NAA

ARCHAEOLOGICAL EVALUATION

DRAFT REPORT

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ST MARY'S ISLAND,

WHITLEY BAY,

NORTH TYNESIDE

prepared for

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Summary

Northern Archaeological Associates was commissioned by North Tyneside Council to carry out the archaeological aspects of ground investigation works at St Mary's Island, Whitley Bay (NZ 3525 7541). The work was designed to inform planning proposals for small-scale development at the site, which consists of a 19th-century lighthouse and other buildings that are open to the public. The proposed development constitutes part of a Round 2 Heritage Lottery Fund bid for a project that aims to conserve the structure of the lighthouse complex, to improve existing facilities on the island, and to enhance the visitor experience.

Four trenches were excavated around the lighthouse to evaluate the condition of existing structural foundations, to identify the location of buried structures and services, and to assess the nature of deposits onto which the buildings were constructed.

The evaluation trenches were targeted to explore areas where foundations for proposed building extensions might impact upon potential archaeological remains. Human remains were discovered during construction of the lighthouse and adjacent Fishermen's Cottages in the 19th century, and periodically thereafter during small-scale construction works on the island up to the 1990s. The presence of human burials is thought to relate to a medieval chapel on the island, although the evidence for this is documentary only, as no previous archaeological work has been carried out on St Mary's Island. Establishing the presence and location of in situ human remains and potential structural remnants relating to this early phase of activity was therefore a key aim of the archaeological work

All four trenches revealed deposits relating to the consolidation of the island's ground surface in the 19th century, prior to and for the construction of the lighthouse and associated outbuildings. Buried storage tanks and disused drains were also revealed, and in three trenches the wall foundations of the lighthouse keepers' cottages and the building linking these to the lighthouse were exposed and recorded. In one trench, human remains were exposed, but only the cranium of a single individual was revealed. The remains were protected and reburied for examination at a later date.

1.0 INTRODUCTION

1.1 This document details the results of an archaeological evaluation carried out to inform ground investigation works and identify potential archaeological remains on St Mary's Island, Whitley Bay (NZ 35234 75401) in advance of proposed developments to enhance visitor facilities on the island.

1.2 The evaluation was carried out from 10–18 July 2017 by Northern Archaeological Associates on behalf of North Tyneside Council and comprised four trenches located around the Grade II listed lighthouse and visitor centre. The evaluation was commissioned to inform planning considerations and to provide data for a Round 2 Heritage Lottery Fund (HLF) bid to conserve the 19th-century lighthouse and associated buildings, to improve the existing facilities, and to enhance visitor experience. The work aimed to identify the depth and nature of archaeological deposits and to assess the structures of the listed buildings in order to inform below ground design for the proposed development.

2.0 LOCATION, TOPOGRAPHY AND GEOLOGY

Location

2.1 St Mary's Island is a rocky outcrop located c. 3.5km north of Whitley Bay and 20km north-east of Newcastle city centre. The island covers an area of c. 0.26ha and is cut off from the mainland at high tide. It is contained on three sides by a stone revetment wall that was constructed when the lighthouse complex was built between 1896 and 1898 (Plate 1).

2.2 The island is reached from the mainland via a concrete causeway, constructed in the 1960s. This is covered by water at high tide, leaving the island separated from the shore by a short strait. At such times, access to the lighthouse is by boat only, and there is a mooring on the north-west side of the island, reached by a flight of shallow steps.

2.3 St Mary's Island lies on the southern boundary of the South East Northumberland Coastal Plain (National Character Area 13) described as 'a flat, low-lying strip along the coast of the North Sea, extending from north Tyneside in the south to Amble and the Coquet Estuary in the north' (Natural England NCA 13). The coastline is characterised by rocky headlands and wide sandy beaches supporting a wide diversity of marine- and land-based habitat.

Plate 1: Aerial view of St Mary's Island, looking north-east

2.4 Due to its rich biodiversity and geological interest, the island and its immediate coastline were designated a Conservation Area in 1974. It contains two distinct Sites of Specific Scientific Interest (SSSI), is recognised as a wetland of international importance under the RAMSAR convention, and as a Special Protection Area (SPA) under the European Community Directive on the Conservation of Wild Birds. The coastal area is also a Site of Nature Conservation Importance (SNCI). St Mary's Island was designated as a Local Nature Reserve in 1992.

