOSITION

7.1 The Site Archive

7.1.1 The Site archive, to include all project records and cultural material produced by the project, will be prepared in accordance with 'Guidelines for the Preparation of Excavation Archives for Long-term Storage' (UKIC 1990) and the Institute for Archaeologists 'Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives' (ClfA 2014). On completion of the project PCA will arrange for the archive to be deposited with the Hampshire Cultural Trust

7.2 Copyright

7.2.1 The full copyright of the written/illustrative archive relating to the site will be retained by Pre-Construct Archaeology Ltd under the Copyright, Designs and Patents Act 1988 with all rights reserved. Winchester City Council, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profitmaking, and conforms to the Copyright and Related Rights regulations 2003. Further distribution and uses of the report either in its entirety or part thereof in paper or electronic form is prohibited without the prior consent of Pre-Construct Archaeology Ltd.

7.2.2 The licence extends to the use of all documents arising from this project in all matters relating directly to the project, as well as for bona fide research purposes (which includes the Winchester City Council Historic Environment Record).

7.2.3 Pre-Construct Archaeology Ltd has made every effort to ensure the accuracy of the content of this report. However, Pre-Construct Archaeology Ltd cannot accept any liability in respect of, or resulting from, errors, inaccuracies or omissions this report contains.

8 BIBLIOGRAPHY

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9 ACKNOWLEDGEMENTS

Pre-Construct Archaeology would like to thank Rosie Inman-Cook for commissioning this report. Thanks are also given to the staff of the Hampshire Records Office for their assistance in research this report.

The photographic survey was undertaken by Armando Ribeiro and archival research undertaken by Paul McCulloch. This report was written by Thomas Hayes and graphics prepared by Charlotte Faiers.

Appendix 1: Site Photographs (Plates)



Plate 1 View to the west of roof of reservoir subject to this HBR



Plate 2 View to the north of roof of reservoir (escape hatch in foreground and bunker ventilation shafts in background)



Plate 3 View to the north-east of escape hatch (foreground) and bunker ventilation shafts (background)



Plate 4 View to the north from reservoir entrance (escape hatch), of internal reservoir space



Plate 5 View to north-west from reservoir entrance



Plate 6 View to the north-west from reservoir entrance



Plate 7 View to the north from reservoir entrance



Plate 8 View to the north-east from reservoir entrance



Plate 9 View to the north-east from reservoir entrance



Plate 10 South-west facing internal elevation



Plate 11 South-east facing internal elevation



Plate 12 View to the south-west of escape hatch steps



Plate 13 View to the south of reservoir interior - showing supporting steel columns



Plate 14 View to the west of reservoir interior - showing supporting steel columns and barrel vaulting

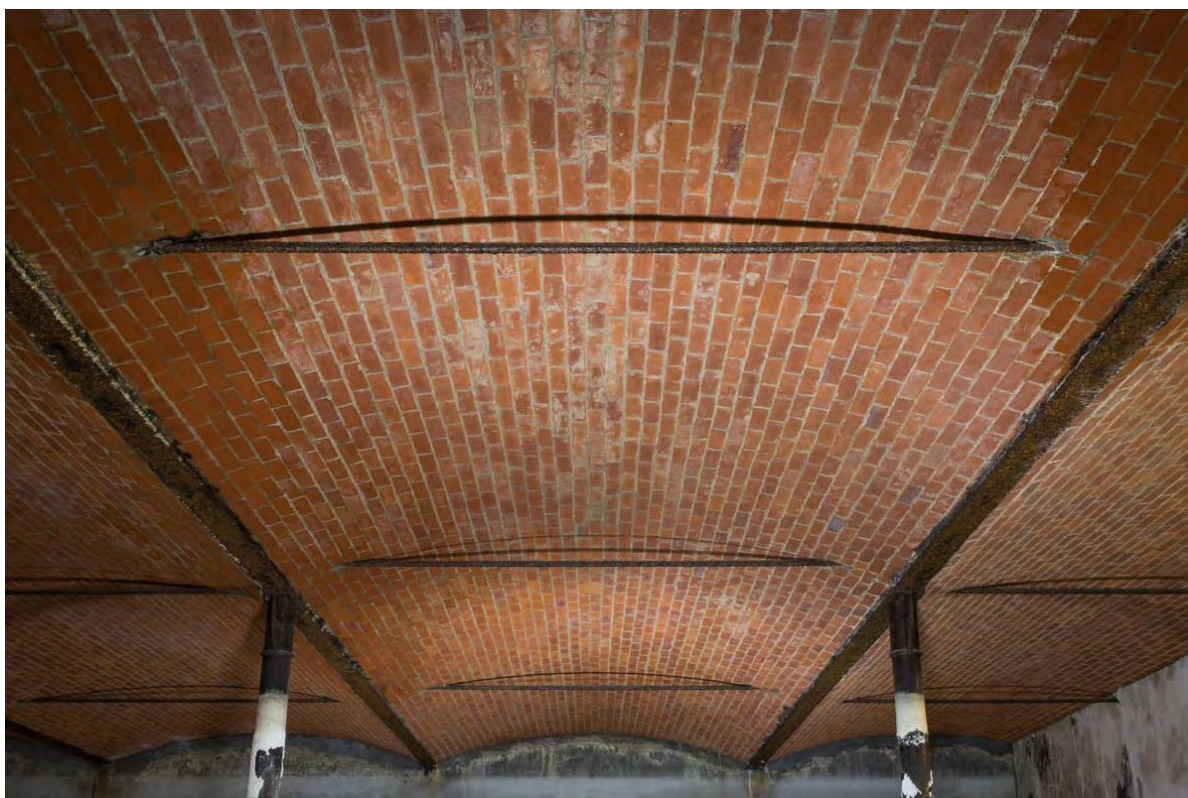


Plate 15 View to the north-west of brick construction barrel vault (showing metal beams, tie beams and supporting columns)



