HEXHAM SWIMMING POOL SITE, GILESGATE, HEXHAM, NORTHUMBERLAND

~ ARCHAEOLOGICAL MITIGATION by STRIP, MAP & RECORD ~

AUGUST 2020 – FEBRUARY 2021

Prepared for:	By:
McCarthy and Stone Retirement Lifestyles Ltd.	*The Archaeological Practice Ltd.*

Project code:	*Stage*:	*Compiled by*:	*Control*:	*Completion date*:
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ARCHAEOLOGICAL MITIGATION REPORT

Prepared by:

The Archaeological Practice Ltd.

***Frontispiece**: Oblique aerial view of the site from the North.*

Grid Reference:	NY 93459 64287
Client:	McCarthy and Stone Retirement Lifestyles Ltd.
Date of fieldwork:	2020 – 2021
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SUMMARY

An archaeological mitigation exercise by means of 'strip, map and record' was carried out in two main phases prior to, and during development works at the former Hexham Swimming Pool site between August 2020 and February 2021.

The main features uncovered during the mitigation works, all of which were along the western boundary of the site, were associated with a row of dwellings seen on early editions of the Ordnance Survey map series and thought to be of relatively recent, early 19th century or slightly earlier origin. While it is possible that these were built partly or wholly upon earlier dwellings or other structures, no conclusive evidence for this was uncovered. The only earlier structure uncovered was a late medieval kiln, the presence of which suggests that the area to the rear of Gilesgate had probably been an open back-plot in the later medieval period; this function perhaps extending into the early modern period. Other than a few fragments of abraded green-glazed pottery, no finds were made in the area of excavation to suggest that it was a significant focus of activity - whether domestic or agricultural - prior to the 18th century, with the great majority of finds suggesting activity in the later 19th and 20th centuries. It is possible that most remains of earlier activity were removed by significant landscaping works prior to or during major 20th century remodeling of the site.

With respect to the kiln found underlying 19th or early 20th century building remains in the central part of the site, at the northern end of a fairly flat terrace extending from GIlesgate, its likely function on the basis of palaeo-environmental evidence is as a corn-drying kiln or malting kiln, although heterogenous remains from the upper fills of the kiln bowl have a composition possibly reflecting use of the kiln for drying other crops and the presence of domestic waste from other sources, including a mixture of fuel waste and crops accidentally charred during drying. The presence of germinated grains suggests that the corn-dryer had, either principally or alternatively, functioned as a malting oven; a suggestion given further weight by the presence of a mix of grains often associated with brewing, a staple of medieval diets.

1. PURPOSE OF THE WATCHING BRIEF

1.1 Introduction

1.1.1 This document, prepared by the Archaeological Practice Ltd. for McCarthy and Stone Retirement Lifestyles Ltd., reports on a programme of archaeological mitigation work, carried out as a 'Strip, Map and Sample' exercise, conducted between August 2020 and February 2021, to mitigate the impact of groundworks associated with a development on the former Hexham Swimming Pool site between Gilesgate and Haugh Lane (*centred on NGR:* NY 93459 64287) (*see Illus. 01-03*).

1.1.2 A written Scheme of Investigation prepared by the Archaeological Practice and approved by NCC prior to the commencement of works in August 2020 provided a methodology for carrying out archaeological mitigation work to satisfy the terms of a planning condition on consent for the proposed development.

1.2 Archaeological Planning Background

1.2.1 Following a desk-based assessment of the site by CgMs Ltd in 2013, a limited programme of archaeological evaluation was carried out by Headland Archaeology in 2013. Three trenches were excavated. A trench in the car park on the Gilesgate frontage established that the area had been subject to terracing in the 20th Century and had been cleared down to the level of geological deposits. A post-medieval wall foundation and possible cellar to the north survived "below the level of geological deposits". A hand-excavated test pit to the rear of the swimming pool did not extend below deposits of loam containing modern artefacts. A trench adjacent to Haugh Lane encountered modern topsoil over a possible colluvial deposit and reached underlying geological deposits.

1.2.2 A further assessment in 2013 by Peter Ryder highlighted several walls on the site of potential archaeological significance. In reference to a theory that the north wall of the former swimming pool was actually a surviving section of the medieval town wall, Ryder remained unconvinced – although did agree that this wall could be on the course of a putative town wall which may remain preserved beneath the current ground level. Many of the other extant walls on the site are shown to be of comparatively modern date, although two walls (G and H in this assessment) could not be adequately assessed due to being overgrown.

Prior to the determination of final planning consent for the site, Northumberland County Council Conservation Team stipulated that a second phase of archaeological evaluation should be undertaken, following up an earlier phase of evaluation carried out in 2013, in order to determine the character and state of survival of any remains found to exist on the site and aid the determination of an appropriate mitigation strategy. In addition, photographic and descriptive recording was requested in relation to a series of predominantly east-west walls on the slope forming the north part of the site.

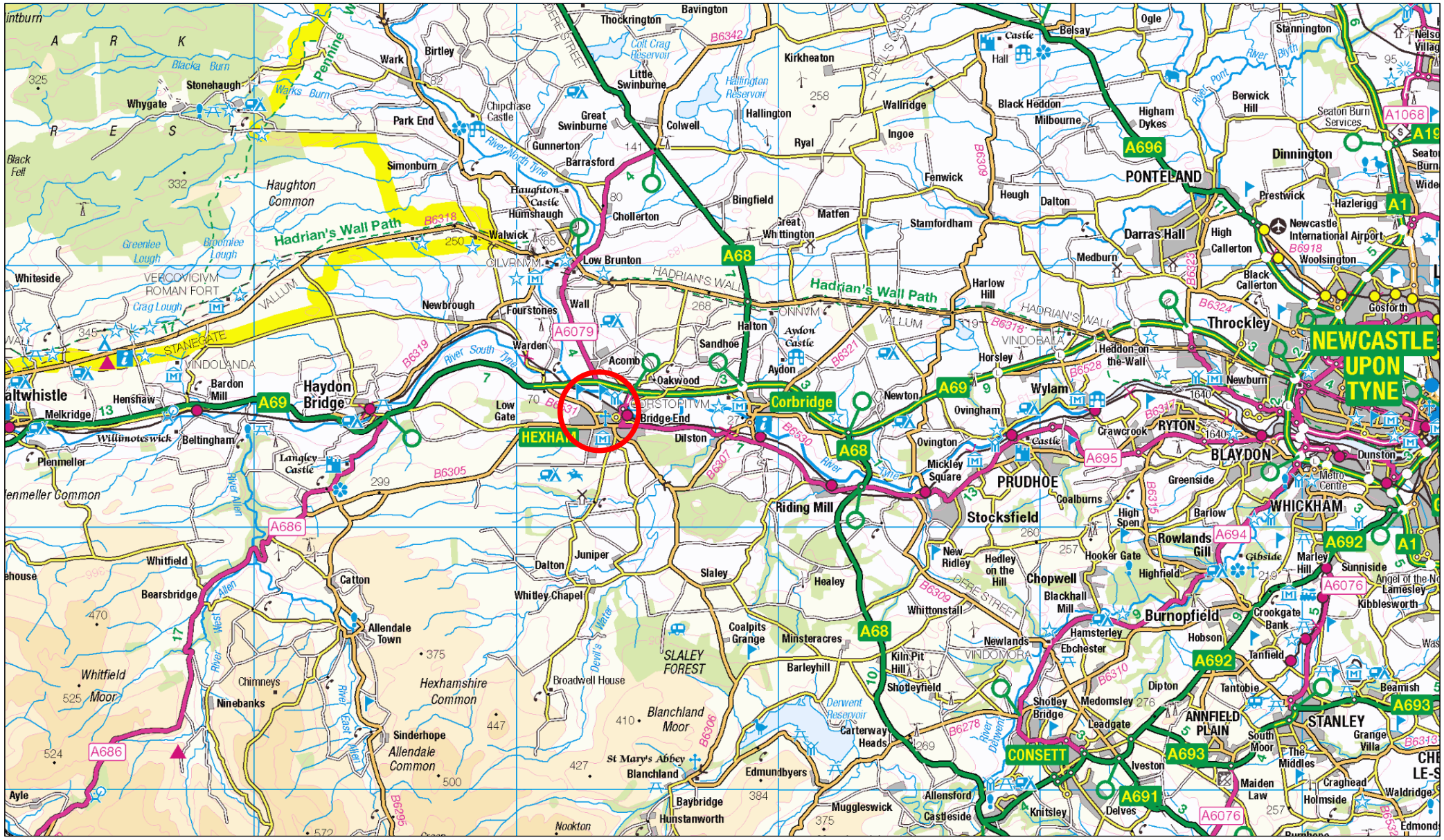
Evaluation by excavation was undertaken by means of four Trenches which showed that a number of archaeological features remained in-situ within the site boundaries, but could only be speculatively interpreted and dated. The northern portion of the site in particular seemed to have escaped modern terracing and interference and could, therefore, contain

significant archaeological features both above and below ground, potentially including remains of the putative town wall. Although the Gilesgate site frontage appeared to have been truncated by modern development, the truncated foundation levels of historic structures appeared to survive there as well as in the area to the north, investigated in 2013.

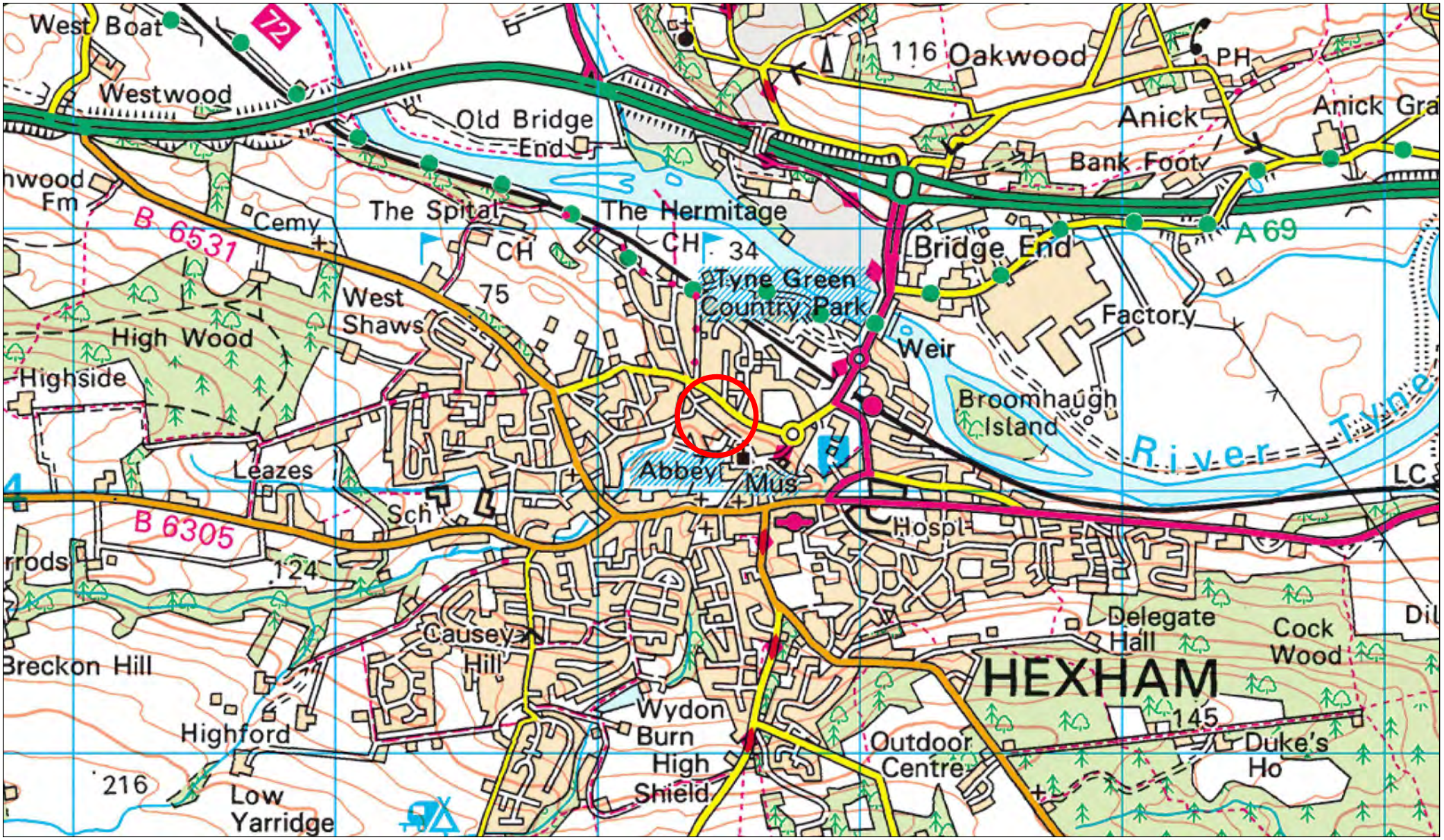
Given the likely presence of archaeological remains across the site, archaeological 'strip, map and sample' was recommended as the appropriate response to mitigate the impact of works upon any surviving archaeological remains. A full Written Scheme of Investigation was subsequently agreed with NCC in August, 2020 in response to a timetabled groundworks programme prior to the development commencing.

1.2.3 Archaeological Strategy for the Development Site

This is a complex site with a complicated planning history and reasonably high potential for the survival of archaeological remains within it. The strategy for archaeological work within the site reflected this complexity. Thus, it was proposed from the outset to monitor the stripping of all surface overburden from those parts of the site included in the mitigation exercise, and to carry out sample record excavations of any archaeological remains revealed in the area specified by NCC.



Illus. 01: Regional view, showing the location of Hexham (circled in red), in southern Northumberland.



Illus. 02: Local view, showing the site location (circled in red) at the north side of Hexham.

Illus. 03: *Plan of archaeological features recorded within the boundary of the former Hexham Swimming Pool site.*