Geology and soils

2.5 The solid geology of the island and coastal plain consists of Pennine Lower Coal Measures rocks, a sequence of mudstones, sandstones and coal seams, heavily mantled by glacial boulder clay and till (BGS 2017). The island is formed of cross-bedded sandstones, known as the St Mary's Sandstones. Boreholes located on the mainland have shown this to be 6m thick, forming part of an elongate sandstone body, 2–4km wide, which extends north-west from the island (Cleal and Thomas 2013, 253). No borehole data relating to the island has been identified by previous NAA desk-based studies (NAA 2017).

Topography and land use

2.6 The evaluation trenches were situated within the revetment wall to the east of the island and within the boundary wall separating the lighthouse and visitor centre from the fishermen's cottages to the west. The site is reached from the causeway via steps to the lighthouse plateau, a narrow gateway providing access to the lighthouse and associated buildings. The majority of the lighthouse courtyard is surfaced with concrete, with only the north-east quadrant comprising grass, topsoil and gravel.

3.0 SUMMARY ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

3.1 The archaeological and historical background to the site has been discussed at length in a desk-based assessment preceding the current work (NAA 2017), and only a summary of information relevant to the evaluation trenching is provided here.

3.2 No archaeological work has previously been carried out on St Mary's Island and first-hand evidence of historical activity is therefore limited. The only insight into possible early activity comes from the presence of human remains, recovered on the island in intermittent construction works. The remains are thought to relate to a chapel dedicated to St Helen, established in the medieval period (sometime after 1090) by the monks of Tynemouth Priory (North Tyneside Council 2010).

3.3 Apparent details of the chapel were documented by Craster (1909):

"The chapel was dedicated to St Helen; its erroneous ascription to St Mary being perhaps due to traditions of the Lady-light, also called St Katherine's light, which was burnt within it. The light had an endowment of five shillings rent, and was perhaps burnt continuously, though whether for devotional or humanitarian reasons is doubtful. A lighthouse, built upon the rock in 1898 by the Trinity House of London, has destroyed all traces of St Helen's chapel, of which the ruins were still traceable within living memory".

3.4 Craster also references an entry in the Earsdon Parish Register, dated 1603, detailing the burial of a Hartley resident at *"St Ellen churchyard nere the sea"*[1], which it can be assumed relates to the chapel of St Helen on St Mary's Island as there are no similarly dedicated churches in the locality.

[1] Craster, H.H.E, 1909, *Hartley Township, Northumberland County History, IX*, pp. 97, 120

3.5 Further accounts of an early religious presence on St Mary's Island appear in antiquarian histories from the 19th and early 20th centuries. Mackenzie and Dent's *History of Northumberland* (1825, 417) notes that *"On Bates' Island... was formerly a small chapel dedicated to St Mary, and a hermitage, both desolated."* Parson and White's Directory (1828) also refers to a hermitage that purportedly pre-dated the foundation of a chapel on St Mary's Island.

3.6 The belief that there may have been an early medieval hermitage on the island is supported by other examples to the north, most notably that of St Cuthbert on the island of Farne, and St Henry who purportedly settled on Coquet Island off the shore at Amble[2], in the 12th century. Tynemouth Priory was founded in the 7th century and medieval settlement has been recorded nearby at Whitley to the south and Hartley to the north, with a church built in Hartley by Hubert de Laval in 1102. Based on local archaeological and historical evidence, it is plausible that St Mary's Island could have acquired a religious association from as early as the 7th century, being utilised for its chapel and burial ground until at least the 16th century.

3.7 Ruins were apparently visible on the island up to the mid-19th century. Armstrong's map of Northumberland of 1769 apparently shows the symbol for a church or chapel (Plate 2) and a report by Ralph Turnbull (Shields Daily News, 12 November 1872) references a 90-year old resident of Hartley who reportedly remembered the removal of stones from the ruins of the chapel to build the smithy in Hartley village. Later Ordinance Survey maps, dating to 1858, 1898 and 1913, also depict St Mary's Island as the supposed site of St Mary's Chapel.