Plate 16 Example of supporting column and beam



Plate 17 Inlet valve on south-west wall, beneath escape hatch steps



Plate 18 Close up of inlet valve



Plate 19 View from beneath of inlet valve

Appendix 2: OASIS Form

OASIS ID: preconst1-284366

Project details

Project name	IN THE HILL HOUSE (FORMER RESERVOIR), WATLEY LANE, TWYFORD, HAMPSHIRE: HISTORIC BUILDING RECORDING
Short description of the project	Pre-Construct Archaeology Ltd was commissioned by Rosie Inman-Cook to carry out historic building recording of an early 20th century reservoir on land off Watley Lane, Twyford, Hampshire. The former reservoir is the subject of a proposal for conversion to a private dwelling. The photographic survey and site visit was undertaken on the 19th of October 2016. The photographic survey records both exterior and interior features of the reservoir. Documentary research was undertaken at the Hampshire Records Office, Winchester. The history and development of the site is directly linked to the construction of Twyford Pumping Station and the growing demands of the city of Southampton. Built in 1905, as a service reservoir for Twyford Pumping Station, it shortly became clear that greater capacity was needed to serve the growing population of Southampton. As such a larger reservoir was constructed to the south-east of subject reservoir in the 1930's. Both of the reservoirs remained active until the 1960's, at which point the 1905 reservoir was decommissioned in favour of the larger reservoir. There appears to have been no developments made to the 1905 reservoir during its operational lifetime. The first, and only, major alteration made to the reservoir was made in the late 1980's with the construction of a nuclear bunker to act as a communication base for southern water in the event of nuclear war. This truncated more than a third of the original reservoir. The bunker was completed in 1990 and decommissioned in 1997. It was subsequently sold by Southern Water and operated as server centre during the early 2000's.
Project dates	Start: 19-10-2016 End: 19-10-2016
Previous/future work	No / No
Any associated project reference codes	AY612 - Sitecode
Type of project	Building Recording
Site status	None
Current Land use	Other 2 - In use as a building
Monument type	RESERVOIR Modern
Significant Finds	NONE None
Methods & techniques	"Photographic Survey", "Survey/Recording Of Fabric/Structure"
Prompt	National Planning Policy Framework - NPPF

Project location

Country	England
Site location	HAMPSHIRE WINCHESTER TWYFORD IN THE HILL HOUSE (FORMER RESERVOIR), WATLEY LANE, TWYFORD, HAMPSHIRE
Postcode	SO21 1QX
Study area	0.3 Hectares

Site coordinates SU 49214 24178 51.014332461141 -1.298355015715 51 00 51 N 001 17
54 W Point

Project creators

Name of Organisation	Pre-Construct Archaeology Ltd.
Project brief originator	Winchester City Council
Project design originator	Paul McCulloch
Project director/manager	Paul McCulloch
Project supervisor	Thomas Hayes
Type of sponsor/funding body	Private owner