Illus. 04: *Extract of Armstrong's map of Northumberland, c.1769.*

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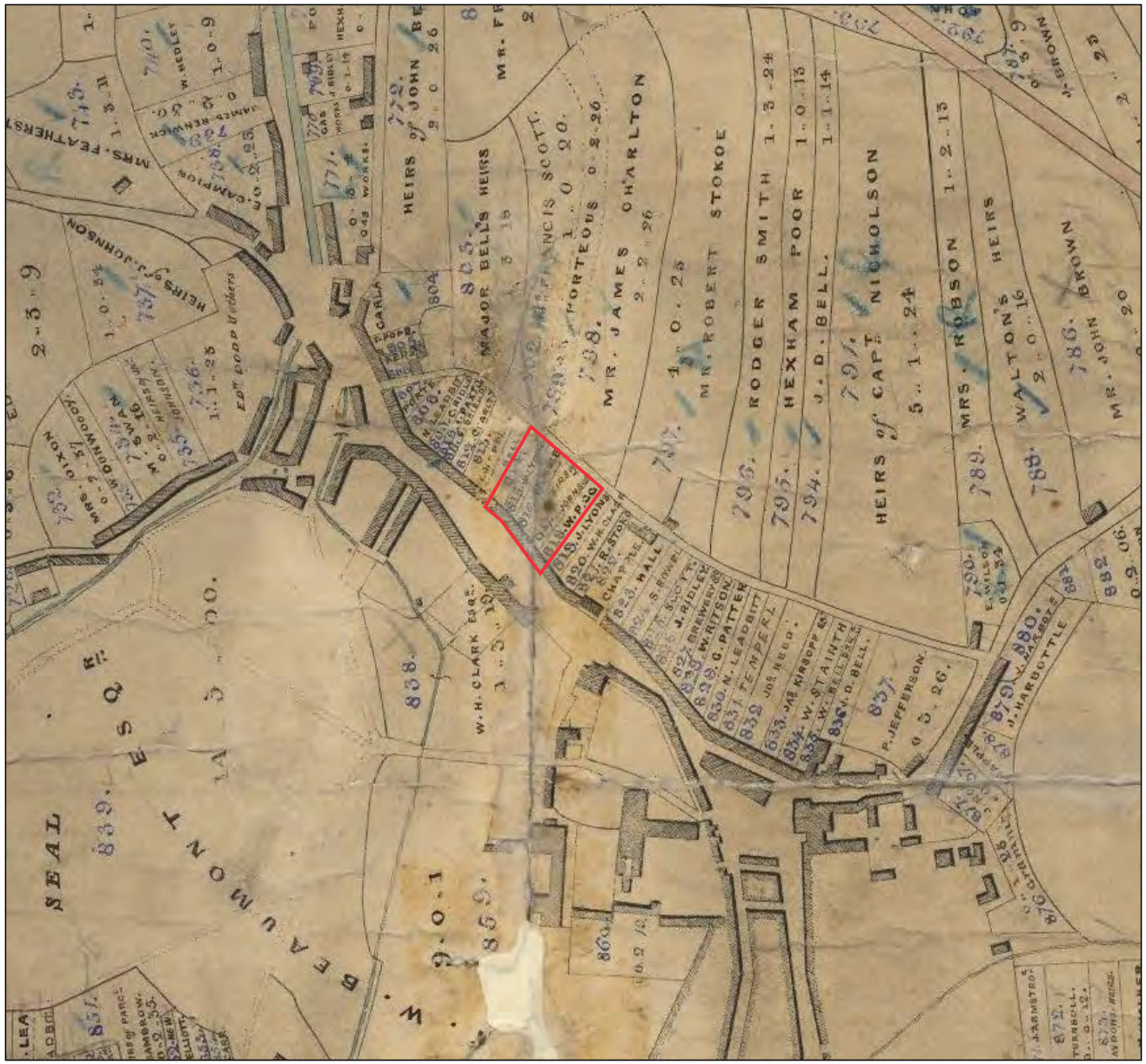
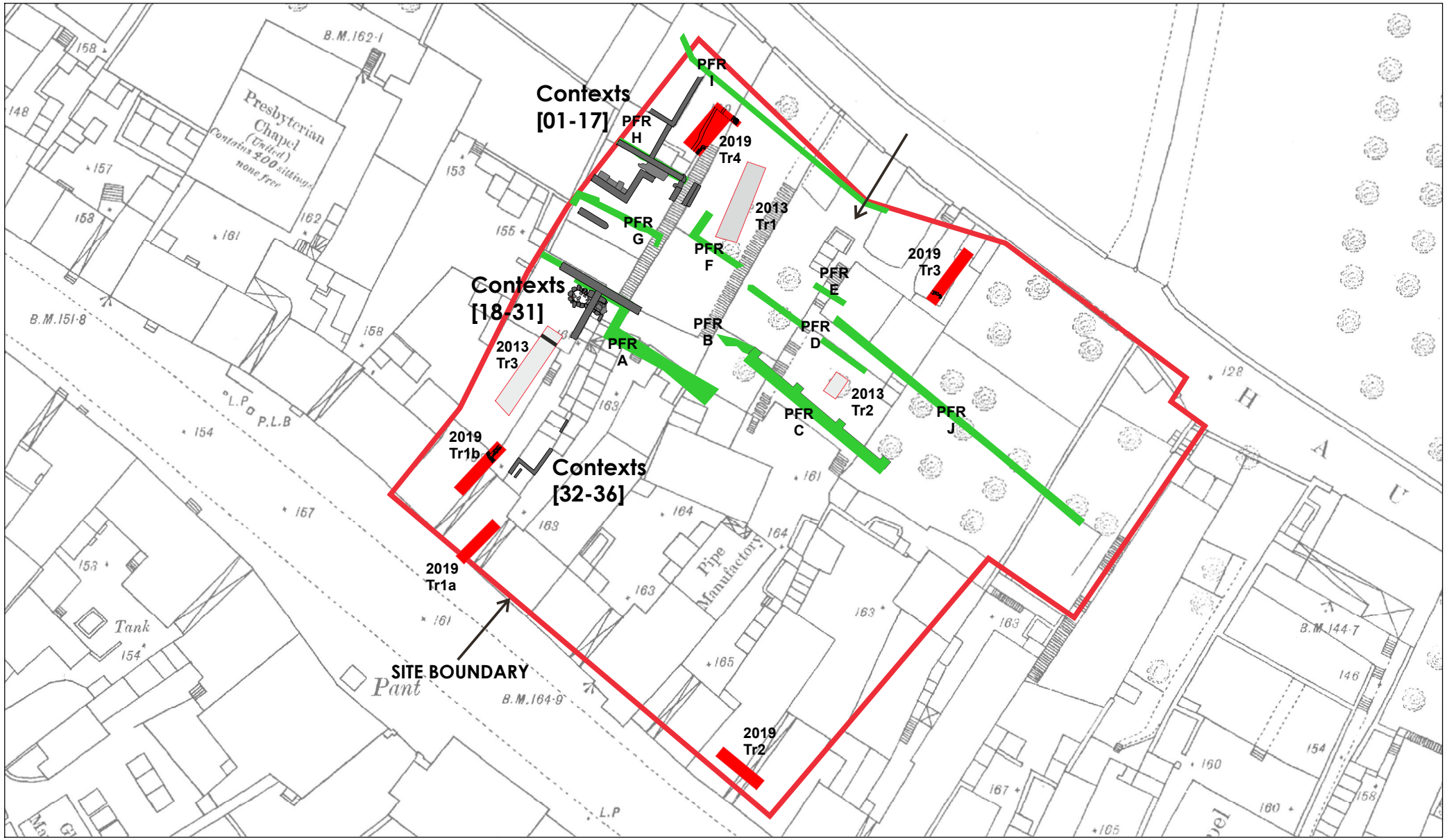
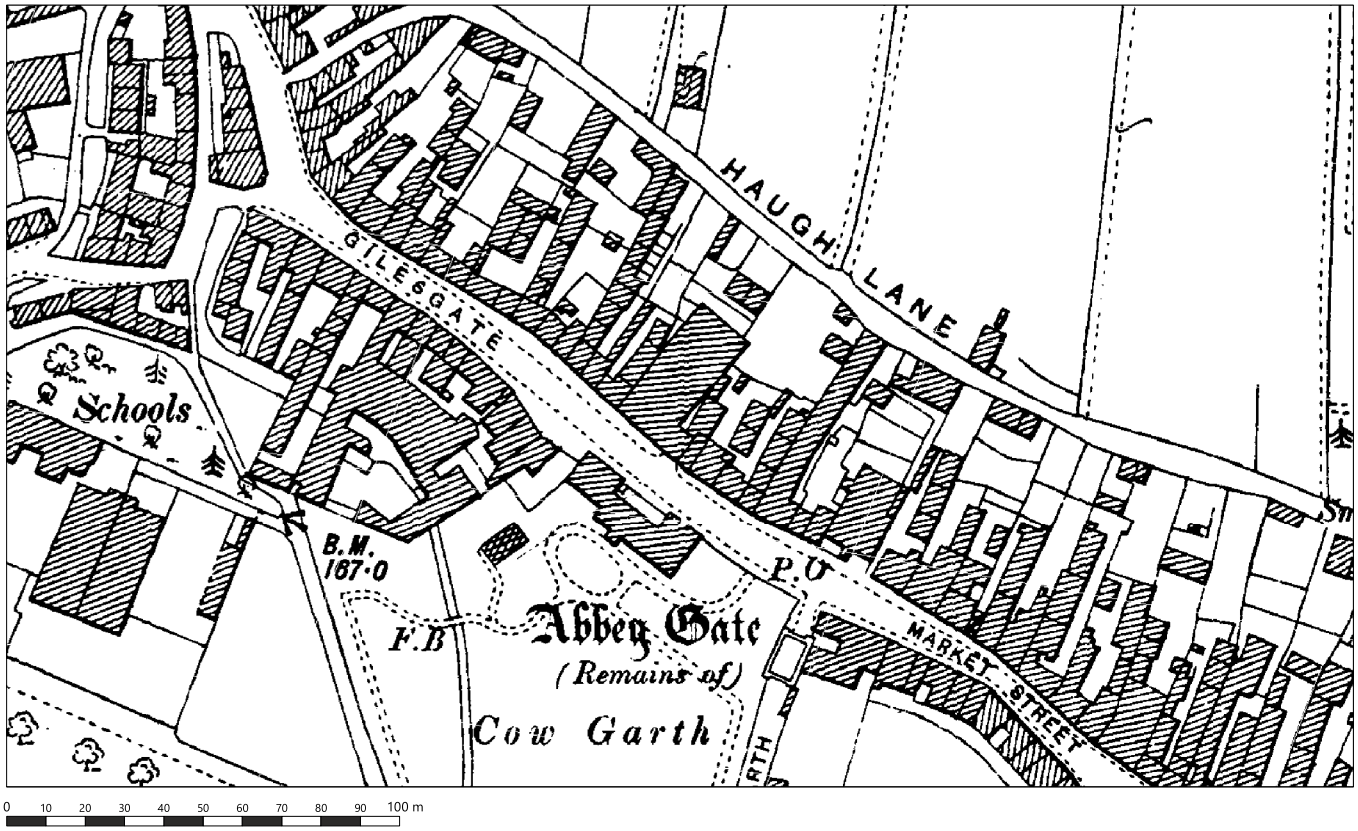


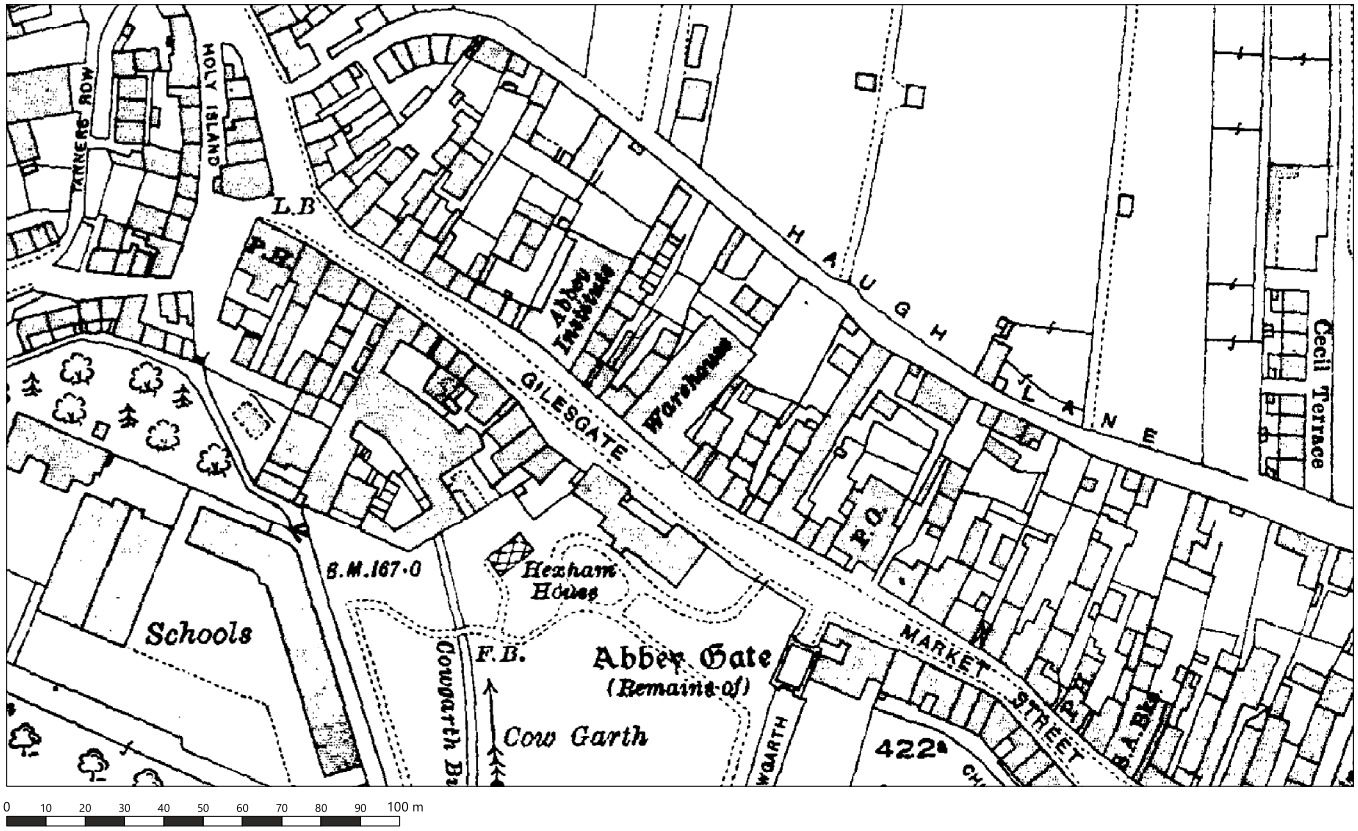
Illus. 07: *Extract of the Hexham Tithe Map, c.1844 (approximate site location outlined in red).*



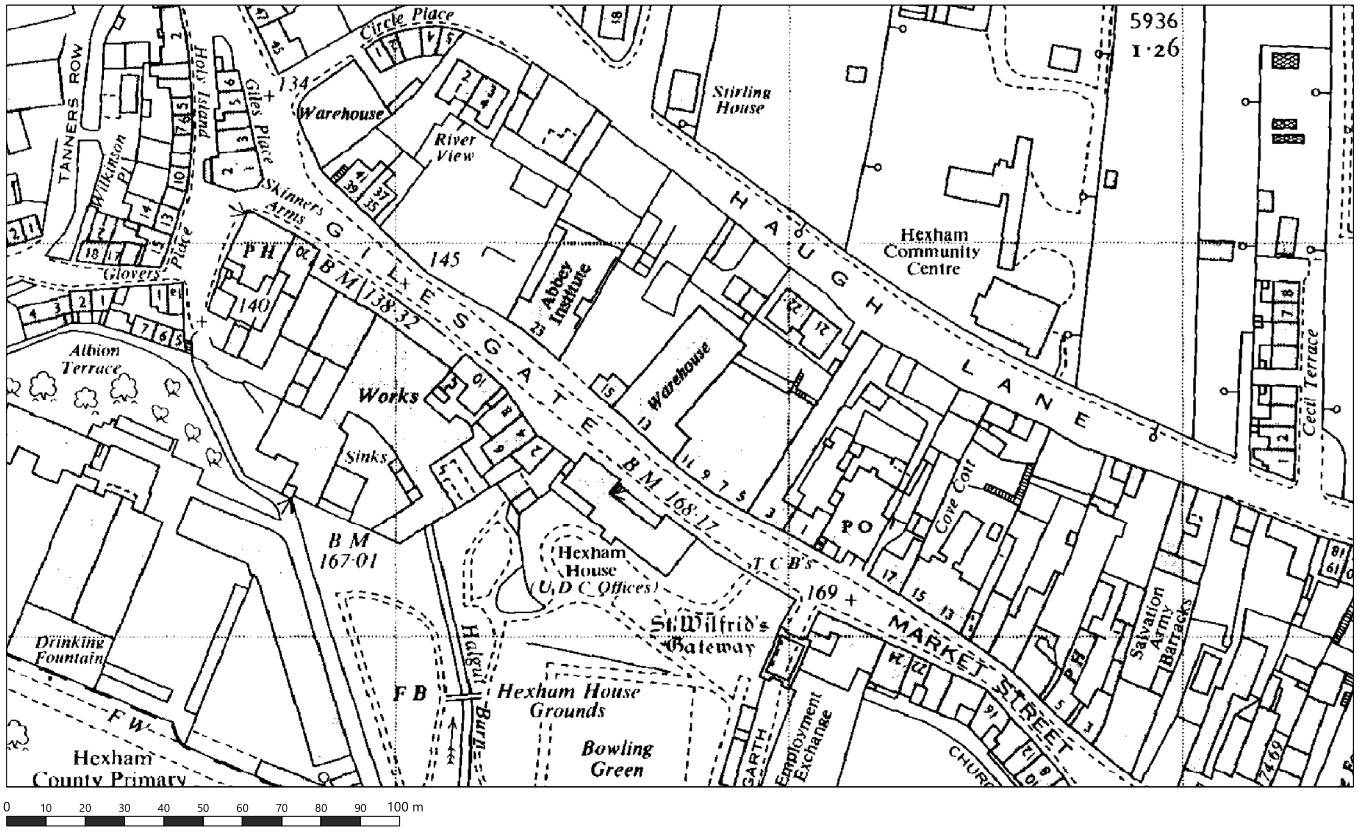
Illus. 08: *Extract of the 1st Edition Ordnance Survey Town Plan of Hexham, c.1862, with archaeological features superimposed within the boundary of the former Hexham Swimming Pool site.*



Illus. 09: *Extract of the 2nd Edition Ordnance Survey, c.1896.*



Illus. 10: *Extract of the 3rd Edition Ordnance Survey, c.1922.*



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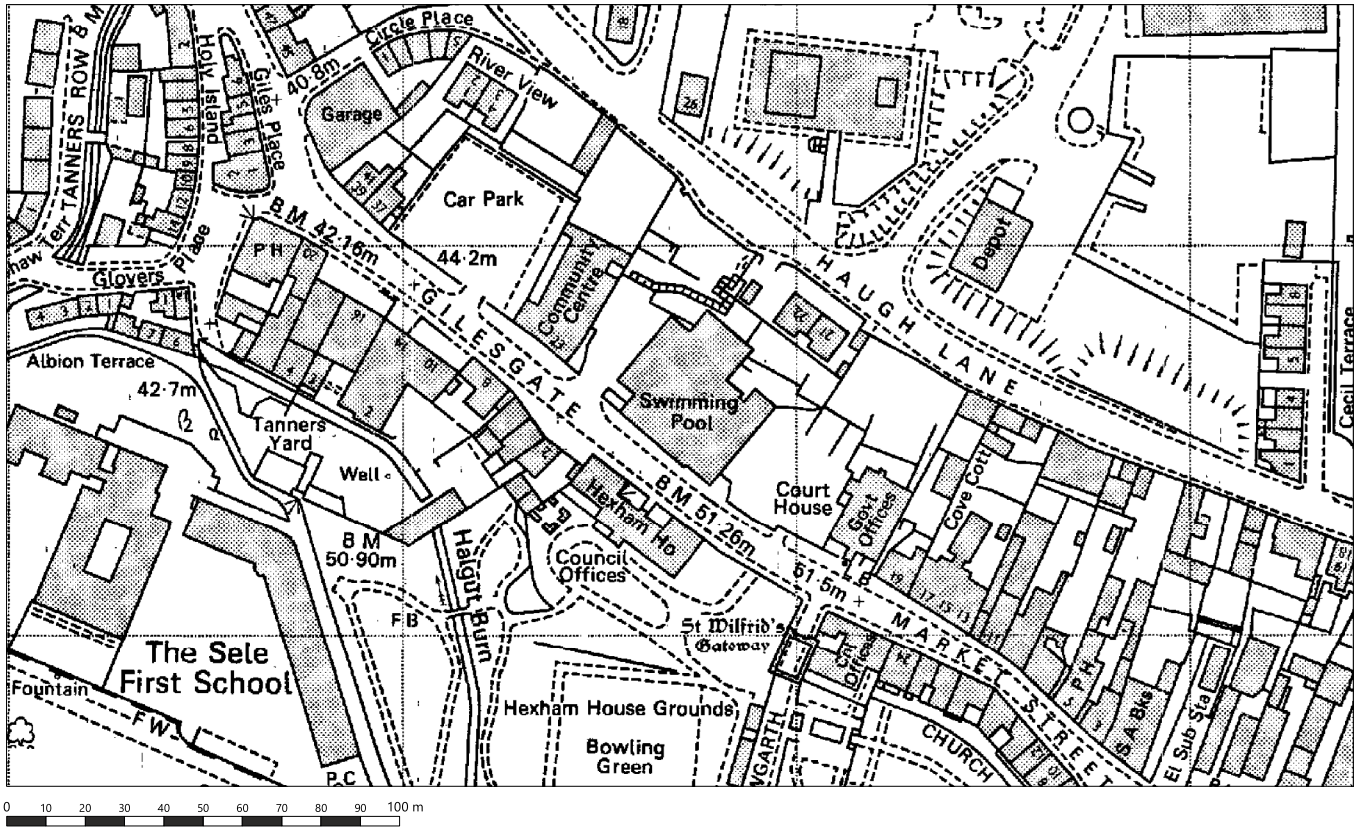


Illus. 12: *Extract of the c.1984 Edition Ordnance Survey.*

2. CULTURAL HERITAGE BACKGROUND & POTENTIAL

The site is situated on a roughly rectangular plot of land between Gilesgate on the higher ground to the south and Haugh Lane down a steep terraced slope to the north, some 15m lower than Gilesgate. Gilesgate itself is part of the medieval plan of the town and originally led down from the town centre to the hospital of St Giles and the first bridge across the river (Illus. 07 & 08). The medieval plot boundaries are still in part visible on the modern street plan, and although the earliest surviving structures date to the 17th Century, earlier remains are likely to be preserved beneath many of these later constructions. Development along what is now Haugh Lane began at a much later date with development restricted largely to the heart of the town; earlier maps (e.g. First Edition Ordnance Survey, 1860) show only piecemeal development of this lower site, possibly commencing as structures within the back-plots of buildings fronting onto Gilesgate.