3.8 The earliest surviving structures still visible on St Mary's Island are the Fisherman's Cottages on the west side. An original "hut" was constructed by George Ewan in 1855, which was subsequently expanded in 1861 and converted into an inn known as the Square and Compass. During the digging of the foundations *"large quantities of human bones, which had been carefully deposited in the soil"* were discovered, along with *"large stones"* apparently forming the *"foundation of some ancient building"* (Robinson 1894). An article from the Newcastle Courant dated 1878 further details the findings[3]. The inn was closed down and the Ewans were evicted in 1885 after a complaint from a local farmer John Pattison concerning the increasing number of visitors to the island and its hostelry. The cottages subsequently reverted back to

[2] http://www.fusilier.co.uk/coquet_island/northumberland_1.htm accessed 24/07/2017.
[3] The Newcastle Courant, Friday 13September, 1878, p6

domestic dwellings and have remained as such until the present day (Henderson 1985).

Plate 2: Armstrong's map of Northumberland, 1769, showing St Mary's Island

3.9 The construction of the lighthouse tower began in 1896, commissioned by Trinity House to replace an earlier light at Tynemouth Priory and in response to a number of shipwrecks on the surrounding coastline[4]. Designed by Sir Thomas Matthews and built by J.L. Miller of Tynemouth, the tower stands 40m high and is constructed of brick, rendered with cement to give the appearance of stone blocks. The lighthouse was completed in 1898, its kerosene lamp first lit on 31 August.

3.10 A year later, the lighthouse keepers' cottages were completed on land to the north of the tower. The cottages comprised a large rectangular building of Heworth sandstone, two stories high with four bays, a flat roof and four large chimney stacks (Plate 3). The building was divided on a north–south axis into two identical cottages and linked to the lighthouse tower by a covered walkway, now replaced by a modern construction. The lighthouse and its associated cottages were encircled by a sandstone boundary/revetment wall, tied into the bedrock on the east side of the island.

[4] https://historicengland.org.uk/listing/the-list/list-entry/1408299 accessed 24/07/2017

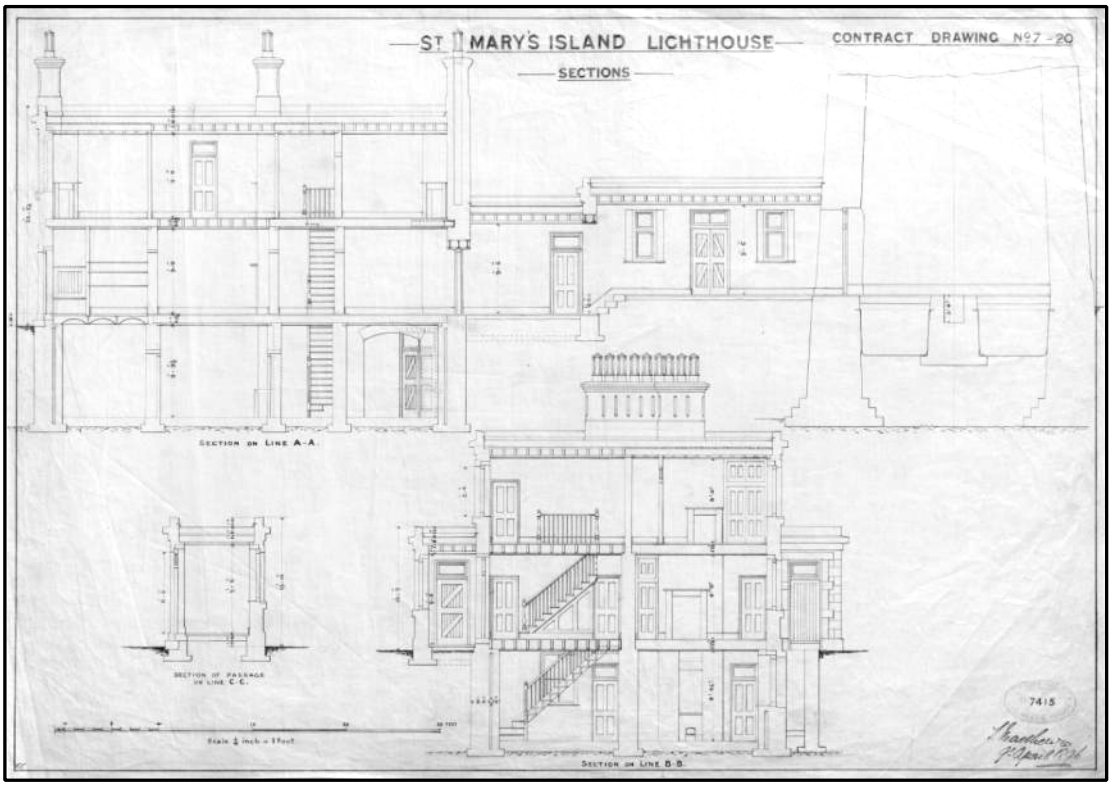

Plate 3: Original Trinity House plans showing elevations of the lighthouse keepers' cottages