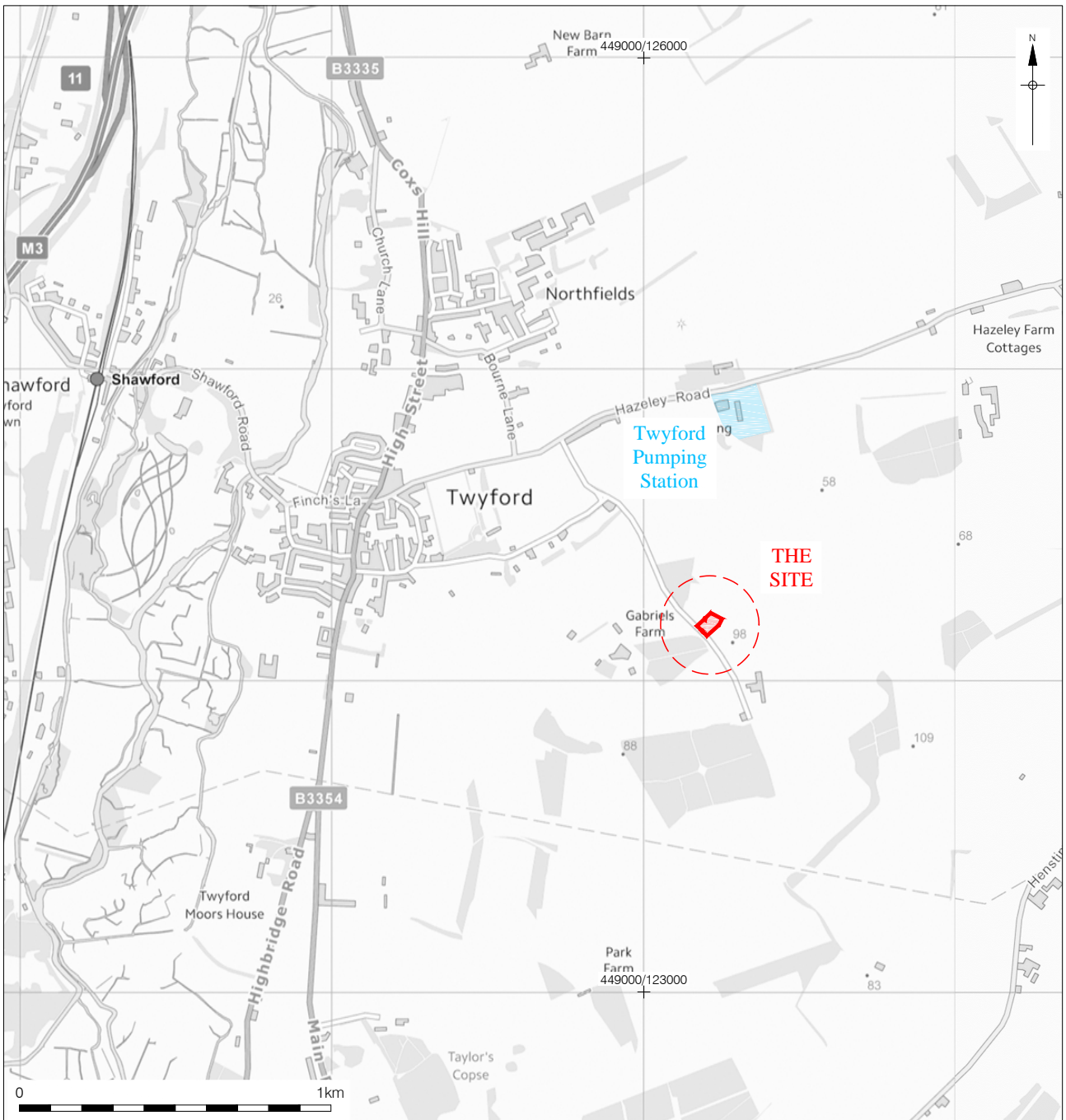
Project archives

Physical Archive Exists?	No
Digital Archive recipient	Hampshire Cultural Trust
Digital Media available	"Images raster / digital photography","Text"
Paper Archive recipient	Hampshire Cultural Trust
Paper Media available	"Report"

Project bibliography 1