The Swimming Pool building was constructed as Bell's Wool Warehouse in 1885, on a site previously occupied by a house with a doorway dated '1638' In 1975 the building was remodelled as a swimming pool, leaving its 19th century frontage and part of the rear gable, rising from half-way down the hillside, of brick above a stone lower section, which was recently suggested as an extant section of a medieval town wall (Chapman 2008), as discussed in Ryder (2013).

Archaeological evaluation of the site was conducted by The Archaeological Practice Ltd. in December 2018 prior to the determination of planning consent for the proposed development of the site. This followed an earlier phase of evaluation carried out in 2013 and an assessment of the standing remains on the site carried out by Peter Ryder (updated in the 2019 report).

Both evaluation and associated buildings recording made it clear that the site retained archaeological potential which, in broad terms, diminished from north to south. While none of the remains encountered in two phases of evaluation were of high significance, and most remain undated, the remaining potential for the survival of moderately or highly significant remains was assessed as moderately high. While it is likely that the original and oldest occupation of the site would have been along the frontage of Gilesgate, post-medieval developments and, latterly, truncation of the frontage deposits have removed most archaeological remains from this area. However, as seen in both the 2013 and 2019 evaluation excavations, the truncated footings of buildings survived from c 8 m north of the north side of Gilesgate as well as close to the northern edge of the terraced upper site. It was though quite possible, therefore, that with the exception of the frontage itself, fragmentary and truncated archaeological remains could survive across much of the car park area, potentially increasing in depth towards the north.

The area between the developed upper levels fronting onto Gilesgate and the steep slope down to what was to become Haugh Lane was also thought to retain archaeological potential, with two apparent house platforms of early 19th century or earlier date (represented by Walls G & H - see Evaluation Report 2019) know to be present, probably incorporating surviving ground floor and/or cellar walls, as well as associated communal steps linking Gilesgate and Haugh lane, and remains of earlier walls up to a metre below ground level.

The date of origin of the earliest structures on and below the north-facing scarp between Haugh Lane and Gilesgate was impossible to ascertain based on available knowledge prior to the most recent phase of work, but was considered unlikely, given its position outside the medieval town walls, to be medieval in date and probably no earlier than 18th or early 19th century, as suggested by the available map evidence which does not show this area highly developed at an early date.

The position of the putative town wall itself, at the top of the same slope from Haugh Lane remains obscure, but it does not appear to be represented by Wall C and, if present on the site, is likely to be buried below the current upper bank fill, potentially underlying Wall C.

3. EXCAVATION AND WATCHING BRIEF

3.1 Three principal phases of archaeological work were conducted at the site (*see Illus. 03 for locations*):

- Phase 1 (14th August 2020) – comprised recording an inscribed lintel revealed on the inner (north) face of the Swimming pool frontage.

- Phase 2 (26th August-3rd Sept. 2020) – comprised excavations principally in the north-west part of the site

- Phase 3 (12-29th January 2021) – comprised excavations principally in the central-west part of the site

All work was carried out in compliance with the codes of practice of the Chartered Institute of Field Archaeologists (CIFA) and followed the CIFA Standard and Guidance for Archaeological Excavations.

Ground reduction was conducted across the entire development site by mechanical excavator using a toothless ditching bucket. All excavations were closely monitored by suitably trained and experienced archaeologists from The Archaeological Practice Ltd.

The aims of the archaeological work were to identify and determine the character of any remains uncovered during groundworks on the site, and to make an appropriate record of such finds by photographic and other means.

4. RESULTS

4.1 Phase 1 – recording of an inscribed lintel revealed on the inner (north) face of the Swimming pool frontage **(August 2020).**

4.1.1 Interpretation (*Illus. 19-23; Photos 28-63*)**:**

The lintel was exposed in a blocked ground floor doorway at the west end of the inside face of the main Gilesgate frontage of the former Swimming Pool biding, the south wall of which has been preserved and will be incorporated in the new build. This is the carved lintel visible in a sketch of an 'Old House Gilesgate Hexham in 1885' by C.C. Hodges, Architect, and in elevation drawings by the same architect (see Illus. 19-21) as well as in a photograph of the same house taken shortly before its demolition in the late-19th century (Illus. 22 & 23).

The carved lettering on the lintel forms an embossed elegy in middle French:
HONI SOIT.eVI MALYPENS
W.S.(?).S.ANO.DO(?)(?)NI 1638

Early plans to remove the lintel for display elsewhere in the new build complex were abandoned in favour of its retention in situ, which will preserve it without allowing it to be put on display.

4.2 Phases 2 & 3 – Archaeological Watching Brief (October 2020 - January 2021)

4.2.1 Stratigraphy and Interpretation *(see Illus. 03; Photos 03-57):*

The main features uncovered here, all of which were along the western boundary of the site, were associated with a row of dwellings seen on early editions of the Ordnance Survey map series and thought to be of relatively recent, early 19th century or slightly earlier origin. While it is possible that these were built partly or wholly upon earlier dwellings or other structures, no conclusive evidence was this was uncovered. The only earlier structure uncovered was a late medieval kiln, the presence of which suggests that the area to the rear of Gilesgate had probably been an open back-plot in the later medieval period; this function perhaps extending into the early modern period.

The northern Buildings (See *Illus. 13 & 16*).

In the north part of the range on the lowest, northern part of the site bordering Haugh Lane Wall #6 [09] was a large sandstone retaining/revetment wall aligned NW-SE. Clearly visible on OS 1st Ed c.1862 (*see Illus. 08*), it survived to 14 courses of rubble sandstone with lime mortar bond, with a string course offset of 0.05 m observed approximately half way up in the north-east facing elevation, and a foundation course offset protruding 0.08 m at the base. The wall has been set within a vertical construction cut [10] with the 0.10-0.15 m gap infilled with riverine stones and sandstone pieces [11] to help reinforce its foundation. Wall #5 [07] (a stair wall) has been inserted through and tied in to its eastern end at a later date, though still prior to the c.1862 OS map. The wall cut into the natural slope at its base, where it intersected with retaining Wall #6. The east side of the stairway was bounded by Wall #4 [05], also of 19th century date, which rested on the natural slope and had been reinforced on its eastern face with a 0.30 m wide concrete wall [06] at a later date, probably in the 20th century.

Below (north of) Wall #6. Wall #1 [01] was revealed as a short length of sandstone wall footing functioning as secondary blocking between substantial retaining Wall #6 and parallel Wall #3 [04] (see *Illus. 13*), being perpendicular to both. A threshold was observed at the north end of the wall in the east face, aligned SW-NE, possibly providing access into a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*). On the same orientation with Wall #1 to the north was a brick structure [02] extending east from the NE terminus of Wall #1 at its intersection with Walls #3, but not tied in to Wall #1. Wall #2 [03], aligned NE-SW, was a stretch of sandstone wall footing extending beyond the edge of excavation at its north end and intersecting perpendicularly with Wall #3 at its south end; interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*). To the south, Wall #3 [04] was the return of Wall #3 at its south end, extending NW beyond the edge of excavation and also interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*).

The top of Wall #6 forms the northern edge of an artificial terrace, behind (south of) which was a well-constructed cobbled path [12], framed on its south side by larger kerb-stones, which continued east as far as the former stairway [08], and possible hints of further structures. The path may have provided a walkway leading to the stairs [08], while a gatepost stone observed towards the SE corner of the path, and abutting Wall #5, could have marked the location of an access gate, but these features are not visible on historic mapping. A construction cut [10] for retaining Wall #6 [09] was seen extending 0.10-0.15 m from the north-east face of the wall, with the gap infilled with stones [11], compacted to help reinforce/revet the wall foundation.

Wall #7 [13] was a short stretch of sandstone wall footing extending from and intersecting perpendicularly with Wall #8, parallel to and forming the southern limit of cobbled pathway [12] and presumed part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*), but not visible on historic mapping, so perhaps an internal feature. It forms part of the same structure as Wall #8 [14] with which it insersects perpendicularly, the latter terminating where it abuts Wall #9. Walls #7-#9 seem to have formed the walls of a small (perhaps internal) room within which a small forge is visible [16]. This comprised internal sandstone compartments or niches, presenting an industrial hearth-like appearance on the north side of Wall #9. Finally, in this area, Wall #10 [17], a sandstone wall footing parallel with Walls #3, #6 & #9, extends on the same axis as a substantial wall to the west (visible on historic mapping) and has been interpreted as part of a 19th century industrial complex.

Beyond Wall #10 the terraced ground steps up again to the south, the upper terrace reveted by Ryder's Wall 'A' (see The Archaeological Practice 2019, 33). This is the wall, uncovered and recorded in the excavations as Walls #12 & #13 and still surviving to the west, which until recently bounded the Swimming Pool car park on the north and linked to the Community Centre building to the west, then, beyond the narrow entry to the head of the steps, returned south before extending east again to join the west wall of the Swimming pool building. The date of the wall is uncertain; it may be present, in part, in the complex of buildings and yards which the 1858 OS map shows as occupying the area but, if so, it has clearly been altered, and only took on its present form in between 1963 and 1984, although it was clear to Ryder that the narrow entry at the head of the stair had been cut into an older wall. In the current excavation, Wall #12 [19] was 0.64-0.71 m wide and Wall #13 [20], od secondary construction, effectively extending the eastern axis of Wall #12, 0.68-0.70 m wide, together interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*). Tied into Wall #12 and extending south, Wall #11 [18], observed above

Kiln structure [11] and removed subsequent to recording the latter (see below), was a NE-SW aligned sandstone wall of random courses bonded with an off-white lime mortar, also interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*). Abutting its east face was a layer [21] of loose, mortar-rich rubble, interpreted as the building demolition associated with Walls #11 and 12, sitting upon a layer of redeposited natural material [22] comprising reddish-brown glacial sand and gravels.

The removal of these deposits, as well as Wall #11 and garden soil on its west side revealed the outline of a flue [30] in the east and the bowl of a kiln [28] in the west.

The Kiln (See *Illus. 14 & 17-18*).

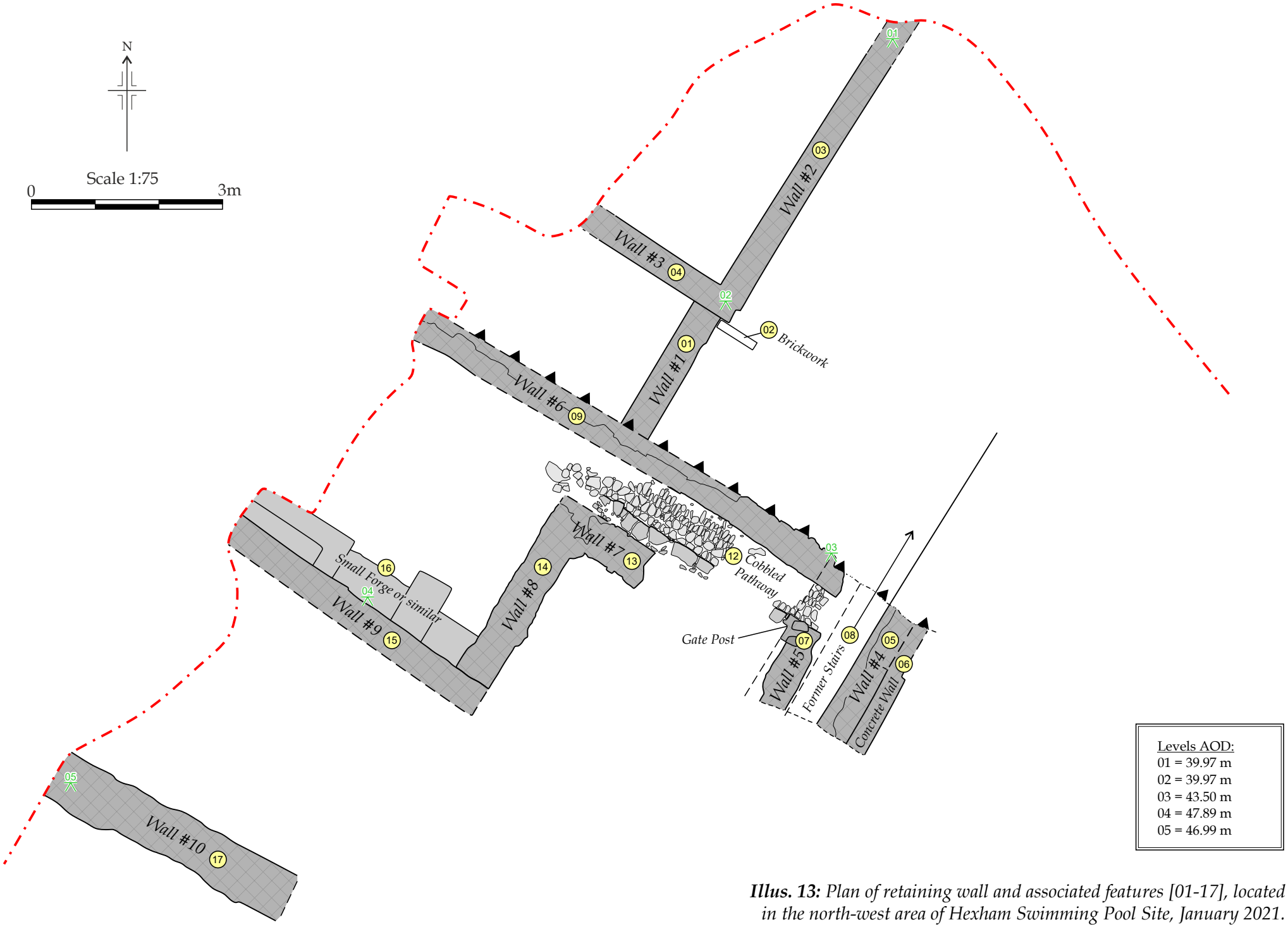
Internally the kiln measures 2.73 m from internal east face of the bowl to the east end of the south wall, but the floor continues to 2.84 m before being cut by a modern service pipe. The bowl wall survives to 1.14 m high (1.04 m above the floor surface) comprising six irregular courses of mainly boulder-stones with some pieces of reused cut stone. The remains of the flat flagged floor are set into natural deposits. The internal dimensions at the base are 0.90 m, but a slight batter (perhaps due to sagging) means that the bowl opening is 0.10 m narrower than the base. In plan, the bowl narrows to 0.77 m at the neck of the flue which then varies in width between 0.77 m (at the east and west ends) and 0.82 m in the middle. The surviving length of the flue is 1.55 m and its side walls survive up to five courses and 0.75 m high, its constituent stones being up to 0.80 x 0.55 m in size. A modern drain has destroyed the east end of the flue where it survives to 0.70 above a flagged floor surface.

The south side of the flue is separated from a sandstone wall - which runs on to form the base of the current footpath at the top of the stairs - by only 4 cm. The kiln bowl is 0.64 m east of the east face of a poorly-built N-S wall which is bedded 0.22 m above the surviving upper course of the kiln. This wall rises to 0.46 m above its footings which are 1.28 m below current ground level (i.e. the footpath leading to the stairs). Above it is a 0.15 m deposit of garden soil sealed by overlying rubble and made surfaces. Below the wall is a 0.25 m deposit of mixed, silty-loam including a band of lime, signifying a construction or demolition deposit, some 2.5 cm below the wall.

Finds from the kiln comprises some nine fragments of pottery, mostly apparent late medieval reduced wares, along with a lead spindle-whirl several other lead waste fragments and a copper-alloy token.