3.11 As with the earlier fishermen's cottages, during excavations for the lighthouse and the lighthouse keepers' cottages workmen *"came across a number of skulls and bones"* (Shields Daily News, 10 March 1987). Like those removed from the area of the fishermen's cottages, the remains were allegedly reinterred, although there is no mention as to where.

3.12 The only later building within the lighthouse courtyard that is of historical interest, and may relate to the current evaluation, is what is now used as a bird hide on the east side of the lighthouse, situated in-between evaluation Trenches 1 and 2. Built in 1959, the original purpose of the structure was a degaussing station, used to de-magnetise ships and protect them from mines laid offshore during the Second World War. The presence of a First World War rangefinder on the east side of the island and a Second World War pillbox on the west suggests that remains from the early to mid-20th century could be present in the evaluation areas.

4.0 AIMS AND OBJECTIVES

4.1 The main aim of the evaluation was to assess the nature of structural foundations, buried structures and services relating to the Grade II listed St Mary's lighthouse and

visitor centre, and to identify the nature of deposits, archaeological and natural, within the courtyard. The work was framed to inform both development design and archaeological mitigation strategies concerning extension of the existing structures as part of a HLF bid.

4.2 The objectives of the evaluation were:

- to reveal the foundations of the standing Grade II listed structures to assess their form, depth and methods of construction, their preservation and the nature of the deposits into which they are founded;
- to uncover early archaeological horizons relating to the use of St Mary's Island as the site of a chapel and burial ground;
- to record and recover any human remains in an archaeologically sensitive manner within guidelines set out by the Ministry of Justice;
- to determine the presence or absence of any other archaeological remains within the site and to ascertain the extent, condition, character and date of any such remains;
- to conclude which areas within the footprints of the proposed areas of development might require archaeological mitigation in the form of preservation *in situ*, open area investigation in advance of construction, or monitoring of groundworks during construction;
- to prepare an illustrated report on the results of the evaluation to be deposited with the Tyne and Wear Historic Environment Record (HER) and North Tyneside Council.

5.0 METHODOLOGY

Evaluation

5.1 Four evaluation trenches were excavated inside the enclosure wall of the lighthouse courtyard. Restrictions of access required the use of a 1.5-tonne tracked mini-digger. A breaker was used to dismantle modern concrete surfaces with all further mechanical excavation carried out using a toothless ditching bucket. The machine removed all generic make-up layers of sand and clay to a maximum safe working depth of 1.2m,

cleaning over buried structures and away from marked services, and halting where archaeological features were revealed.

5.2 Due to St Mary's Island being a popular visitor site, the visible impact of excavation was limited by depositing spoil into 1-tonne capacity soil bags, which were then moved out of public view in the southern quadrant of the lighthouse courtyard.

5.3 The west, south and east quadrants were closed off to public access using Heras fencing panels, leaving the north side of the courtyard open to visitors. Public access to the lighthouse was re-directed through the visitor centre shop entrance.

5.4 Upon completion, all trenches were backfilled with spoil and compacted by machine, leaving backfill standing proud above ground level to allow for subsequent settling of sandy deposits. The trenches will be further compacted and resurfaced with gravel by North Tyneside Council.

5.5 Archaeological deposits were cleaned by hand and all identified features were planned and photographed. A representative sample of the different types of archaeological features and deposits were hand-excavated to determine character, dimensions, and preservation and to facilitate recovery of sufficient artefactual and environmental evidence to enable dating and assessment.

5.6 Written descriptions of all archaeological features and deposits were recorded on pro forma sheets using the NAA context recording system.