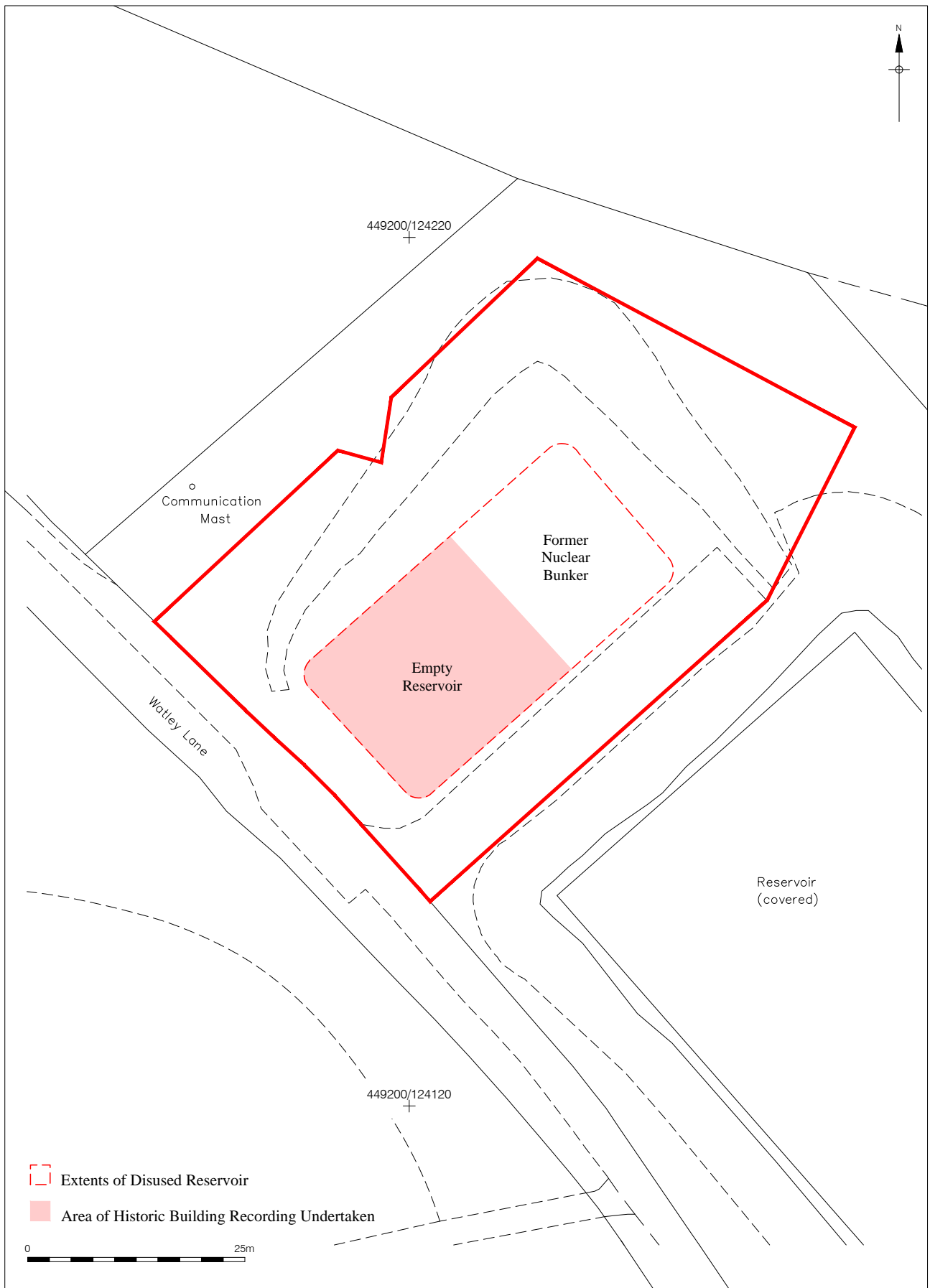
Publication type	Grey literature (unpublished document/manuscript)
Title	IN THE HILL HOUSE (FORMER RESERVOIR), WATLEY LANE, TWYFORD, HAMPSHIRE: HISTORIC BUILDING RECORDING
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Entered by	Thomas Hayes (thayes@pre-construct.com)
Entered on	5 May 2017