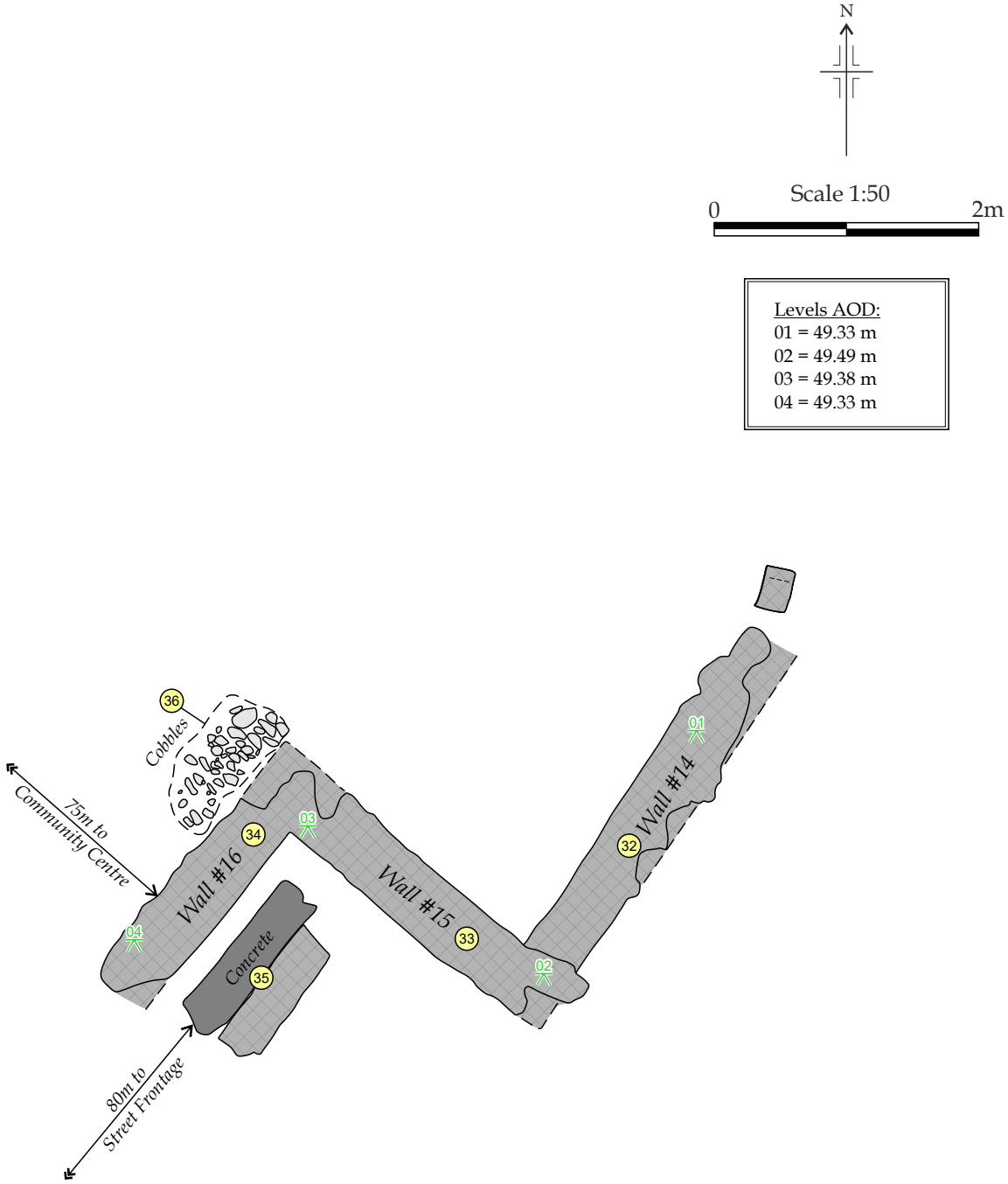
The function of the kiln is with reasonable confidence identified as a corn-drying kiln or malting kiln on the basis of palaeo-environmental evidence for a typically late-medieval assemblage of crop remains and weeds in its lower fill. More heterogenous remains from the upper fills of the kiln bowl have a composition possibly reflecting use of the kiln for drying other crops and the presence of domestic waste from other sources, including a mixture of fuel waste and crops accidentally charred during drying. The presence of coal and clinker/cinder supports a later-medieval date for the kiln when coal became more widely used as a fuel source.

The presence of germinated grains suggests that the corn-dryer had, either principally or alternatively, functioned as a malting oven; a suggestion given further weight by the presence of a mix of grains often associated with brewing, a staple of medieval diets. This suggests that ‘corn-dryers’, which are a common feature of the medieval period, were used for a range of functions including drying cereals prior to storage, processing and milling, as well as being used to produce malt for brewing

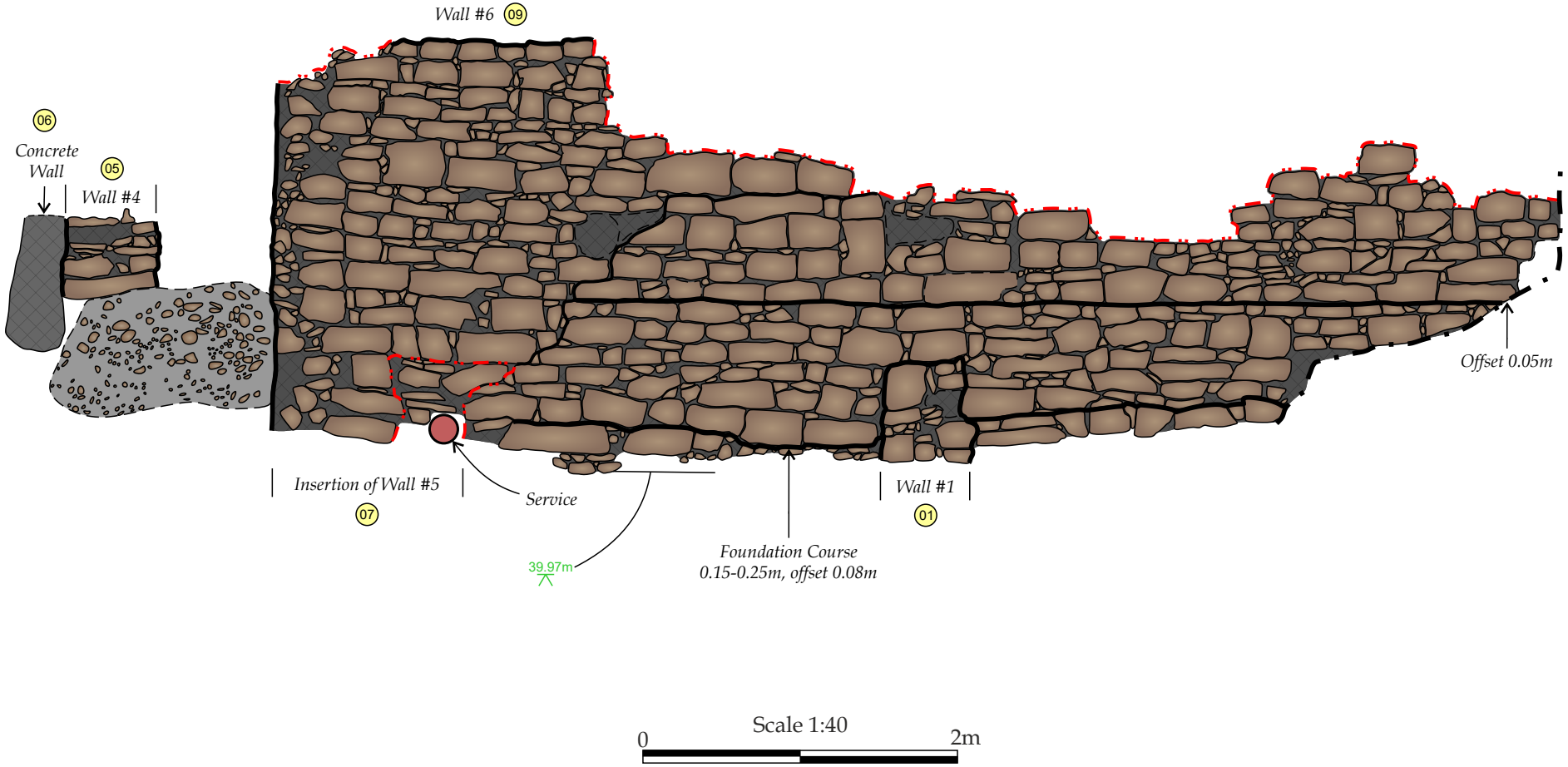


Illus. 13: *Plan of retaining wall and associated features [01-17], located in the north-west area of Hexham Swimming Pool Site, January 2021.*

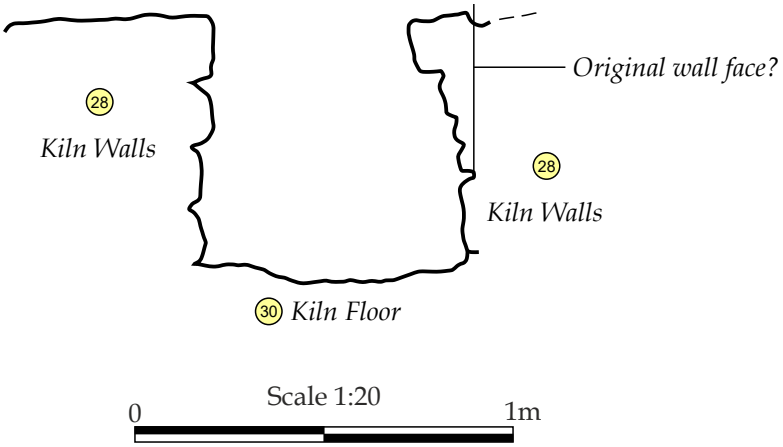
Illus. 14: *Plan of Kiln Structure [28], later walls and associated features [18-31], located in the south-west area of Hexham Swimming Pool Site, January 2021.*



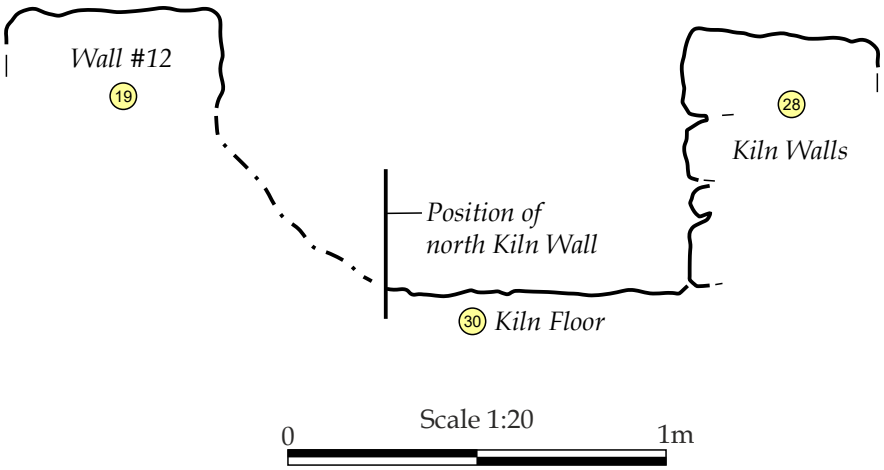
Illus. 15: *Plan of wall footings and associated features [32-36], located in the south-west area of Hexham Swimming Pool Site, January 2021.*



Illus. 16: *North-east facing elevation of Wall #6 [09] and associated features, Hexham Swimming Pool site, 2020.*



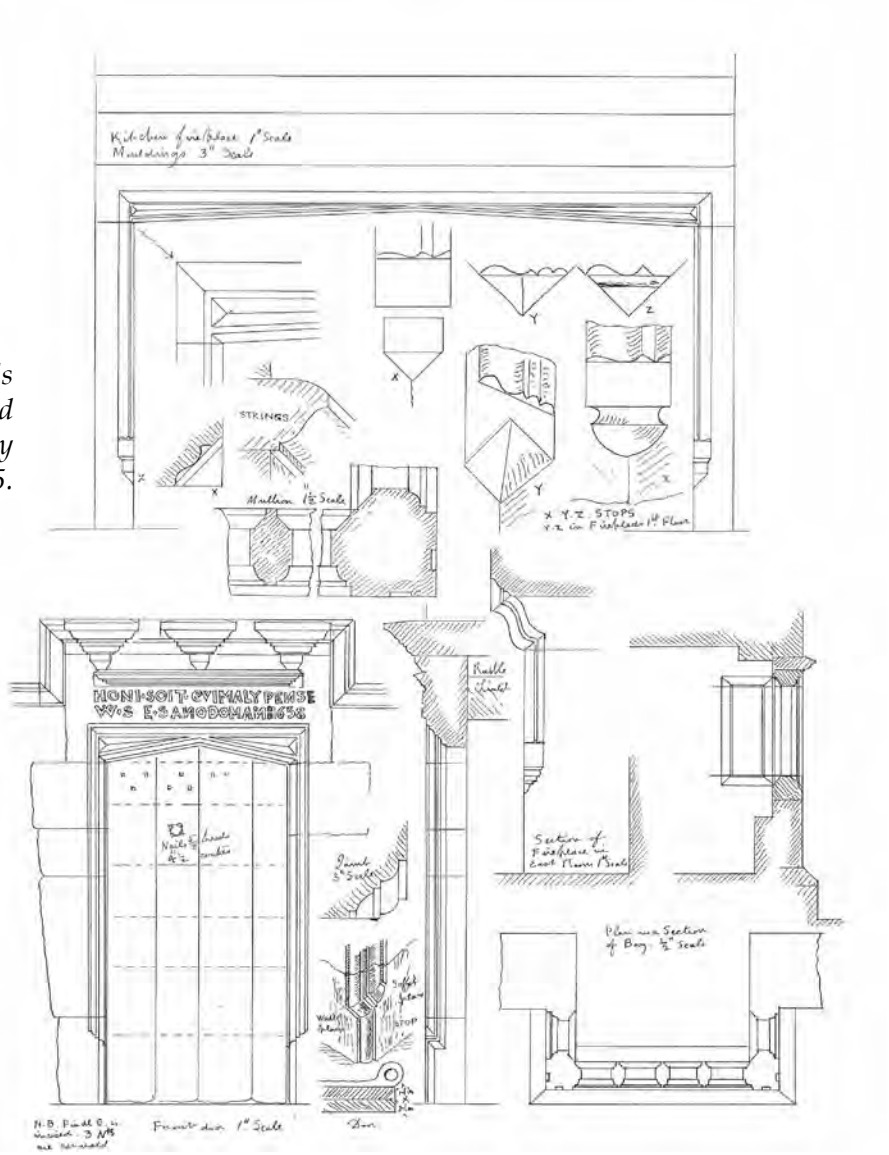
Illus. 17: *Profile #1, North-west facing profile of Kiln Structure [28].*



Illus. 18: *Profile #2, North-west facing profile of Kiln Structure [28].*

Illus. 19: *Oblique sketch by C.C. Hodges, Architect, titled 'Old House Gilesgate Hexham in 1885'.*

Illus. 20: *Elevation drawing by C.C. Hodges, Architect, showing the frontage of the 'Old House Gilesgate Hexham in 1885'.*



Illus. 21: *Architectural details of the 'Old House' illustrated in plan and section by C.C. Hodges, c.1885.*

Illus. 22: *Photograph of the 'Old House Gilesgate Hexham', presumably shortly before its demolition in the late-19th century.*

Illus. 23: *Detail of the entranceway visible in the photograph (above) of the 'Old House Gilesgate Hexham'.*

Illus. 24: *Selected finds assemblage (obverse view), from Hexham Swimming Pool Site.*

Illus. 25: *Selected finds assemblage (reverse view), from Hexham Swimming Pool Site.*

Thus, the purpose of the kiln structure uncovered at Gilesgate is likely to be associated with corn-drying, malting or, rather less-likely, lime-burning. In terms of its position in association with buildings it fits well with malting, as does the presence of sprouted grains in associated deposits.

The southern Buildings (see *Illus. 15*).

In the south part of the site beyond the kiln are further buildings which in character and plan appear related and perhaps contiguous with those seen in the northern and middle parts of the site. Wall #14 [32] was a length of sandstone wall footing aligned NE-SW, located approximately 3 m to the east of 2019 Tr1b and intersecting perpendicularly with Wall #15 [33], both interpreted as parts of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*). Apparently also tied into Wall #15 is Wall #16 [34], another length of sandstone wall footing located approximately 1.50 m to the east of 2019 Tr1b. and similarly interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*). Adjacent to and aligned with Wall #16 within the interior space suggested by Walls #15/#16 was an area of sandstone flags and a related concrete plinth, interpreted as a possible remnant of flooring from an industrial structure of probable 19th century date. The central flag of this floor remnant was socketed, perhaps to accommodate a gateway or similar. External to this implied structure, a small area of well-ordered cobbling [36] was observed immediately adjoining the north part of the NW face of Wall #16 [34] and is thought likely to represent the cobbled surface of an open-air corridor between industrial buildings in this area (*see 1st Ed OS c.1862 – Illus. 08*). Trench 1b excavated in this area during the evaluation phase in 2019 revealed traces of walling which may well be related to Walls #14-#16 and perhaps contiguous with Wall #11, being the surviving remnants of SW-NE aligned structures visible in the west part of the site on early editions of the Ordnance Survey series. No suggestion of remains earlier in date than 199th century was uncovered in this part of the site which sits upon a plateau of bedrock dipping gently to the north, suggesting that any such remains formerly present has been removed during 19th and early 20th century site redevelopment.

4.2.2 Context List:

North-west Group (*see Illus. 13*):

[01] Wall #1. Located towards the NW side of the site. Short stretch of sandstone wall footing functioning as a secondary blocking between large retaining Wall #6 and Wall #3, and perpendicular to both. A threshold was observed at the north end of the wall, in the east face, measuring 0.28 m (width) x 1.08 m (length). Aligned SW-NE. Overall dimensions: 0.48 m (width) x 2.20 m (length). Interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*).

[02] Brickwork extending from NE terminus of Wall #1 at intersection with Walls #2-3, but is not tied in to the walls, with a gap of 0.08 m from Wall #1. Single skin of brick aligned NW-SE. Dimensions: 0.24 m (width) x 1.16 m (length). Unknown function.

[03] Wall #2. Located towards the NW side of the site. Stretch of sandstone wall footing extending beyond the edge of excavation at its north end and intersecting perpendicularly with Wall #3 at its south end. Aligned NE-SW. Dimensions: 0.54 m (width) x 5.50 m (approx. length). Interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*).

[04] Wall #3. Perpendicular return of Wall #3 (south end of), extending to the NW beyond the edge of excavation. Aligned NW-SE. Dimensions: 0.45 m (width) x 2.80 m

(approx. length). Interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*).

[05] Wall #4. The east wall of former stairs of 19th century date, aligned NE-SW, that ran down the slope in the NW corner of the site and clearly visible on OS 1st Ed c.1862 (*see Illus. 08*). The wall rests on the natural slope, and has been reinforced on its eastern face with a concrete wall [06] at a later date, probably in the 20th century. Dimensions: 0.56 m (width) x 2.25 m (exposed length) – but extending to the NE and the SW beyond the edge of excavation.

[06] Concrete wall, clad onto the eastern face of stair Wall [05], probably to reinforce the stairs in the 20th century. Dimensions: approx. 0.30 m in width.