5.7 Drawn records of all archaeological features were produced at a scale of 1:10 for sections and elevations and 1:20 for plans. A planning grid was surveyed in to the Ordnance Survey National Grid. Information was transferred to AutoCAD software and reproduced for inclusion in this report. All levels were tied in to Ordnance Datum.

5.8 A photographic record of the site was taken using 35mm monochrome film and digital images at a resolution of 10 megapixels.

5.9 Pottery, animal bone and other categories of artefacts were collected. Finds were appropriately recorded and processed using the NAA system and submitted to relevant NAA specialists for assessment.

5.10 All recovered finds are appropriately packaged and are currently stored under optimum conditions at NAA's offices. Finds recovery and storage strategies were in accordance with published guidelines (English Heritage 1995; Watkinson and Neal 1998).

6.0 RESULTS

Trench 1 (Fig. 3)

6.1 Trench 1 (T1) was L-shaped, and comprised a 600mm-wide trench running west from the eastern wall of the visitor centre expanded into a 1.5m x 1.5m box to the east. The trench was located to expose the foundations of the lighthouse keepers' cottages/visitor centre, buried storage tanks and drains. The box was added to explore the eastern grassed area, which was apparently devoid of services or buried structures.

6.2 The storage tanks **30** were located at the west end of T1 230mm below the modern ground surface. Excavation exposed the brick vault, bonded with lime mortar and bordered at the east and west edges by blocks of sandstone and concrete. The tanks had been installed flush to wall foundation **31** and appeared to be orientated east–west, suggesting that the construction of the storage tanks **30** and the foundations of the lighthouse keepers' cottages **31** took place contemporaneously (Plate 4).

*Plate 4: Trench 1, storage tank **30** and wall foundation of the visitor centre **31***

6.3 This interpretation appears to be confirmed by the original plans for the lighthouse keepers' cottages obtained from Trinity House (Plate 5). The plans show a rectangular

structure 14'6" long north–south with two internal chambers 5'0" x 5'6" and 6'3" internal height, constructed against the foundations of the lighthouse keepers' cottages. Each chamber is accessed by one of the two circular manholes still evident on the modern ground surface. Presumably, the walls of the chambers correspond to the concrete and stone elements seen on the surface in T1, with only the vaulted ceiling constructed from brick. The structure of **30** is situated within a cut lined with "clay puddle", which appears to correspond to sandy clay deposit **49** on Section 7 (Fig. 3).