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Figure 1
 Site Location
 1:2,000,000, 1:250,000 and 20,000 at A4



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Figure 2
 Detailed Site Location
 1:625 at A4

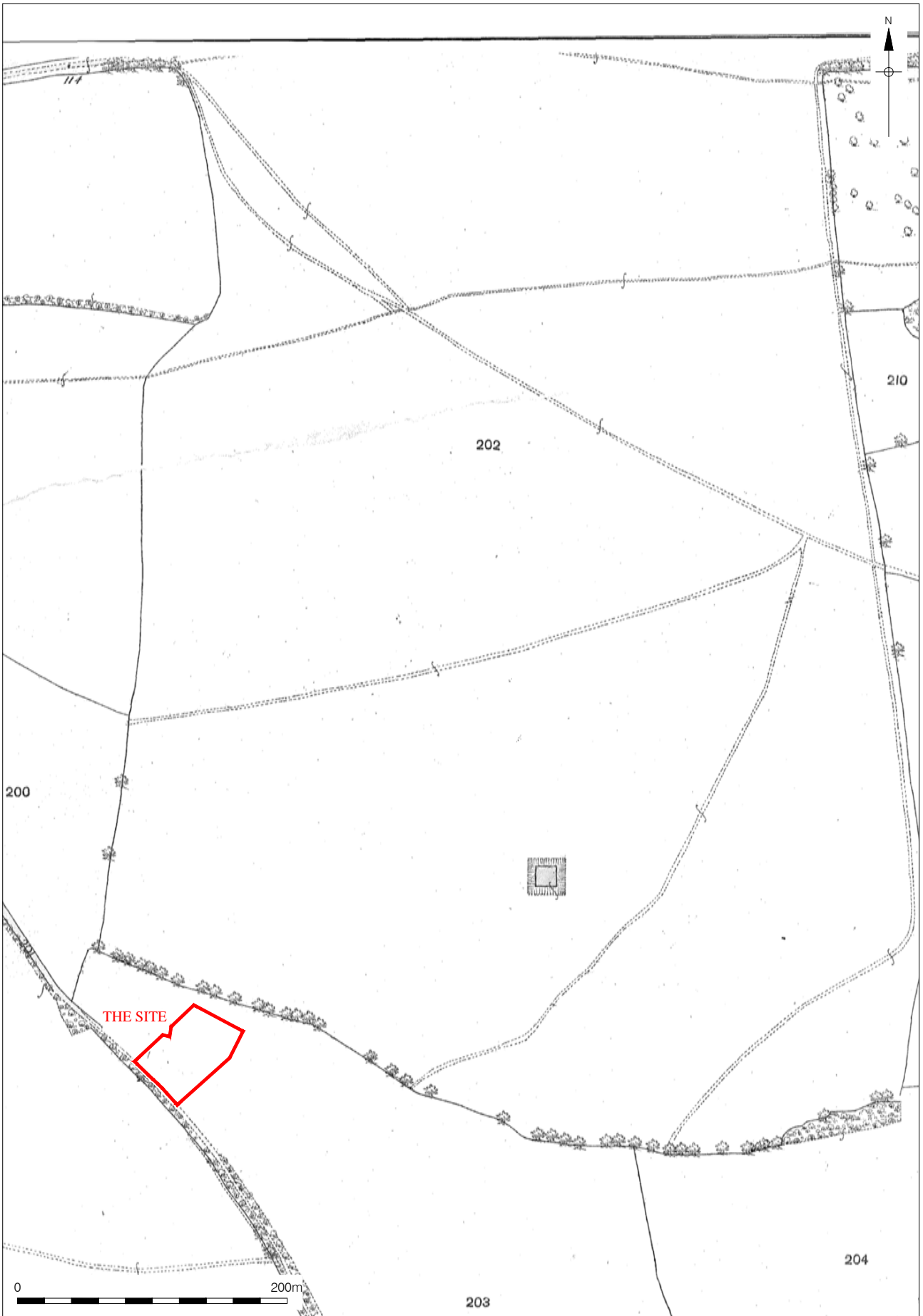


Figure 3
First Edition Ordnance Survey, 1869
1:4,000 at A4

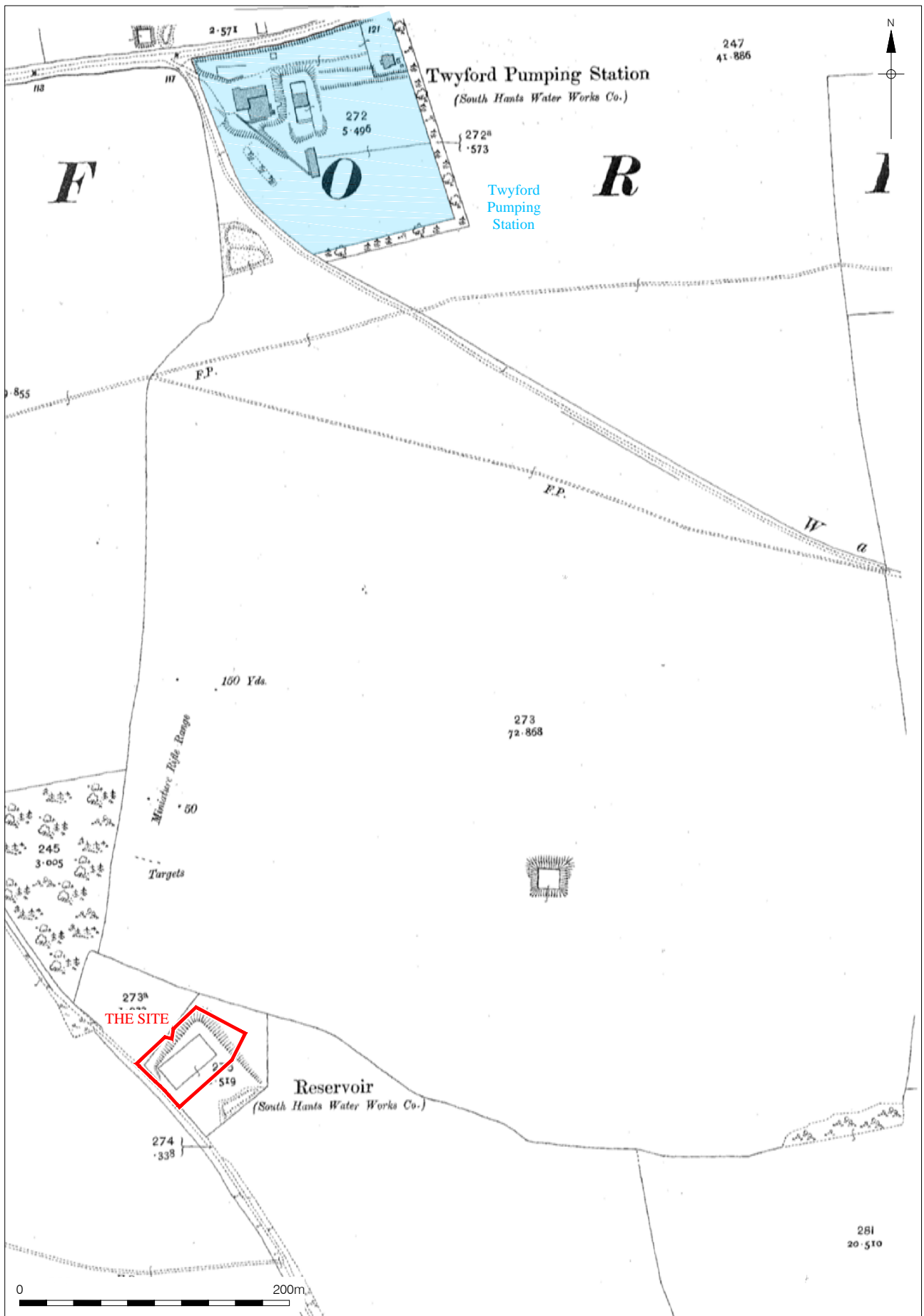
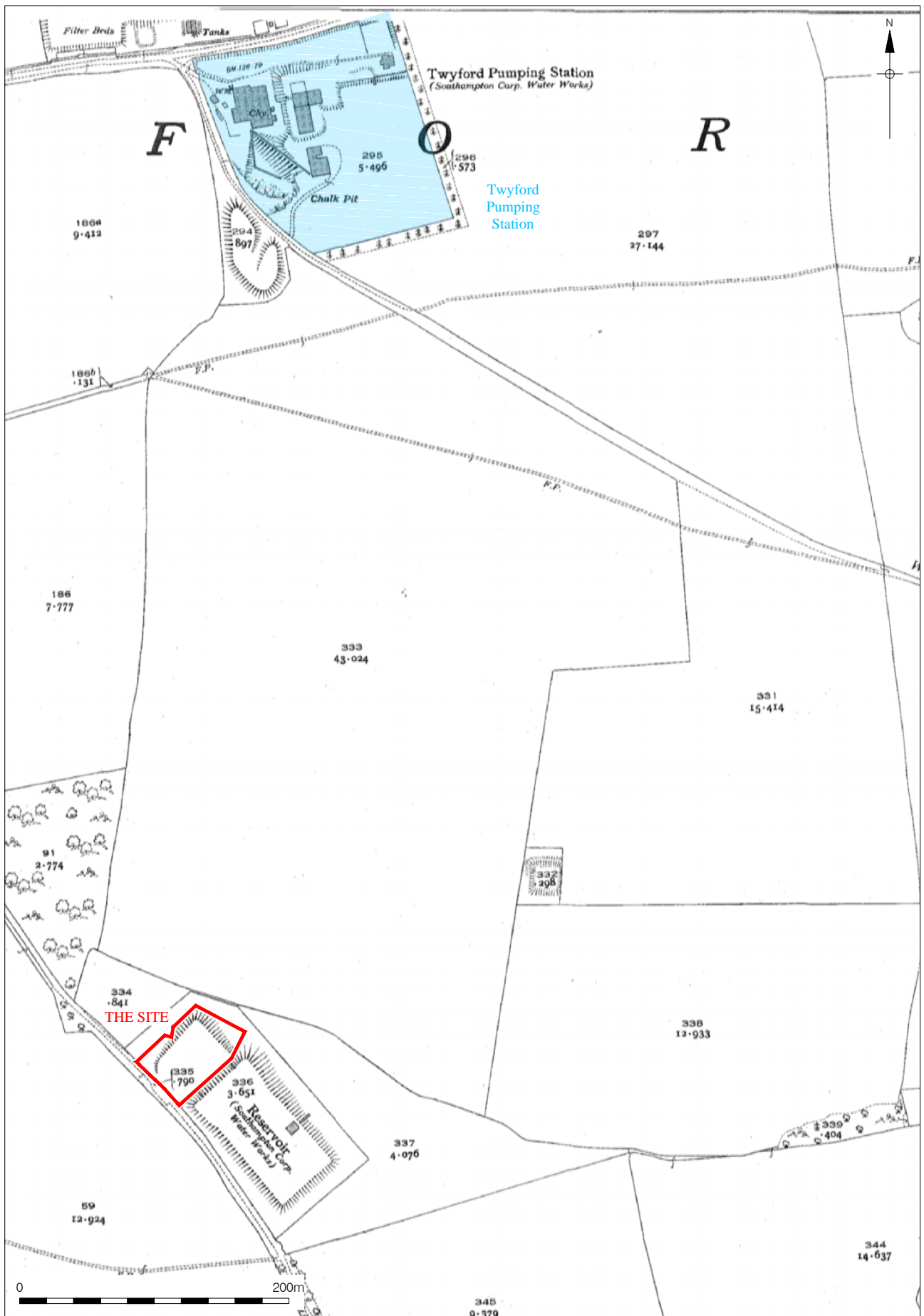