[07] Wall #5. The west wall of former stairs of 19th century date, aligned NE-SW, that ran down the slope in the NW corner of the site and clearly visible on OS 1st Ed c.1862 (*see Illus. 08*). The wall cuts into the natural slope at its base, where it intersects with retaining Wall #6. Dimensions: 0.40-0.50 m (width) x 2.50 m (exposed length) – but extending to the NE and the SW beyond the edge of excavation.

[08] Demolished stairs between stair edging walls #4 and 5. Of probable 19th century origin, aligned NE-SW, following the slope in the NW corner of the site and clearly visible on OS 1st Ed c.1862 (*see Illus. 08*).

[09] Wall #6. A large sandstone retaining/revetting wall, located towards the NW side of the site, abutting and perpendicular to Wall #1. Aligned NW-SE. Clearly visible on OS 1st Ed c.1862 (*see Illus. 08*). At least 14 courses of rubble sandstone with lime mortar bond, with a string course offset of 0.05 m protrusion observed approximately half way up in the north-east facing elevation, and a foundation course offset protruding 0.08 m at the base. The wall has been set within a vertical construction cut [10] with the 0.10-0.15 m gap infilled with riverine stones and sandstone pieces [11] to help reinforce its foundation. Wall #5 (stair wall) has been inserted through and tied in to its eastern end, obviously at a later date, though still prior to the c.1862 OS map. The top of the wall forms the northern edge of an artificial terrace, behind which is a cobbled path [12] and further structures. Dimensions: 2.70 m (max height) x 0.50 m (width) x 8.20 m (maximum length within area of excavation, but extending to the NW).

[10] Construction cut for retaining Wall #6 [09]. Vertical in plan, extending 0.10-0.15 m from the north-east face of the wall, with the gap infilled with stones [11].

[11] Infill of construction cut [10] for Wall #6 [09]. Comprising of riverine stones and sandstone pieces, compacted to help reinforce/revett the wall foundation.

[12] Cobbled pathway, set parallel to and immediately behind the top of retaining Wall #6 [09], which forms an artificial terrace beyond its south face. Much of the path was observed to be truncated/destroyed, but an area measuring approx. 3 m in length x 0.60 m in width, was clearly visible to the north of Wall #7. A line of 6 or 7 larger edging stones, observed along its southern side, probably formed a southern kerb to mark the limit of the pathway. The path may have provided a walkway leading to the stairs [08]. A gatepost stone observed towards the SE corner of the path, and abutting Wall #5, could have marked the location of an access gate. Not visible on historic mapping.

[13] Wall #7. Located towards the NW side of the site. Stretch of sandstone wall footing extending from and intersecting perpendicularly with Wall #8. Parallel to and forming the southern limit of cobbled pathway [12]. Aligned NW-SE. Dimensions: 0.60 m (width) x 1.65 m (approx. length within limits of excavation but extending to the SE for unknown distance). Interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*). Not visible on historic mapping, but likely contemporary with Wall #6 etc nevertheless, - perhaps an internal wall?

[14] Wall #8. Located towards the NW side of the site. Stretch of sandstone wall footing intersecting perpendicularly with Wall #7 [13] and extending to the SW, where it terminates to abut Wall #9. Aligned NE-SW. Dimensions: 0.54-061 m (width) x 3.20 m (approx. length). Although not visible on historic maps, this wall appears contemporary will wall #6 and others, and seems to form the east wall of a small (perhaps internal) room within which a small forge is visible [16].

[15] Wall #9. Perpendicular return of Wall #8 (south end of), although abutting rather than intersecting. It extends to the NW beyond the edge of excavation. Aligned NW-SE. Dimensions: 0.55 m (width) x 4.70 m (approx. length). Although not visible on historic maps, this wall appears contemporary will wall #6 and others, and seems to form the south wall of a small (perhaps internal) room within which a small forge is visible [16].

[16] Small forge. Internal sandstone compartments/niches, with industrial hearth-like appearance. Abutting/tied in to and projecting 0.55-0.70 m north of Wall #9, within a small structure/unit or internal room of an industrial complex.

[17] Wall #10. Sandstone wall footing. Although not directly visible on the 1st Ed OS c.1862, this wall extends upon the same axis as a substantial wall to the west, that is visible on mapping. Aligned NW-SE. Dimensions: 0.70-0.75 m (width) x 4.10 m (length). Again, this wall has been interpreted as part of a 19th century industrial complex.

Central Group (*see Illus. 14, 16-18*):

[18] Wall #11. Observed above Kiln structure [11] and removed subsequent to recording. NE-SW aligned sandstone wall, random courses with an off-white lime mortar, contemporary with and perpendicular to Wall #12. Interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*). Dimensions: 0.57 m (width) x 4.20 m (length, but extending to the SW for an unknown distance).

[19] Wall #12. NW-SE perpendicular return of Wall #11. Interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*). Dimensions: 0.64-0.71 m (width) x 4.12 m (length exposed at lower level, but almost certainly extending to the NW and becoming upstanding wall thereafter (*see Illus. 14*).

[20] Wall #13. A secondary sandstone wall, aligned NW-SE and abutting the intersection of Walls #11 and 12, effectively extending the eastern axis of Wall #12. Hard cement mortar. Not visible on historic maps until the later 20th century, where it appears to form the southern edge of a new NW-SE aligned stair (*see Illus. 12*). Dimensions: 0.68-0.70 m (width) x 3.45 m (length).

[21] Layer abutting east face of Wall #11, overlying drain [31]. Loose off-white mortar and sandstone rubble, interpreted as the building demolition associated with Walls #11 and 12.

[22] Layer beneath demolition [21], abutting drain [31], and abutting plinth [27]. Redeposited natural, comprising of loose reddish-brown glacial sand and gravels, maximum depth 0.30m.

[23] Infilling of kiln structure [28]. Dark grey sandy-loam, loose, common well-sorted small sandstone pieces, rare riverine pebbles. Observed to a maximum depth 0.90m. Truncated flat by the construction of 19th century walls. Interpreted as the complete backfilling of Kiln [28] subsequent to its expiration, certainly before the mid-19th century.

[24] Number given to upper third of Kiln backfill material [23]. Palaeoenvironmental sample # 1.

[25] Number given to central third of Kiln backfill material [23]. Palaeoenvironmental sample # 2.

[26] Number given to lower third of Kiln backfill material [23]. Palaeoenvironmental sample # 3.

[27] Plinth constructed against the south face of Wall #12 [19] and seemingly contemporary with it. It comprises of two sandstone blocks with thin flat sandstone pieces bedded and capped with off-white mortar. Dimensions: 0.40 m (overall depth) x 0.75 m (length NE-SW) x 0.50 m (NW-SE).

[28] Kiln structure of pre-19th century date, observed beneath Wall #11 [18]. Internally the kiln measures 2.73 m from internal east face of the bowl to the east end of the south wall, but the floor continues to 2.84 m before being cut by a modern service pipe. The bowl wall survives to 1.14 m high (1.04 m above the floor surface) comprising six irregular courses of mainly boulder-stones with some pieces of reused cut stone. The remains of the flat flagged floor are set into natural deposits. The internal dimensions at the base are 0.90 m, but a slight batter (perhaps due to sagging) means that the bowl opening is 0.10 m narrower than the base. In plan, the bowl narrows to 0.77 m at the neck of the flue which then varies in width between 0.77 m (at the east and west ends) and 0.82 m in the middle. The surviving length of the flue is 1.55 m and its side walls survive up to five courses and 0.75 m high, its constituent stones being up to 0.80 x 0.55 m in size. A modern drain has destroyed the east end of the flue where it survives to 0.70 m above the flagged floor surface.

[29] Layer within interior of Kiln [28] and beneath backfilling layer [23], comprising of loose sandstone pieces and riverine cobbles in a loose, black sandy-loam matrix. Dimensions: approx. 0.30 m. in depth. Interpreted as the primary demolition/robbing layer of the kiln.

[30] Floor of Kiln structure [28]. Comprising of split sandstone flags, with a maximum depth of 0.08 m and set into natural. An articulated portion of approximately 1 metre in length, survived intact at the flue entrance, but survived only sporadically thereafter.

[31] A modern soakaway drain running along the west face of Wall #11. The drain was observed to discharge through a brick and cement lined opening through the wall. Dimensions: 0.48 m (depth) x 0.30 m (width).

South-west Group (*see Illus. 15*):

[32] Wall #14. Stretch of sandstone wall footing located approximately 3 m to the east of 2019 Tr1b. The wall is aligned NE-SW and intersects perpendicularly with Wall #15 [33]. Dimensions: 0.50 m (width) x 3.40 m (length). Interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*).

[33] Wall #15. Stretch of sandstone wall footing located approximately 1.50 m to the east of 2019 Tr1b. The wall is aligned NW-SE and intersects perpendicularly at its east end with Wall #14 [32], and at its western end with Wall #16 [34]. Dimensions: 0.50 m (width) x 2.85 m (length). Interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*).

[34] Wall #16. Stretch of sandstone wall footing located approximately 1.50 m to the east of 2019 Tr1b. The wall is aligned NE-SW and intersects perpendicularly at its north end with Wall #15 [33]. Dimensions: 0.50 m (width) x 2.30 m (length). Interpreted as part of a 19th century industrial structure visible on OS 1st Ed c.1862 (*see Illus. 08*).

[35] Sandstone flags and concrete plinth, interpreted as a possible remnant of flooring from an industrial structure of probable 19th century date, associated with Walls #15 and 16. Comprises of 3 sandstone flags, the central flag of which is socketed, perhaps to accommodate a gateway or similar, the flagged area measured approx. 0.18 m (depth) x 1.05 m (length) x 0.32 m (width); also, a concrete plinth associated

with and abutting the north face of the flags, measuring 1.30 m (length) x 0.35 m (width).

[36] Cobbled surface. Although largely truncated, a small area of well-ordered cobbling was observed immediately adjoining the north part of Wall #16 [34] NW face. The surface is exterior to the 19th century industrial structure associated with Walls #15 and 16, and is likely to represent the cobbled surface of an open-air corridor between industrial buildings in this area (*see 1st Ed OS c.1862 – Illus. 08*). Dimensions: 1.10 m (length NE-SW) x 0.50 m (width NW-SE).

5. DISCUSSION

The main features uncovered during mitigation works in 2020-21, all of which were along the western boundary of the site, were associated with a row of dwellings seen on early editions of the Ordnance Survey map series and thought to be of relatively recent, early 19th century or slightly earlier origin. While it is possible that these were built partly or wholly upon earlier dwellings or other structures, no conclusive evidence was this was uncovered. The only earlier structure uncovered was a late medieval kiln, the presence of which suggests that the area to the rear of Gilesgate had probably been an open back-plot in the later medieval period; this function perhaps extending into the early modern period. Other than a few fragments of abraded green-glazed pottery, no finds were made in the area of excavation to suggest that it was a significant focus of activity - whether domestic or agricultural - prior to the 18th century, with the great majority of finds suggesting activity in the later 19th and 20th centuries. It is possible that most remains of earlier activity were removed by significant landscaping works prior to or during major 20th century remodelling of the site.

With respect to the kiln found underlying 19th or early 20th century building remains in the central part of the site, at the northern end of a fairly flat terrace extending from GIlesgate, its likely function on the basis of palaeo-environmental evidence is as a corn-drying kiln or malting kiln, although heterogenous remains from the upper fills of the kiln bowl have a composition possibly reflecting use of the kiln for drying other crops and the presence of domestic waste from other sources, including a mixture of fuel waste and crops accidentally charred during drying. The presence of germinated grains suggests that the corn-dryer had, either principally or alternatively, functioned as a malting oven; a suggestion given further weight by the presence of a mix of grains often associated with brewing, a staple of medieval diets.

While its identification as a corn-drying and/or malting kiln is considered likely, a number of other domestic and industrial activities also required the generation of heat in an oven or kiln, but in this case most can be dismissed on the basis of the form of the structure and nature of deposits associated with it. Thus, for example, its form and size do not appear conducive to use as a bread-oven, smokery or forge, and the relative lack of pottery on the site (and complete absence of 'wasters') means that it was not a pottery kiln. This process of elimination leaves two options: that it was indeed used as a corn-drying/malting kiln, alternatively though rather less likely, that it was a lime kiln.

In favour of the first option is its size and form which are similar to others excavated, or visible as ruined structures, in northern England and Scotland. It bears close similarity to a number of the few to be fully excavated, including that at Davyshiel in Redesdale (ASUD 2005; Hale 2007), where the sub-circular kiln was built into the side of a low bank and comprised a sub-circular drying chimney with a short linear stoke hole/passage exiting the bowl on its south-west side. The internal base consisted of rough flagstones, and built into the lowest course of the internal face were two small niches of uncertain function. Low walls attached to the kiln seemed to form the sides of a walled enclosure. While interpreted as a corn drying kiln, no charred plant macrofossils were found within the structure, which may indicate that the bowl was thoroughly cleaned following its last use, but leaves open the possibility of an alternative function. A similar kiln of post-medieval origin was recorded by Charlton and Day at Loaning Burn near Elsdon in 1980-81. Here the kiln was built into a

slope, allowing the presumed hearth area to be at a lower level than the kiln floor, with hot air rising through a flue as in the current, small medieval example from Gilesgate.

These examples fall into the earlier of two distinct forms of medieval and post-medieval corn-drying kilns in northern England (Frodsham 2004), the earlier ones being these stone-lined bowls dug into an earthen bank, normally on the periphery of a small settlement or farm, while later kilns of the 18th and 19th centuries are free-standing, incorporated within a farm complex or corn mill.

The purpose of such corn-drying kilns was either to dry corn prior to threshing, or to dry and harden damp grain for storage or milling. Despite the known benefits of drying grain before milling, however, the use of 'corn-driers' in the medieval period has recently been questioned, particularly since they are not mentioned in late medieval documents (Moffett 2006, 52). Atkins and Webster (2012) suggest that some structures previously interpreted as medieval corn-driers may, in fact, have been malting ovens, which were often placed within back-plot buildings, such as at the combined bake- and brew-house in Brackley, Northamptonshire (Atkins *et al*. 1998/1999) and within other settlement areas such as manorial farms. At the manorial farm found at Lime Street within the medieval village of Irthlingborough, Northants, the thirteenth/fourteenth-century malt house produced large quantities of malt for internal consumption as well as probably for export (Chapman *et al*. 2003). Such malting kilns also formed part of post-medieval whisky distilleries, such as those 18th and early 19th century examples reported in upper Coquetdale by Phillipson (see below).

A malting kiln used in the production of whiskey at Rory's Still, Upper Coquetdale (unpublished photo. Taken in 1956 by Captn. Walton, used courtesy of BrightWater volunteer, Barbara McCabe)

Since the purpose of malting kilns is not to kill or dry the seed corn, but to induce sprouting, the temperatures attained are lower and more carefully controlled than in corn-driers, although neither should achieve very high temperatures, the purpose being to heat rather than burn. However, this subtle difference between the two functions makes it more likely that corn driers would have been detached from settlement to minimise the risk of spreading fire, while malting kilns were more likely to have formed part of built ensembles, often attached to, or part of breweries and bakeries. Historical records show that only limited numbers of medieval households had their own bread oven and brewhouse, often the manor house in rural areas, and the lord would charge for others to bake their bread or brew beer on his premises (Brown and Hardy 2011, 287).

A final option to consider is that the kiln uncovered at Gilesgate is neither a corn drier nor malting kiln, but a lime kiln of a type fairly commonly attested in the Roman, medieval and early post-medieval periods, but rarely excavated. In the medieval period such kilns, considerably less complex that later 18th and 19th century estate and industrial kilns producing lime for land improvement, supplied the copious quantities of lime mortar and

limewash required for the construction of castles, manor houses, monastic buildings and bridges and are well-attested in medieval and post-medieval documents. Accounts from Lindisfarne Priory over the medieval period indicate that the monks there burnt their own lime, as did the crown and private landowners when constructing defensible structures and residences. Some such kilns have been revealed by excavation, as at Beadnell Point in Northumberland where a late 15th or early 16th century lime kiln at, revealed by winter storms and excavated in 1995 (Williams and Williams 1996, 109-117), may have been used to provide lime for the refurbishment of the thirteenth-century Ebba's Chapel. In Newcastle, an extensive battery of 14th century limekilns, possibly providing lime for the completion of the medieval town walls, was excavated during redevelopments on the eastern edge of the town in 1991 (Ellison *et al* 1993, 151-234). The lime-burning industry there flourished during the fourteenth century when it was based on imported raw materials linked to the coal trade. At Caherduggan castle near Cork a smaller example of similar internal diameter to the Walworth kiln was revealed in 2011 (see below) and interpreted as probably associated with the Norman or later phases of medieval building at the castle.

A medieval lime-kiln excavated at Caherduggan Castle, Cork. [https://headlandarchaeology.wordpress.com/2011/10/28/the-big-dig-at-caherduggan-castle-/]

Recent research in the Yorkshire Dales National Park [http://www.outofoblivion.org.uk/lime.asp] has identified a number of such early kiln sites which are mostly built into slopes and are identifiable as low circular earthworks about 1 m deep and of about 2 m diameter, with a narrow neck or funnel leading into the central bowl. None of these kilns have been excavated in the Dales so understanding of them is based on work carried out elsewhere, including places where they are still used, such as the Western Balkans, where stone is stacked in such a way as to leave a space for burning in the temporary firing chamber underneath, allowing separation of the fuel and limestone, unlike in the later, 'continuous' kilns where layers of stone and coal are interleaved. Such a kiln, of 17th century origin, was excavated near Ingleton in 2003 and found to consist of a bowl c 1 m deep and 2 m in dimeter with a horizontal stoking hole on one side.

APPENDIX 1:

Photographic Record of Archaeological Mitigation at Hexham Swimming Pool Site, August 2020 – February 2021

Photo 01. Broad view looking NW across the NW portion of the site, during excavation.

Photo 02. Oblique aerial view, looking SW across the entirety of the site during excavation.