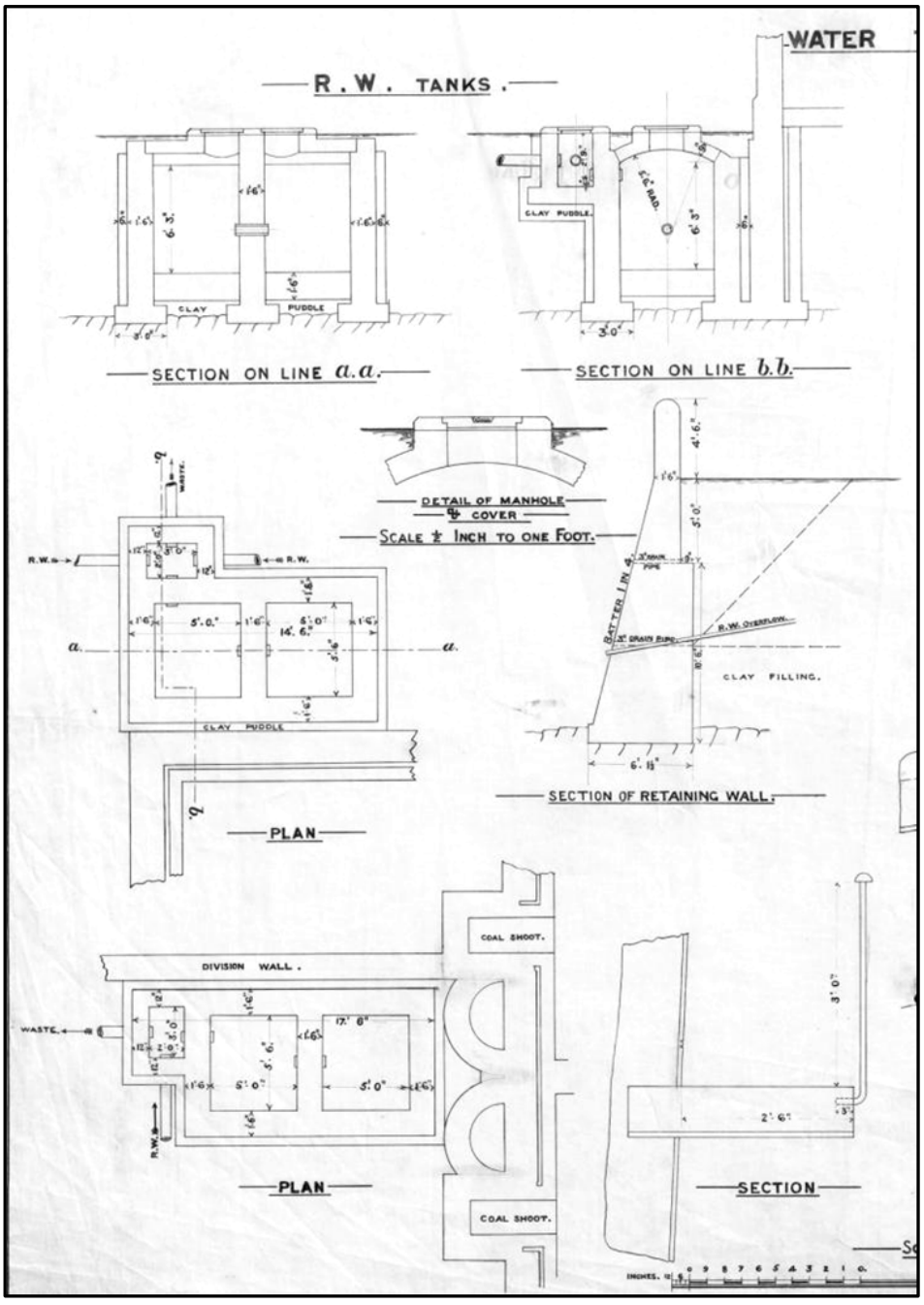

*Plate 5: Original plans from Trinity House showing storage tanks **30***

6.4 A further element, though not revealed by the evaluation but explained by the original plans, is a smaller overflow chamber attached to the north-east corner of **30**. This small chamber appears to have an outlet pipe, which exits on a north–south alignment, and a waste pipe running east, presumably to an outlet in the revetment wall. It is the north–south pipe which is of interest here, apparently conforming to drain cut **25** and ceramic pipe **26** recorded in T1 running parallel to the east edge of the storage tanks **30** (Plate 5, Plate 6).

*Plate 6: Trench 1, east edge of storage tank **30**, drain cut **25** and earlier drain cut **27***

6.5 An earlier drain cut **27** was also seen running north–south in T1 and had been cut along its west edge by drain cut **25**. In contrast to the steep-sided profile of **25**, cut **27** was steep on the east edge with a moderate slope along the west edge. The drain was capped with concrete and recorded at a depth of 0.75m, compared with a depth of 0.55m for ceramic drain **26**. It is unclear what this earlier drain was used for, apparently relating to a phase of activity prior to the construction of the lighthouse keepers' cottages in 1899 and possibly relating to the construction of the lighthouse tower from 1896–1898.

6.6 The eastern boxed-end of T1 was located in an area free from buried structures and services and was excavated to the maximum safe working depth of 1.2m. At the base of the trench, a layer of redeposited dark brown clay **33** was recorded, on top of which was a 0.85m-thick deposit comprising bands of sand mixed with fragments of

brick and stone rubble **32**. Mixed sand deposit **32** was cut through to the west by drain **27** and together with clay horizon **33** appears to represent the artificial make-up of the island's ground surface in the 1890s, prior to the construction of the lighthouse and its associated structures. This notion is confirmed by the original hand-drawn plans, specifically that of the revetment wall, which shows a thick layer of "clay filling" above which are further deposits to create an elevated ground surface (Plate 5, Plate 7).

*Plate 7: Trench 1, clay **33** and sand **32** make-up deposits at the east end of Trench 1*

6.7 Above the buried structures, services and made up ground within Trench 1 was a thick layer of topsoil mixed with pea gravel, apparently deposited upon the completion of the lighthouse keepers' cottages, as it respects the concrete surround **48** and the manhole covers relating to storage tank **30** and drains **25** and **27.**

Trench 2 (Fig. 3)

6.8 Trench 2 measured 1.2m x 1.5m and was located against the eastern revetment wall and oil storage tanks. The trench was sited to explore the structure of the revetment wall along its eastern trajectory and any deposits that abutted the internal edge.