Figure 4
 Third Edition Ordnance Survey, 1909
 1:4,000 at A4



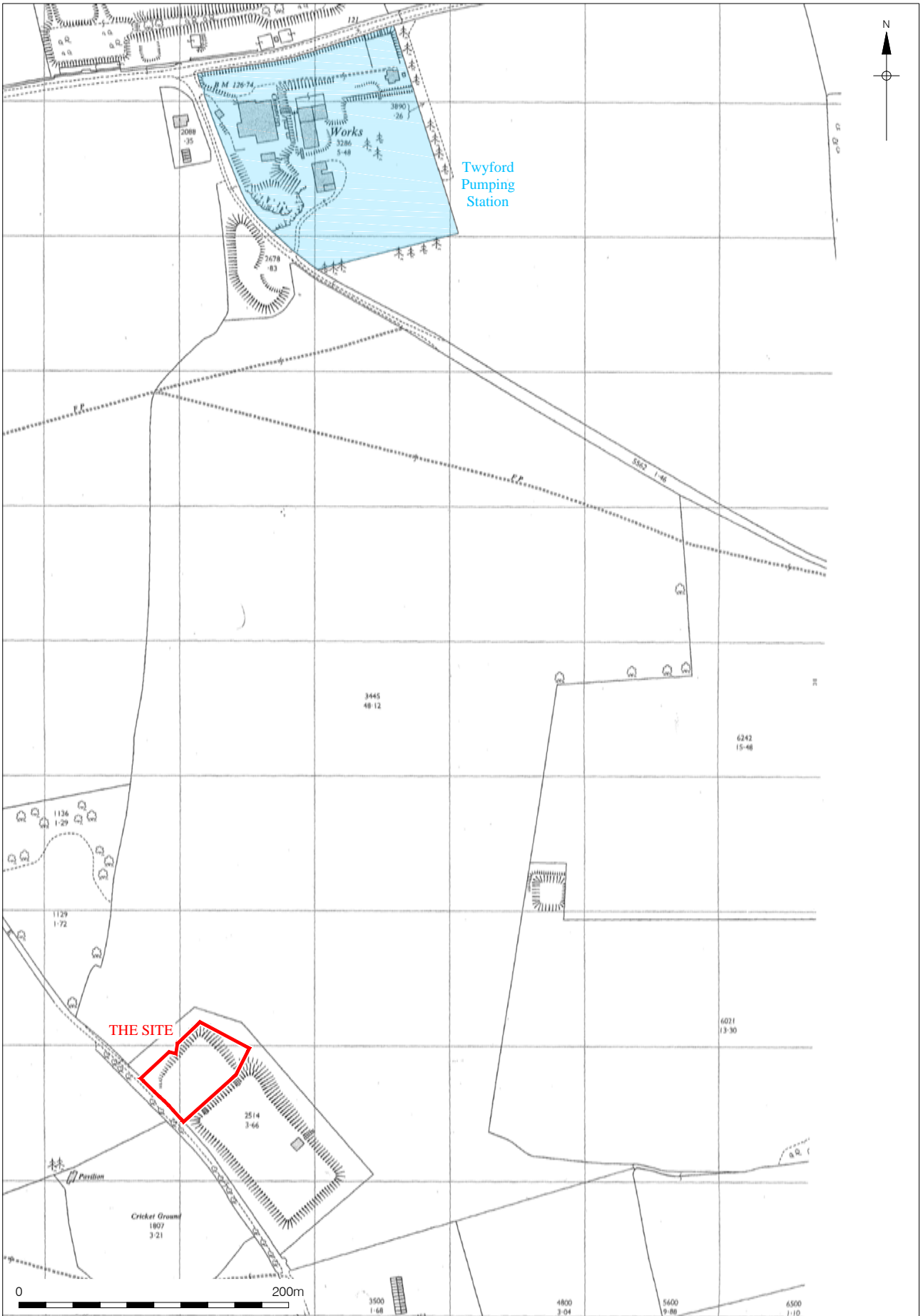
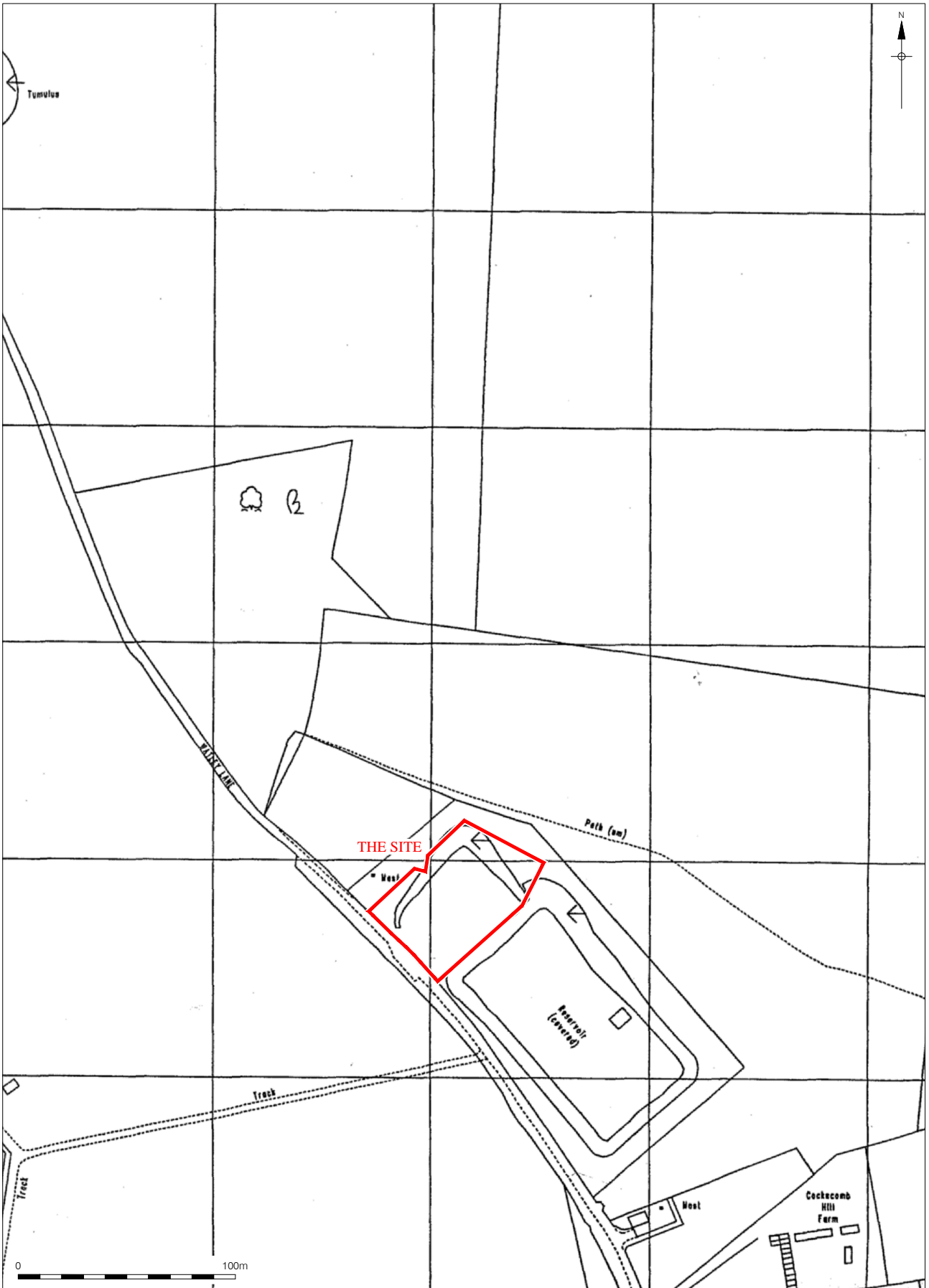