Photo 03. Vertical aerial view, looking NW across the NW portion of the site, showing archaeological features [01-17] revealed during excavations in January 2021.

Photo 04. View looking SW at retaining Wall #6 [09] (background), during excavations revealing Walls #1-3 [01, 03, 04] (foreground).

Photo 05. View looking SW at retaining Wall #6 [09] during ground clearance by mechanical excavator.

Photo 06. View looking SW at retaining Wall #6 [09] following excavation.

Photo 07. View looking SW at the east end of retaining Wall #6 [09], and former stair walls #4-5 [05-06, 07-08].

Photo 08. View looking WNW along remains of Wall # 10 [17], extending beyond the edge of excavation.

Photo 09. View looking NW at the eastern extent of cobbled pathway [12], with Wall #6 [09] visible to the right, and Wall #5 [07] visible to the left.

Photo 10. View looking NW at the substantial infilling of rubble, visible in section, between Walls #9 [15] and #10 [17].

Photo 11. View looking SW at Wall #14 [32], prior to excavation.

Photo 12. View looking SW along Wall #2 [03], with brickwork [03] visible to the left and retaining wall #6 [09] in the background.

Photo 13. View looking NW at detail of Wall #1 [01], with brickwork [02] visible at the bottom right of frame, and cobbling visible to the NW of the wall.

Photo 14. View looking NE along Walls #1-2 [01, 03] and brickwork [02] after being cleaned back.

Photo 15. View looking SW at Walls #2 [03] (truncated), #3 [04], #1 [01], and retaining wall #6 [09] (background).

Photo 16. As photo 15 but showing close-up detail of intersection between Walls #2 [03] - #3 [04].

Photo 17. View looking NE at Walls #1 [01] and #3 [04], with Wall #6 [09] visible in the foreground.

Photo 18. View looking north across the NW area of the site, and during excavation of Walls #8 [14] and #9 [15].

Photo 19. View looking NW at the central area of excavation prior to the discovery of Kiln [28]. Walls #11-13 are visible to the right of frame.

Photo 20. View looking SW at the intersection of Walls #11 [18], 12 [19] and 13 [20].

Photo 21. View looking NW during excavations to the SW of Wall #12 [19].

Photo 22. Broad vertical aerial view, looking NW, focussing on walls in the central and SW areas of the site.

Photo 23. View looking NW at Walls #11-13, prior to the discovery of the underlying Kiln [28].

Photo 24. Vertical aerial view looking NW showing detail of walls in the central and SW areas of the site, prior to the removal of Wall #11, which revealed Kiln [28].

Photo 25. View looking NE at intersection of Walls #11 [18], 12 [19] and 13 [20], with portions of the NE wall of the Kiln [28] visible below.

Photo 26. View looking north across the central area of the site, with a substantial portion of Wall #11 upstanding in the foreground and intersecting with Walls #12-13.

Photo 27. View looking NW at a substantial portion of Wall #11 upstanding in the foreground and intersecting with Walls #12-13 (right of frame) and NE Kiln wall [28] visible below.

Photo 28. Revealing the Kiln [28] by gradually removing the portion of Wall #11 that intersected with Walls # 12-13. View looking NW.

Photo 29. View looking SW whilst revealing the Kiln [28] by gradually removing the portion of Wall #11 (left of frame) that intersected with Walls # 12-13. A significant depth of backfilling material can be seen in section at this stage – rubble from the demolition of the structure associated with Wall #11, and silty soil over the Kiln.

Photo 30. View looking SE along Kiln Structure [28] during excavation, but still with significant overburden on its SW side.

Photo 31. Vertical aerial view looking NW, showing excavations in the central and SW areas of the site, following the removal of Wall #11 [18] to reveal Kiln [28].

Photo 32. Vertical aerial view looing NW, showing detail of Kiln [28].

Photo 33. View looking NW along Walls #12-13, with the SE face of Kiln wall [28] visible behind the ranging pole.

Photo 34. Central area of site, SE facing section of trench with masonry associated with structure belonging to Wall #11 [18] visible.

Photo 35. View looking NW along the fully exposed Kiln Structure [28], comprising of flue-walls and portions of surviving floor surface [30].

Photo 36. View looking NW along Kiln Structure [28].

Photo 37. Alternative view looking NW along Kiln Structure [28].

Photo 38. View looking north at SW facing internal elevation of Kiln Structure [28].

Photo 39. View looking SE along the fully exposed Kiln Structure [28], comprising of flue-walls and portions of surviving floor surface [30].

Photo 40. Detail of internal SE facing wall of Kiln Structure [28], with portions of kiln floor surface [30] visible.

Photo 41. View looking NW at sandstone plinth constructed against the south face of Wall #12 [19].

Photo 42. Vertical view, looking NE at sporadically surviving portions of floor surface [30] within the main furnace area of Kiln Structure [28]. Evidence of scorching in right portion of frame.

Photo 43. Vertical view, looking NE at surviving portion of floor surface [30] at the flue entrance to the Kiln Structure [28]. NB. A salt-glazed ceramic services pipe can be seen adjacent to the kiln (right of frame).

Photo 44. Vertical view, looking SSW at surviving portion of floor surface [30] at the flue entrance to the Kiln Structure [28]. NB. A salt-glazed ceramic services pipe can be seen adjacent to the kiln.

Photo 45. View looking NW at cross section of truncated terminus of Wall #5 [07] at intersection with Wall #6 [09]. Shot taken from the former stairs [08].

Photo 46. View looking west at remains of Wall #12 in the north terrace face bordering the former car park area prior to exposure of the kiln.

Photo 47. View looking SW at truncated remains of a sandstone wall, probably a SW extension of Wall #11 [18].

Photo 48. Broad view looking SW at truncated remains of a sandstone wall, probably a SW extension of Wall #11 [18].

Photo 49. View looking NW during excavations in the SW area of the site, exposing Walls #14-16 and associated features.

Photo 50. Pre-excavation shot showing remains of Walls #14-16, view looking NW.

Photo 51. View looking NE along remains of Walls #14-16, discovered in the SW area of the site.

Photo 52. View looking SW along remains of Walls #14-16, discovered in the SW area of the site.

Photo 53. View looking SE along remains of Walls #14-16, with cobbled surface [36] visible in the foreground.

Photo 54. View looking SE at detail of concrete plinth and socketed sandstone [35] discovered in the SW area of the site, adjacent to Walls #15-16 [33-34].

Photo 55. View looking SW at detail of socket feature in sandstone [35].

Photo 56. View looking SW at detail of cobbled surface [36] adjacent to Wall #34 in the SW area of the site.

Photo 57. NW facing section of Wall #14 [32], in the SW area of the site.

Photo 58. Broad view showing NE facing elevation (internal view) of blocked doorway with embossed lintel, with blocked oval window above, located towards the SW corner of the south wall of the former Swimming Pool building.

Photo 59. Close-up view of the blocked door, as Photo 58.

Photo 60. Detail of the lintel surmounting the blocked doorway. The lettering forms an embossed elegy in middle French, stating:
HONI SOIT.eVI MALYPENS
W.S.(?).S.ANO.DO(?)(?)NI 1638

Photo 61. View looking south at internal elevation of south wall of former Swimming Pool building, with the blocked doorway visible on its right side.

Photo 62. View looking NE at detail of blocked doorway on the north side (external side) of the south wall of the former Swimming Pool building.

Photo 63. As Photo 62, but looking east at slightly broader oblique view.

Photo 01.

Photo 02.

Photo 03.

Photo 04.

Photo 05.

Photo 06.

Photo 07.

Photo 08.

Photo 09.

Photo 10.

Photo 11.

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Photo 58.

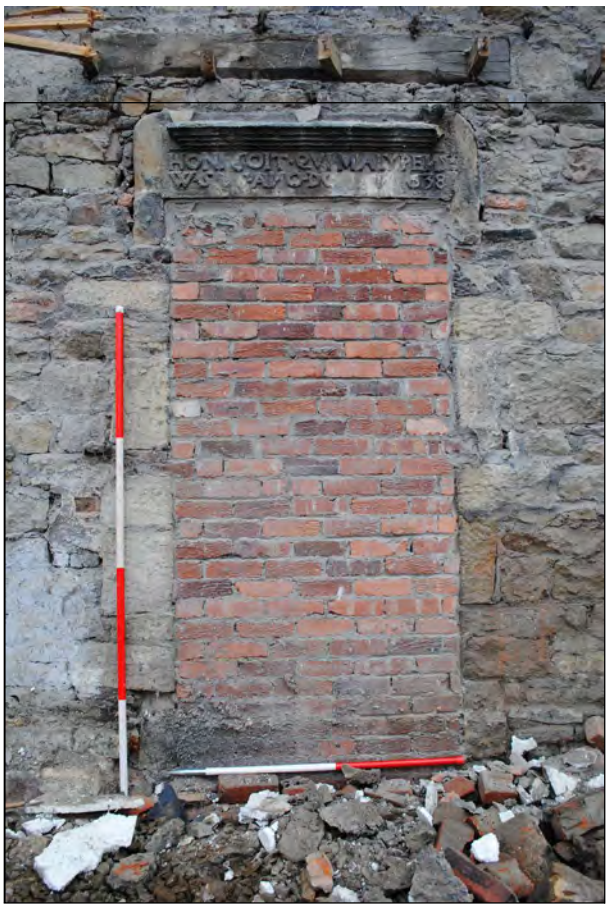

Photo 59.

Photo 60.

Photo 61.

Photo 62.

Photo 63.

APPENDIX 2:
The Hexham Swimming Pool, Hexham, Northumberland: palaeoenvironmental assessment. Archaeological Services Durham University, Report 5502, March 2021

Summary

The project

1.1 This report presents the results of palaeoenvironmental assessment of five bulk samples taken during archaeological works at Hexham Swimming Pool, Hexham, Northumberland.

1.2 The works were commissioned by The Archaeological Practice Ltd, and conducted by Archaeological Services Durham University.

Results

1.3 The evidence recovered is typical of a medieval corndryer, with all the samples containing large assemblages of charcoal and charred plant remains. Wood and coal were used as a fuel source, probably alongside some crop-processing debris. The presence of coal and clinker/cinder may indicate a later/post-medieval date for the structure. A range of crops are present including hulled barley, oats, bread-type wheat, rye, pea and flax; this latter crop is represented by abundant capsule fragments. The lower fills of the kiln bowl and flue provide compelling evidence for the cultivation of a maslin crop of hulled barley and oats known as 'dredge'.

Recommendations

1.4 Full analysis of the plant remains and charcoal is recommended for a selection of these samples to provide detailed information on crop husbandry practices and use of woodland resources. Since the samples have a broadly similar composition, analysis could focus on samples <2> and <4>. Analysis should be supplemented by AMS dating if the artefactual evidence cannot be closely dated.

1.5 The flots should be retained as part of the physical archive of the site. The residues were discarded following examination.

2. Project background

Location and background

2.1 Archaeological works were conducted by The Archaeological Practice Ltd at Hexham Swimming Pool, Hexham, Northumberland. This report presents the results of palaeoenvironmental assessment of five bulk samples from the bowl and flue of a medieval kiln, provisionally identified as a corndryer.

Objective

2.2 The objective of the scheme of works was to assess the palaeoenvironmental potential of the samples, establish the presence of suitable radiocarbon dating material, and provide the client with appropriate recommendations.

Dates

2.3 The samples were received by Archaeological Services on 25th February 2021. Assessment and report preparation was conducted between 2nd and 12th March 2021.

Personnel

2.4 Assessment and report preparation was conducted by Dr Ed Treasure. Sample processing was by Jonathan Goldberg-Booth.

Archive

2.5 The site code is **HSP21**, for **H**exham **S**wimming **P**ool 20**21**. The flots are currently held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University. Residue finds were collected on 8th March 2021. The charred plant remains will be retained at Archaeological Services Durham University.

3. Methods

3.1 The bulk samples were manually floated and sieved through a 500μm mesh. The residues were examined for shells, fruitstones, nutshells, charcoal, small bones, pottery, flint, glass and industrial residues, and were scanned using a magnet for ferrous fragments. The flots were examined at up to x60 magnification for charred and waterlogged botanical remains using a Leica MZ7.5 stereomicroscope. Identification of these was undertaken by comparison with modern reference material held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (2010). Habitat classifications follow Preston *et al.* (2002).

3.2 Selected charcoal fragments were identified, in order to provide material suitable for radiocarbon dating. The transverse, radial and tangential sections were examined at up to x500 magnification using a Leica DM2500 microscope. Identifications were assisted by the descriptions of Schweingruber (1990), Gale & Cutler (2000) and Hather (2000), and modern reference material held in the Palaeoenvironmental Laboratory at Archaeological Services Durham University.

3.3 The works were undertaken in accordance with the palaeoenvironmental research aims and objectives outlined in the regional archaeological research framework and resource agendas (Petts & Gerrard 2006; Hall & Huntley 2007; Huntley 2010).

4. Results

4.1 The results of the palaeoenvironmental assessment are presented in Appendix 1. Material is available for radiocarbon dating in all the samples and this is presented in Appendix 2.

4.2 All of the samples have a broadly similar composition, comprising large assemblages of charcoal and charred plant remains (cereal grains, weeds), alongside coal and clinker/cinder. Significantly higher concentrations of charred plant remains are present within sample <4> from the base of the kiln bowl and sample <5> from the flue, whilst charcoal and clinker/cinder are particularly abundant within samples <2> and <3> from the kiln bowl.

4.3 The charcoal is typically in an excellent state of preservation. Identification of selected fragments indicates a mix of species: oak, ash, elm, willow/poplar, birch, cherries, hazel, gorse-type. Small quantities of heather stems are present.

4.4 Identified crops include hulled barley, bread-type wheat, rye, oats, pea and flax. Hullled barley and oat grains are clearly dominant. Low numbers of oat florets and floret bases derive from common oat (*Avena sativa*), although other oat species are probably present including bristle oat (*Avena strigosa*) and the arable weed, wild oat (*Avena fatua*). Twisted hulled barley grains suggest the presence of the 6-row type, although further analysis would provide a clearer picture of the barley crop(s) in use. Some hulled barley and oat grains have well-developed cereal sprouts and others have a 'deflated' appearance, indicating that a portion of the crop has germinated. Flax is represented by capsule fragments and these are particularly abundant in sample <2>. Wild/weed taxa, probably all arable weeds, occur within all the samples and are abundant in samples <4> and <5>, dominating the samples. The most common weed species is fat-hen (*Chenopodium album*).

4.5 Finds in the sample residues include pottery, fired clay, trace quantities of metallurgical residues, hammerscale, mortar, various small finds and faunal remains, including trace quantities of fish bone.

5. Discussion

5.1 The evidence recovered is characteristic of a medieval corndryer, with sample <4> from the base of the kiln bowl and sample <5> from the flue containing particularly high concentrations of crop remains and weeds. Samples from the upper fills of the kiln bowl have a more heterogenous composition, possibly reflecting use of the kiln for drying other crops and the presence of domestic waste from other sources. The samples contain a mixture of fuel waste and crops accidentally charred during drying, opposed to 'pure' crop deposits of material from the drying surface. Wood and coal were used as a fuel source, probably alongside crop-processing residues. The presence of coal and clinker/cinder may indicate a later or post-medieval date for the kiln when coal became widely used as a fuel source.

5.2 The crops recorded are all staples of the medieval period in northern England (Hall & Huntley 2007). The predominance of hulled barley and oats, alongside abundant fat-hen seeds, in samples <4> and <5> provides compelling evidence for the cultivation of a spring-sown maslin crop known as 'dredge'. Dredge was widely cultivated in the medieval period and this mix was often used in brewing ale/beer which was a staple of medieval diets (Stone 2006). The presence of germinated grains suggests that the corndryer had functioned as a malting oven and the proportion of germinated grains could be examined through further analysis. Large numbers of flax capsules suggest that debris from processing the crop has been used as a fuel source, whilst the drying surface could have been used to dry retted stems. Some of the weeds present are potentially associated with a flax crop.

5.3 Corndryers are a common feature of the medieval period and are thought to have been used for a range of functions, including drying cereals prior to storage, processing and milling, as well as being used to produce malt for brewing (Monk & Kelleher 2005). Other crops could also have been dried within these structures, such as retted flax stems in this case.

6. Recommendations

6.1 Full analysis of the plant remains and charcoal is recommended for a selection of these samples to provide detailed information on crop husbandry practices and use of woodland resources. Since the samples have a broadly similar composition, analysis could focus on samples <2> and <4>. This should be supplemented by AMS dating if the artefactual evidence cannot be closely dated.

6.2 The flots should be retained as part of the physical archive of the site. The residues were discarded following examination.

7. Sources

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Table 1: Data from palaeoenvironmental assessment

Sample	Feature	Volume processed (l)	Flot volume (ml)	C14 available	Rank	Notes
1	Kiln bowl (spit)	12	400	Y	***	Charcoal common (oak, birch), rare heather twigs. Charred plant remains common, mainly oat grains and some hulled barley. Bread-type wheat grain, flax capsules. Coal and clinker/cinder occasional.
2	Kiln bowl (spit)	17	800	Y	****	Charcoal abundant (oak, birch, gorse-type, willow/poplar), rare heather twigs. Charred plant remains common, mainly oat and hulled barley grains. Trace of rye, pea. Abundant flax capsule fragments (>200, trace of flax seed). Hazel nutshell fragments. Few weeds (fat-hen). Potential for charcoal analysis. Clinker/cinder common (up to 40mm) and coal.
3	Kiln bowl (spit)	16	1200	Y	***	Charcoal abundant (oak, ash, elm, cherries, willow/poplar, hazel), rare heather twigs. Charred plant remains common to abundant, mainly oat and hulled barley grains, flax capsule fragments, hazel nutshell, weeds (field gromwell). Clinker/cinder and coal common.
4	Kiln bowl (spit)	11	600	Y	****	Charcoal common (oak, hazel), rare heather twigs. Charred plant remains very abundant: oat and hulled barley grains dominant (some germinated), trace of rye and flax capsule fragments. Cereal awns (cf. barley) and trace of twisted grass/cereal awns. Arable weeds very abundant: fat-hen (>500), corn marigold, black-bindweed, wild radish, cleavers, nipplewort, redshank, ribwort plantain, cabbage family, vetches, corn spurrey. Coal and clinker/cinder occasional.
5	Kiln flue	8	300	Y	***	Charcoal common (oak, willow/poplar, cherries, ash, hawthorn-type). Charred plant remains very abundant: oat and hulled barley grains, trace of rye, bread wheat, twisted grass/cereal awns. Arable weeds abundant: fat-hen (>200), corn marigold, wild radish, scentless mayweed, nipplewort, redshank, knotgrass, sedges, cabbage family, pea family, docks, vetches, corn spurrey. Coal and clinker/cinder rare.