Figure 6
 Ordnance Survey, 1963
 1:4,000 at A4

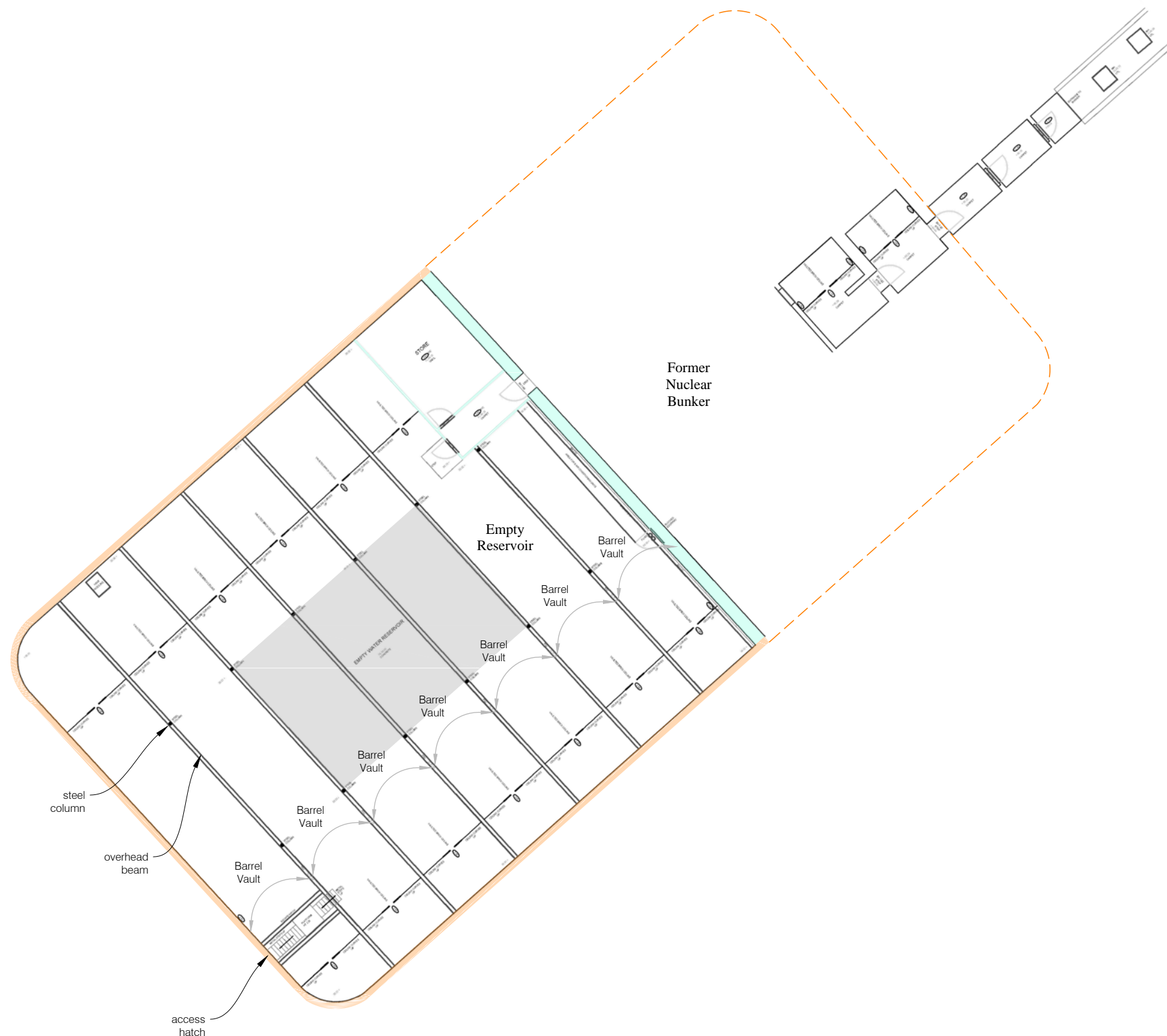






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Figure 7
Ordnance Survey, 1993
1:2,500 at A4

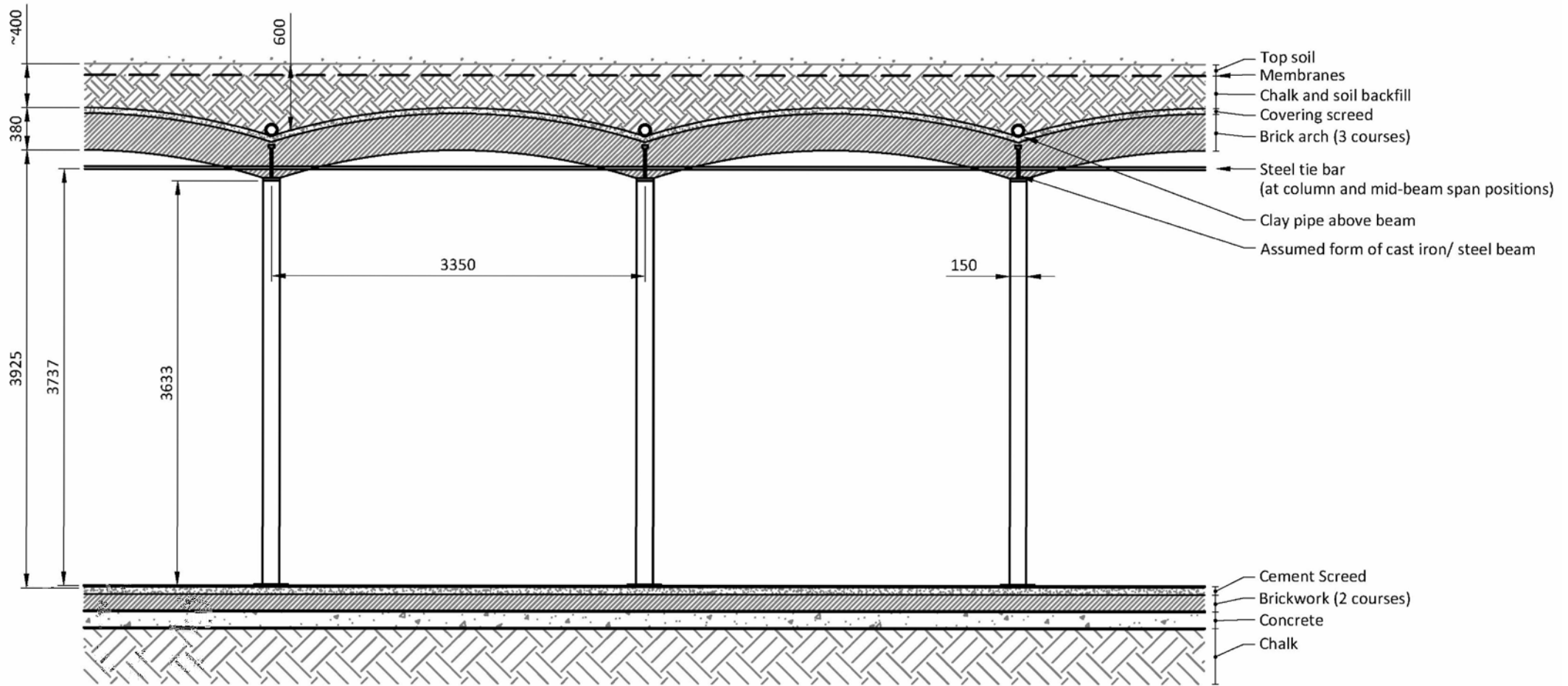


-  Retaining Wall of Reservoir
-  Retaining Wall of Reservoir (conjectured)
-  Later Walls (bunker conversion/office use)
-  Area of Barrel Vaulted Roof to be removed



Drawing based on Basement Plan (Dwg_No 11825_Base) supplied by Harris Surveys Ltd
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Figure 8
Existing Plan of Reservoir
1:200 at A3



Based on Typical Section of Brick Arching between Beams & Columns (Dwg_No 2738-02) supplied by Paul Tanner Associates
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Figure 9
 Section through Brick Arching
 1:50 at A4



Drawing based on Topographic Survey (Dwg_No 11825) supplied by Harris Surveys Ltd
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Figure 10
 Topographic Survey
 1:400 at A4