[Rank: *: low; **: medium; ***: high; ****: very high potential to provide further palaeoenvironmental information]

Table 2: Material available for radiocarbon dating

Sample	Single Entity recommended 1st choice	Weight	Notes	Single Entity recommended 2nd choice	Weight	Notes
1	Charred hulled barley grain	10mg	Good condition	Charred oat grain	8mg	Good condition Charcoal also available for 3rd choice
2	Charred hulled barley grain (twisted)	8mg	Excellent condition	Charred oat grain	11mg	Good condition Charcoal also available for 3rd choice
3	Charred hulled barley grain (twisted)	13mg	Excellent condition	Charred hulled barley grain	16mg	Good condition, slightly distorted/puffed Charcoal also available for 3rd choice
4	Charred hulled barley grain (straight)	16mg	Excellent condition	Charred oat grain	9mg	Excellent condition Charcoal also available for 3rd choice
5	Charred oat grain	20mg	Excellent condition	Charred hulled barley grain (straight)	15mg	Excellent condition Charcoal also available for 3rd choice

APPENDIX 3:
The Former Swimming Pool Site, Hexham, Northumberland - Written Scheme of Investigation for Archaeological Mitigation Works, Prepared by The Archaeological Practice Ltd., 2020.

[NCC ref. /FUL]

1. INTRODUCTION AND BACKGROUND

This document, prepared by the Archaeological Practice Ltd. and commissioned by Ltd., provides a methodology for carrying out archaeological mitigation work to satisfy the terms of an anticipated planning condition on consent for the construction of a new residential development on the former Hexham Swimming pool site and on land to the north in Hexham, Northumberland.

The archaeological condition relates to the mitigation of impacts to the archaeological resource and states that:

> A programme of archaeological work is required in accordance with NCC Conservation Team (NCCCT) Standards for Archaeological Mitigation and the approved written scheme of investigation (The Archaeological Practice *date and reference*). The archaeological scheme shall comprise two stages of work. Each stage shall be completed and approved in writing by the Local Planning Authority before it can be discharged.
>
> a) The archaeological recording scheme required by NCCCT must be completed in accordance with the approved written scheme of investigation.
>
> b) The programme of analysis, reporting, publication and archiving if required by NCCCT Standards document must be completed in accordance with the approved written scheme of investigation.
>
> Reason
>
> The site is of archaeological interest.

Accordingly, this document (the 'Written Scheme of Investigation'), setting out a programme of archaeological mitigation works, has been submitted to satisfy the requirements of the Condition and specifies how archaeological features and deposits exposed by site stripping will be recorded.

2. SITE LOCATION

The site comprises a roughly rectangular plot of land (centred on grid reference NY 93459 64287; *Illus. 01*) between Gilesgate on the higher ground to the south and Haugh Lane down a steep terraced slope to the north, some 15m lower than Gilesgate. The former Hexham Swimming Pool building itself occupies the greater part of the upper, southern portion of the site fronting onto Gilesgate.

3. NATURE OF PROPOSED DEVELOPMENTS

The proposed development comprises a new residential development complex to replace the existing, former swimming pool structure, its car park to the west and on ground to the north currently occupied by a modern, single-storey brick-built office structure and various ruinous stone-built structures and walls. It is anticipated that preparatory works required in advance of development operations will include the stripping of topsoil from the upper and lower sites as well as the bank between the two.

4. ARCHAEOLOGICAL BACKGROUND AND PREVIOUS WORK

4.1 The current proposal for archaeological 'strip, map and sample' represents the fifth phase of archaeological work carried out on the site since 2013.

4.2 Following a desk-based assessment of the site by CgMs Ltd in 2013, a limited programme of archaeological evaluation was carried out by Headland Archaeology in the same year (see trench locations on *Illus. 02*). Three trenches were excavated. A trench in the car park on the Gilesgate frontage established that the area had been subject to terracing in the 20th Century and had been cleared down to the level of geological deposits. A post-medieval wall foundation and possible cellar to the north survived "below the level of geological deposits". A hand-excavated test pit to the rear of the swimming pool did not extend below deposits of loam containing modern artefacts. A trench adjacent to Haugh Lane encountered modern topsoil over a possible colluvial deposit and reached underlying geological deposits.

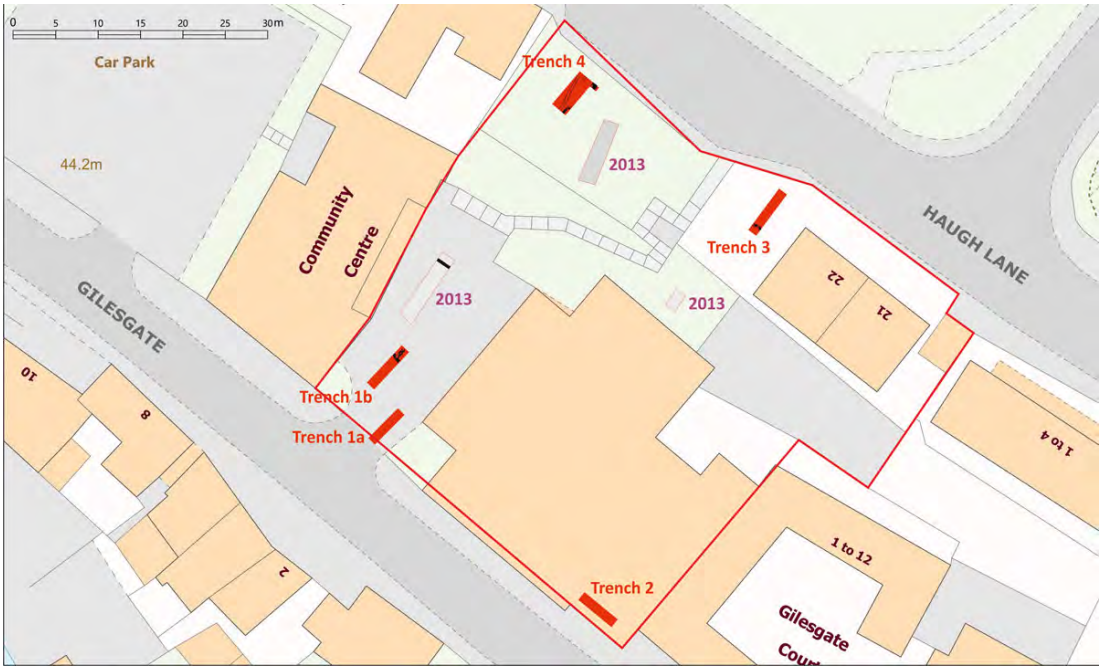
4.3 A further assessment of built structures in 2013 by Peter Ryder highlighted several walls on the site of potential archaeological significance, but remained unconvinced that the north wall of the former swimming pool was actually a surviving section of the medieval town wall– although did agree that this wall could be on the course of a putative town wall which may remain preserved beneath the current ground level. Many of the other extant walls on the site are shown to be of comparatively modern date.

4.4 Gilesgate itself, onto which the former swimming pool building fronts, is part of the medieval plan of the town and originally led down from the town centre to the hospital of St Giles and the first bridge across the river (Illus. 07, 08) The medieval plot boundaries are still in part visible on the modern street plan, and although the earliest surviving structures date to the 17th Century, earlier remains are likely to be preserved beneath many of these later constructions. Development along what is now Haugh Lane began at a much later date as space within the heart of the town were preferred for development, and earlier maps (e.g. First Edition Ordnance Survey, 1860, Illus. 11) show only piecemeal development of this lower site – possibly initially as structures within the back-plots of buildings fronting onto Gilesgate.

4.5 The Swimming Pool building was constructed as Bell's Wool Warehouse in 1885, on a site previously occupied by a house with a doorway dated '1638' In 1975 the building was remodelled as a swimming pool, leaving its 19th century frontage and part of the rear gable, rising from half-way down the hillside, of brick above a stone lower section, which was recently suggested as an extant section of a medieval town wall (Chapman 2008), as discussed in Ryder (2013).

4.6 In 2018 Northumberland County Council Conservation Team stipulated that a second phase of archaeological evaluation should be undertaken to determine the character and state of survival of any remains found to exist on the site and aid the determination of an appropriate mitigation strategy. In addition, photographic and descriptive recording was requested in relation to a series of predominantly east-west walls on the slope forming the north part of the site.

4.7 Evaluation by excavation was undertaken by means of four Trenches (*see Illus. 02*). Trench 1b, towards the crest of the hill between Gilesgate and the drop down to Haugh Lane, revealed the sandstone footings of two walls at a right angle to each other – possibly the remains of a 17th Century or earlier structure on the site. Trench 2 illustrated that surface deposits in the area of the swimming bath and former warehouse have been truncated down to natural levels. Towards the northern Haugh Lane frontage of the site, Trench 3 contained a single-skinned sandstone rubble wall on uncertain date, but likely representing a revetment wall. Trench 4 contained an early 20th Century cobbled surface which overlay a north-west – south-east aligned sandstone wall. This wall ran south beyond the excavated trench and joined the still extant sandstone wall now forming the north face of the lower terrace on the site (Wall H). Based on historic cartographic evidence, this wall may date from no later than 1826 and could be earlier. Beneath all of these remains within Trench 4 was a further faced sandstone wall, running on a more north north-west - south south-east alignment than the later structures. This undated feature is likely to be pre-19th Century in origin, but as yet remains undated. The only artefactual or ecofactual evidence recovered in relation to these features comprised later 19th or 20th century pottery from above the cobbled surface and glazed red-ware of probably 18th century origin potentially associated with the sandstone wall remains underlying it.



Illus. 01: The position of evaluation trenches 1-4 excavated in December 2018 and those formerly excavated in 2013 within the site boundary (red outline) between Gilesgate and Haugh Lane, Hexham.

4.8 Historic buildings recording was carried out alongside the evaluation excavations in the lower (northern) part of the site. Walls G and H appear to relate to structures appearing on historic maps which may be of mid-19th century or earlier date, and are associated with the now-buried remains of stone stairs formerly linking the upper and lower parts of the site.

4.9 The evaluation demonstrated that a number of archaeological features remain in-situ within the site boundaries, but can only be speculatively interpreted and dated. The northern portion of the site in particular seems to have escaped modern terracing and interference and may, therefore, contain significant archaeological features both above and below ground,

potentially including remains of the putative town wall. Although the Gilesgate site frontage appears to have been truncated by modern development, the truncated foundation levels of historic structures appear to survive there as well as in the area to the north, investigated in 2013.

Illus. 02-05: Views of the lower part of the site (clockwise from top left):

Remains of two buildings (front walls represented by Walls G & H) and remains of N-S stairway running alongside to the east; view of the terraced remains of the same structures; view from the south showing embankment up to the upper part of the site; view from SW showing embankment against the E-W car park wall where it abuts the west wall of the former swimming pool building.

4.10 Given the likely presence of archaeological remains across the site, but bearing in mind the likely phased approach to development and the inherent difficulties in clearing and stripping the north-facing slope below the present car park, it was recommended that archaeological 'strip, map and sample' should be undertaken preceding, or at the start of the development phase to mitigate the impact of works upon any surviving archaeological remains.

5. SCHEME OF MITIGATION WORKS

5.1 Archaeological mitigation work will take the form of a programme of 'Strip, Map and Record'. This approach involves stripping overburden from the site using large toothless excavator buckets operating under the direction of the appointed archaeological contractor, within the constraints of the developer's site safety regime.

5.2 A staged approach will be taken to this process involving work on discrete targets or areas of the site, although the order in which these are approached may change according to practical and safety considerations. The following provides a base-line approach which may be open to some modification by agreement with Northumberland Conservation:

Phase 1: Demolition to take place of all upstanding brick-work structures on the site, including the upper walls of the current swimming pool building and the bungalow below it to the north. These structural remains can be demolished without archaeological monitoring due to their date, and the demolition will be completed before commencement of any groundworks on the site which, in turn, will precede the main works programme.

Phase 2: As part of the 'strip, map and sample' exercise, monitor any surface stripping works in the current car park area carried out as ground preparation for the siting of a temporary piling rig in this area. (**N.B.** Subsequent piling across the car park and swimming pool areas to create a new terrace line within the site, effectively moving the current site dividing wall and bank to the south, will not need to be monitored archaeologically).

Phase 3: Carry out sensitive removal of overburden in the area of the remains of historic steps running north-south against the east side of the house platforms represented by Walls 'G' & 'H', allowing the steps and the east face of those buildings to be recorded.

Phase 4: Create a section through house platforms represented by Walls 'G' & 'H' using a heavy mechanical excavator with long reach to cut through the centre of the structures, removing the eastern half and allowing a section of walls, floors and fills to be visible. A joint decision will be made with the developer at that point on safety grounds whether the remains are approachable in order to clean and record them; should that not be possible a photographic record will be made from a safe distance. The remainder of the buildings will then be removed in spits or stages, to be determined by the nature of structures and deposits found within them.

Phase 5: Any remaining ivy, or other vegetation growing against wall 'A' will be removed prior to excavating the embanked made ground against its lower walls using a mechanical excavator with long reach, in order to expose as much as possible of this multi-phased wall before its demolition. The exposed wall will then be photographed from a safe distance before its removal.

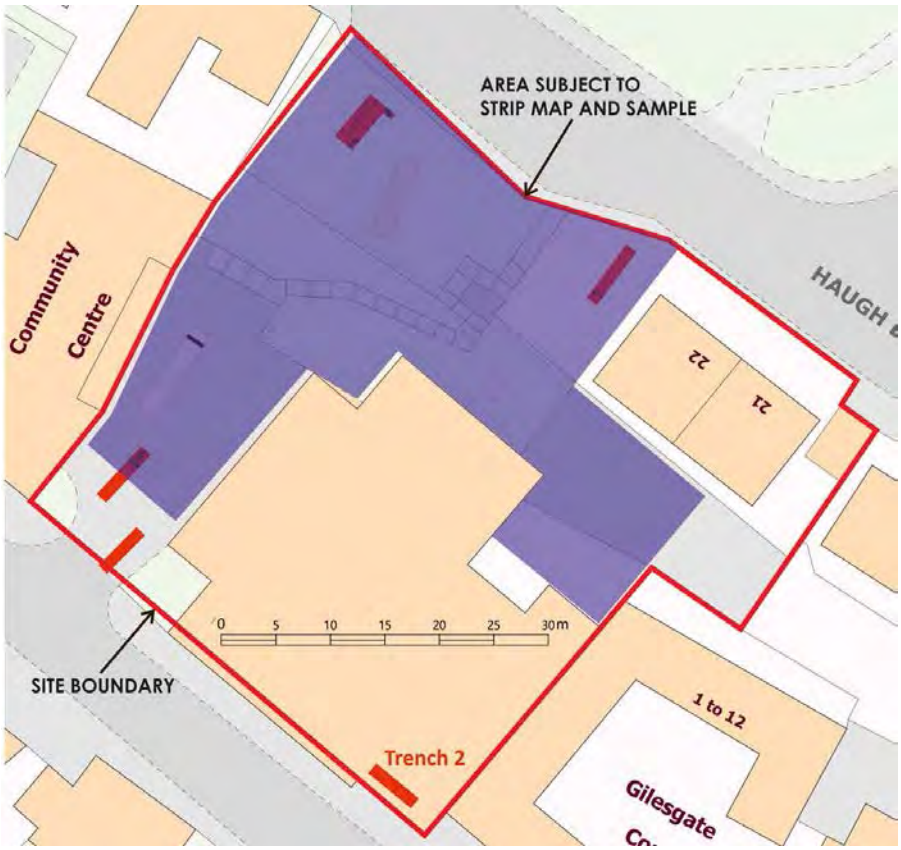
Phase 6: The remaining banks below the new terrace line, marked by piling, will be removed gradually by machine under archaeological supervision. Any surviving traces of older walls below those currently visible (e.g. potentially below Wall 'B'), or additional structures currently unknown, will be exposed as carefully as possible by machine (and by hand if safe to approach) and recorded photographically from a safe distance (and by drawn plan and section if safe to approach). Particular attention will be paid to the possible remains of the putative town wall which, if present within the site, will run on an east-west alignment though the upper part or crest of the escarpment and must be appropriately recorded prior to removal.

Phase 7: Having removed the banks between the current flat ground adjacent to Haugh Lane and the upper tier occupied by swimming pool and car park, the lower site between the new piled edifice and roadside will be stripped of overburden under close archaeological monitoring and any significant features mapped. A selection of any such features, which may be revealed at different levels down to the final construction levels, will then be selected for sample excavation in a way that minimizes disturbance to the development programme.

Phase 8: The upper car park area, currently forming the west part of the upper tier of the site, will be subject to 'strip map and sample' in the same way as the lower site, with sample excavation carried out to investigate and record of any mapped features which may be revealed at and above final construction levels required for development.

5.3 Location of Strip and Record

The extent of the area to be subject to 'Strip, Map and Sample' archaeological mitigation is identified by the area covered by the blue transparency on *Illus. 06*.



Illus. 06: The area to be covered by strip, map and sample mitigation exercise as part of the development phase (blue transparency) within the site boundary (red outline).

This area includes the bulk of the site outwith the area of the modern swimming pool, excavations for which will have removed any pre-existing archaeological remains from its footprint. An area on the north-east side of the swimming pool is also excluded because observations of local topography and revetment walls in that area suggest that archaeological remains, if ever present, are unlikely to survive. The footprint of the bungalow (Nos. 21 & 22, Haugh Lane) and the envelope in which it sits are also excluded because groundworks associated with this property are likely to have removed any pre-existing remains. The south part of the car park is also excluded because evaluation there showed it to be devoid of archaeological features.

5.4 Aims of Strip and Record

The aim of the 'strip, map and sample' exercise is to record in plan all and any significant or potentially significant archaeological features present on the site and to undertake sufficient intrusive sample excavation to enable the date, character, form, stratigraphic relationships and

state of survival of archaeological features to be understood. This process will typically involve significantly less intrusive excavation than would be required under full excavation conditions but potentially more than would be required for a watching brief.

The work will be carried out with reference the North-East Regional Research Framework (NERRF) and will aim to comply with the relevant research priorities for the medieval and post-medieval periods.

6. METHOD OF INVESTIGATION

6.1 General

6.1.1 The mitigation works will be carried out by means of Archaeological 'Strip, Map and Sample'. 'Strip, Map and Sample' allows targeted archaeological excavation of a representative sample of identified archaeological features, allowing their 'preservation by record in the face of development threat. It involves machine stripping of defined areas using a back-acting digger, and plotting observed features onto a site plan. Once the site plan is complete, interventions (sample excavations) will be targeted in the most effective and efficient locations to allow the recording and interpretation of identified archaeological features.

6.1.2 Any archaeological remains within the development area will be exposed and recorded appropriately.

6.1.3 Upon completion of the pre-excavation plan a meeting will be held between the site applicant's archaeological contractor and the Assistant County Archaeologist to agree an appropriate targeted excavation strategy, consistent with the objectives of the National Planning Policy Framework.

6.1.4 All work will be carried out in compliance with the codes of practice of the Institute of Archaeologists (IfA) and will follow the IfA Standard and Guidance for Archaeological Excavations.

6.1.5 All archaeological staff will be suitably qualified and experienced for their project roles. Before commencement of work they will have been made aware of what work is required under the specification and they will understand the aims and methodologies of the project.

6.2 Soil-stripping

6.2.1 Topsoil and unstratified modern material may be removed mechanically by a machine using a wide toothless ditching bucket (unless ground conditions require temporary use of toothed buckets, by agreement with the supervising archaeologist), under continuous archaeological supervision.

6.2.2 The topsoil or recent overburden should be removed down to the first significant archaeological horizon in successive level spits.

6.2.3 The full nature and extent of archaeological features and deposits should be exposed, in stages if necessitated by the presence of archaeological remains.

6.2.5 Once an area has been stripped, machines will not track over the area until archaeological works have been completed and the area released to the site operator.

6.2.6 Excavation, recording and sampling procedures will be undertaken using the strategies indicated below. All mechanical excavation will be supervised by, and all manual excavation carried out by archaeologically competent staff.

6.2.7 All areas of the development where topsoil is stripped will be subject to archaeological mitigation works

6.3 Recording and excavation

6.3.1 All features exposed should be fully mapped and a full site plan prepared before decisions are made regarding the appropriate level of excavation. The aim of the strip and record exercise is to record all and any archaeological features present on the site, which may occur at different levels, and to undertake sufficient intrusive excavation to enable the date, character, form and stratigraphic relationships to be understood. This process will typically involve significantly less intrusive excavation than would be required under full excavation conditions but potentially more than would be required for a watching brief exercise. This process will typically require, as a maximum, the following level of sampling:

- Up to 100% of every discrete feature and features of particular interest
- 10% of the area of linear/curvilinear features with a non-uniform fill
- 5% of the area of linear/curvilinear features with a uniform fill
- All archaeological features and deposits must be excavated by hand

6.3.2 Additional targeted excavation may also be required in certain locations in the event that stratigraphic relationships or artefactual dating evidence cannot be recovered from archaeological features via the initial sampling process. A contingency allowance of **60 days** should be made for any additional work required under these circumstances. This is outlined in Section 3 of this document.

i) This observation shall involve the systematic examination and accurate recording of all archaeological features, horizons and artefacts identified.

ii) In the event of human burials being discovered, they should be left *in situ*, covered and protected and the coroners' office informed. If removal is essential, work must comply with relevant Home Office regulations.

iii) Appropriate procedures under the relevant legislation must be followed in the event of the discovery of artefacts covered by the provisions of the Treasure Act 1996.

iv) During and after the excavation, all recovered artefacts and environmental samples must be stored in the appropriate materials and storage conditions to ensure minimal deterioration and loss of information (this should include controlled storage, correct packaging, regular monitoring of conditions, immediate selection for conservation of vulnerable material)

v) The area watched by the archaeologist should be accurately tied into the National Grid and located on a 1:2500 or 1:1250 map of the area.

vi) A full and proper record (written, graphic and photographic as appropriate) should be made for all work, using pro-forma record sheets and text descriptions appropriate to the work. Accurate scale plans and section drawings should be drawn at 1:50, 1:20 and 1:10 scales as appropriate.

vii) All archaeological deposits and features must be recorded with an above Ordnance Datum (aOD).

viii) A photographic record of all contexts should be taken in colour transparency and black and white print and should include a clearly visible, graduated metric scale. A register of all photographs should be kept.

ix) Where stratified deposits are encountered, a 'Harris' matrix should be compiled.

6.3.3 Archaeological stratigraphy revealed by excavation will be recorded by the following means:

6.3.4 Written descriptions. Each archaeological context will be recorded on a pro-forma sheet. Minimum recorded details will consist of the following: a unique identifier; an objective description which includes measurements of extent and details of colour and composition; an interpretative estimate of function, clearly identified as such; at least one absolute height value; the identifiers of related contexts and a description of the relationship with such contexts (for preference, executed as a mini Harris matrix); references to other recording media in which representations of the context are held (plans, sections, photographs).

6.3.5 Measured illustrations. Detail plans and sectional profiles of archaeological features will be at appropriate scales (1:20 or 1:10). Archaeological contexts will be referenced by their unique identifiers. All illustrations will be properly identified, scaled and referenced to the site survey control. aOD levels will be added to the drawings.

6.3.6 Photographs. Digital photographs will be taken for purposes of record. Any features of archaeological note will also be recorded on colour film stock. A system will be used for identifying the archaeological features photographed.

6.3.7 An appropriate control network for the survey of any archaeological remains revealed in excavation will be established.

6.3.8 The survey control network will be related to the OS grid.

6.3.9 The survey control network and the position of recorded structures, features and finds will be located on a map of an appropriate scale (1:2500 or 1:500)

6.3.10 At least one absolute height value related to OD will be recorded for each archaeological context.

6.3.11 All processing, storage and conservation of finds will be carried out in compliance with the relevant IFA and UKIC (United Kingdom Institute of Conservation) guidelines.

6.3.12 Portable remains will be removed by hand; all artefacts encountered will be recovered.

6.4 Environmental Sampling and Scientific Dating

6.4.1 The investigations will be undertaken in a manner consistent with “The Management of Archaeological Projects”, English Heritage 1991 and with “Archaeological Science at PPG16 Interventions: Best Practice for Curators and Commissioning Archaeologists”, English Heritage, 2003. The following strategy for environmental sampling will be confirmed with Don O’Meara, Historic England Regional Advisor for Archaeological Science (0191 2691250) before the excavation begins.

6.4.2 Deposits/fills with potential for environmental evidence will be assessed by taking up to two bulk samples of 30 litres from any context selected for analysis by the excavator from suitable (i.e. uncontaminated) deposits. Deposits/fills totalling less than 30 litres in volume will be sampled in their entirety. Samples which are judged to be most suitable on grounds of being derived from uncontaminated and reasonably well-dated deposits and/or recognisable features will be selected for full analysis, reporting and publication. In the event of a large number of deposits potentially being available for sampling, the advice of the English Heritage Regional Science Advisor will be sought.

6.4.3 Deposits will be sampled for remains of pollen, food residues, microfossils, small boned ecofacts (e.g. fish & insects/micro-fauna), industrial residues (e.g. micro-slags - hammer-scale and spherical droplets), cloth and timber. Flotation samples and samples taken for coarse-mesh sieving from dry deposits will be processed at the time of fieldwork wherever possible.

6.4.4 Any significant ecofactual assemblages will be assessed by a recognised specialist.

6.4.5 Deposits will be assessed for their potential for radiocarbon, archaeo-magnetic and Optically Stimulated Luminescence dating. As well as providing information on construction techniques, timbers will be assessed for their potential for dendrochronology dating, in which case sampling will follow procedures in *Dendrochronology: guidelines on producing and interpreting dendrochronological dates* (Hillam 1998) and *Guidelines on the recording, sampling, conservation and curation of waterlogged wood* (R. Brunning 1996). A maximum of 5 samples of material suitable for dating by scientific means (e.g.: Radiocarbon, Luminescence, Remnant Magnetism, etc.) will be collected.

6.4.6 In the event that hearths, kilns or ovens (of whatever period, date or function) are identified during the watching brief, provision will be made to collect at least one archaeo-magnetic date to be calculated from each individual hearth surface (or in the case of domestic dwellings sites a minimum of one per building identified). Where applicable, samples will be collected from the site and processed by a suitably trained specialist for dating purposes. In the event that such deposits or structures are identified, Northumberland Conservation will be contacted to discuss the appropriate response.

6.4.7 Information on the nature and history of the site, aims and objectives of the project, summary of archaeological results, context types and stratigraphic relationships, phase and dating information, sampling and processing methods, sample locations, preservation conditions, residuality/contamination, etc. will be provided with each sample submitted for analysis.

6.4.8 Environmental samples will be fully processed unless sub-sampling is agreed with the NCC Assistant County Archaeologist and Historic England's Regional Science Advisor, Don O'Meara.

6.4.9 Human remains will be treated with care, dignity and respect, in full compliance with the relevant legislation (essentially the Burial Act 1857) and local environmental health concerns. If found, human remains will be left in-situ, covered and protected, and the police, coroner and County Archaeologist informed. If it is agreed that removal of the remains is essential, the Archaeological Practice Ltd, will apply for a licence from the Home Office. Analysis of the osteological material will take place according to published guidelines, *Human Remains from Archaeological Sites, Guidelines for producing assessment documents and analytical reports (*English Heritage 2002).

6.4.10 If anything is found which could be Treasure, under the Treasure Act 1996, it is a legal requirement to report it to the local coroner within 14 days of discovery. The Archaeological Practice Ltd. will comply with the procedures set out in The Treasure Act 1996. Any treasure will be reported to the coroner and to The Portable Antiquities Scheme Finds Liaison Officer, Rob Collins (0191 2225076 or Robert.Collins@newcastle.ac.uk) for guidance on the Treasure Act procedures. Treasure is defined as the following:

- Any metallic object, other than a coin, provided that at least 10% by weight of metal is precious metal and that is at least 300 years old when found
- Any group of two or more metallic objects of any composition of prehistoric date that come from the same find
- All coins from the same find provided that they are at least 300 years old when found, but if the coins contain less than 10% gold or silver there must be at least ten
- Any object, whatever it is made of, that is found in the same place as, or had previously been together with, another object that is Treasure
- Any object that would previously have been treasure trove, but does not fall within the specific categories given above. Only objects that are less than 300 years old, that are made substantially of gold or silver, that have been deliberately hidden with the intention of recovery and whose owners or heirs are unknown will come into this category

6.5 Analysis and Reporting of Recovered Data

6.5.1 Following the completion of the Field Investigation and before any of the archaeological post-excavation work is commenced, an archive (the Site Archive) containing all the data gathered during fieldwork will be prepared. This material will be quantified, ordered, indexed and rendered internally consistent. It will be prepared according to the guidelines given in English Heritage's MAP 2 document, Appendix 3 (English Heritage 1991).

6.5.2 Following completion of the Field Investigation, a report will be prepared collating and synthesizing the structural, artefactual and environmental data relating to each agreed component part of the evaluation and recording process.

6.6 Production of Final Report

6.6.1 Copies of the report will be provided within two months of the completion of fieldwork to the developer and the NCC archaeologist.

6.6.2 The reporting requirements will be in line with the reporting requirements outlined in section 4.13 in the NCC Conservation Team Standards for Archaeological Mitigation work. Three copies of the report will be provided. Each will be bound, with each page and heading numbered. Any further copies required will be produced electronically. The report will include as a minimum the following:

Oasis and planning reference numbers.
A summary statement of methodologies used.
An Ordnance Survey based location plan, along with plans and sections at a recognisable planning scale with aOD levels showing any archaeological discoveries of note.
A summary statement of results.

Conclusions with period-based discussion
A table summarising the deposits, features, classes and numbers of artefacts encountered and spot dating of significant finds.

6.6.5 Following completion of the analysis and publication phase of the work, an archive (the Research Archive) containing all the data derived from the work done during the analysis phase will be prepared. The archive will be prepared to the standard specified by English Heritage (English Heritage 1991) and in accordance with the United Kingdom Institute of Conservation guidelines.

6.6.6 Arrangements will be made to deposit the physical Site Archive (including Finds) with the Great North Museum, while the digital archive will be stored at ADS in York.

6.7 Dissemination and Publication of Results of Archaeological Works

6.7.1 An entry for inclusion in the Northumberland County Sites and Monuments Record will be prepared and submitted.

6.7.2 Summary reports of the project will be prepared, if necessary, for inclusion in the appropriate Notices, Annual Reviews, Reports, etc.

6.7.3 In particular a summary of the results of the investigation will be prepared for *Archaeology in Northumberland* and submitted to the Northumberland HER Officer, by December of the year in which the work is completed.

6.7.4 A short report on the work will be submitted to a local academic journal if appropriate.

6.7.5 OASIS: The Archaeological Contractor will complete the online form for the Online Access to Index of Archaeological Investigations Project (OASIS), following consultation with the Northumberland HER Officer. The Contractor agrees to the procedure whereby the information on the form will be placed in the public domain on the OASIS website, following submission of the final report (see 3.6) into the Northumberland County HER.

7. EXECUTION OF THE SCHEME OF INVESTIGATION

7.1 The Developer has appointed The Archaeological Practice Ltd. as a professionally competent Archaeological Contractor, on agreed terms, to execute the scheme as set out in the brief supplied by the NCC Archaeologist.

7.2 The present project design must be submitted for approval and, if necessary, modification by the NCC Conservation Team before work on-site can proceed.

7.3 The Developer will allow the NCC Conservation Team and the appointed contractor all reasonable access to the site for the purposes of monitoring the archaeological scheme, subject only to safety requirements.

7.4 The archaeological contractor appointed to manage the execution of the scheme shall ensure that:

7.4.1 The appropriate parties are informed of the objectives, timetable and progress of the archaeological work

7.4.2 The progress of the work is adequately and effectively monitored and the results of this are communicated to the appropriate parties.

7.4.3 Significant problems in the execution of the scheme are communicated at the earliest opportunity to the appropriate parties in order to effect a resolution.

7.5 The archaeological contractor will carry, and will ensure that other archaeological contractors involved in the scheme carry appropriate levels of insurance cover in respect of Employers Liability, Public and Third Party Liability & Professional Indemnity.

7.6 The archaeological contractor will liaise with the appointed CDM Planning Supervisor and prepare or arrange for the preparation of a Safety Plan for the archaeological work.

7.7 At or before the commencement of the scheme the Developer, the appointed Archaeological Contractors, the County Archaeological Officer and other appropriate parties will agree arbitration procedures to be followed in the event of any unresolvable difficulties or disputes arising from the scheme

7.8 Careful assessment has led to the definition of a number of research objectives which identify with a high degree of likelihood the kind of archaeological deposits which the investigation will encounter. Nevertheless, it is possible that discoveries will be made which could not reasonably have been foreseen on the basis of all the information currently available. Any difficulties arising from unforeseen discoveries will be resolved by discussion between all parties involved.

7.9 The Archaeological Contractor(s) appointed to execute the scheme will procure and comply with all statutory consents and licences under the Disused Burial Grounds (Amendment) Act 1981 regarding the exhumation and interment of any human remains discovered within the site, and will comply with all reasonable requirements of any church or other religious body or civil body regarding the manner and method of removal, re-interment or cremation of the human remains, and the removal and disposal of any tombstones or other memorials discovered within the site. The Developer will incur all costs resulting from such compliance.

8. TIMETABLE AND STAFFING

8.1 Stage 1

The initial stage of mitigation work (stripping and mapping) will be undertaken under the direction and control of the appointed archaeologist. Progress made will depend on the scale and numbers of plant provided and the speed at which they work the site. The time taken for a survey team to record exposed features in plan (the 'map' phase) will depend on the quantity and complexity of features identified.

All topsoil stripping and demolition works are to be undertaken under the supervision and direction of the appointed archaeologist. In the event that the site is worked beyond normal working hours, the site archaeologist must be present at all times. No topsoil stripping should be undertaken in the absence of the site archaeologist. All work must be carried out with a toothless bucket unless agreed in advance with the NCC Assistant Archaeologist for specific reasons.

8.2 Stage 2

Following the initial stage of stripping and recording, further fieldwork time may be required to sample excavate some of the features revealed. Any additional work, to be paid for out of contingency funds, will be carried out only following consultation with the assistant county archaeologist and the developer, and will be completed within an agreed person/day contingency period. The contingency will only be required where a higher density of complex remains is revealed than is anticipated during the evaluation stage.

8.3 Reporting and analysis

Following the completion of on-site work, further time will be required to produce an appropriately illustrated report on the work.

The potential requirement for specialist analyses is an unavoidable risk in all such excavations. The scientific investigation of any features/deposits which are considered significant will be undertaken as a non-negotiable part of this programme. Any such analyses would be carried out by specialists and priced to the client on a costs only basis.

8.4 Personnel:

Archaeological Practice	***Sub-Contractors***
PM: Project Manager (Richard Carlton)	*Environmental analysis:* ASUD
PO: Project Officer (Marc Johnstone)	*Finds analysis:* RY: Rob Young LAJ: Lindsay Allason-Jones
Archaeologists: *Mike Parsons* *Terry Frain* *Mick Coates* *Adam Leigh*	JV: Jenny Vaughan

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