6.9 Due to the presence of a live electric cable for the site's groundlights running under the tarmac and against the revetment wall, it was unfeasible to excavate Trench 2 directly against the revetment wall to expose an internal elevation. The eastern section

of the trench was therefore located 0.3m away from the revetment wall so as not to expose/disturb the live cable.

6.10 The trench was excavated by machine to a depth of 1.2m and, as in the east end of T1, a series of deposits relating to the artificial made-up ground surface was exposed (Plate 8). The lowest deposit **06** was a thick levelling deposit of dark pinkish-brown clay interspersed with bands of sand, its full depth unknown, but comparable to clay deposit **33** in T1. Above deposit **06** there was a further band of the same clay, **05**, which was visible across T2 and probably represents the upper level of **06** rather than a distinct deposit.

Plate 8: Trench 2, south-facing section showing sand and clay make-up deposits

6.11 Above the mixed clay and sand levelling deposits there was a horizon of chipped stone fragments and dirty sand **04**. The character of the deposit suggested that it could be remnants of an initial surface associated with the revetment wall, an interpretation seemingly supported by a layer of clean windblown sand **03** above and an upper layer of dirty sand, possibly representing an occupation horizon (a 'used surface') associated with the finished lighthouse and cottages.

6.12 The modern electric cable cut through the upper sand deposit **02** and the trench was topped with a layer of grey clay and gravel on which a thin layer of tarmac **01** was set.

Trench 3 (Fig. 3)

6.13 Trench 3 measured 1.5m x 1.5m and was located on the west side of the lighthouse courtyard, against the wall of the link building and close to the lighthouse tower. The trench was positioned to assess the foundations of the Grade II listed link building in order to inform below ground design for the proposed extension to the current main entrance.

6.14 The trench was excavated by machine to a depth of 1.2m and exposed the foundations of the late 19th-century link building, which were then cleaned by hand. The foundations were 0.73m deep and comprised two separate phases of construction (Plate 9). The lower phase **08** consisted of three courses of flat, square, yellow sandstone slabs, laid stretcher and bonded with grey concrete mortar. The upper phase comprised a single course of roughly dressed angular yellow sandstone blocks **07**. Unlike **08** below, the sandstone blocks **07** were irregular, but had apparently been shaped to fit and required only minimal mortar bonding. A concrete sill was above **07**, and above that the link building itself. The white render of the link building masked the original Heworth sandstone of the building and it is unclear how the irregular upper course of the foundations **07** ties into the superstructure.

*Plate 9: Trench 3, wall foundation **08** and upper course **07** above lighthouse construction cut **21***

6.15 The foundations were built overlying the construction cut for the lighthouse tower **21**. The cut could be seen running east–west at the south end of T3, displaying a maximum visible width of 1.2m and a steep-sided profile (see Fig. 3). It was filled with dark brown sand with frequent brick and sandstone rubble fragments **10/22**, presumably debris from the tower construction (Plate 9).

6.16 The surface through which construction cut **21** was made and upon which the wall foundation for the link building was situated was, as seen in other trenches, an artificially created ground surface. Deposits **12**, **17** and **20** were all primarily sandy in character with inclusions of abraded brick and stone debris and lenses of clay material. Unlike T1 and T2, there was no distinct clay horizon visible at the base, although it is possible such a deposit is present below the 1.2m excavation depth.

6.17 There was no evident construction cut relating to wall foundation **07**, **08** of the link building. It appeared that the wall was constructed on top of the deposits detailed above, before being buried by a further series of mixed sandy make-up layers **16**, **15**, **14**. It is likely that the upper greyish brown deposit of silty sand and clay **13** across T3 reflects the post-construction ground level of the late 19th–early 20th-century. A length of thin copper wire was revealed in **13**, running north–south and is thought to have been an earth wire related to the original lightning conductor on the lighthouse tower. Trench 3 was later covered by modern tarmac and concrete **18**, **19** (Plate 10).

*Plate 10: Trench 3, south-facing section showing no visible construction cut for wall foundation **07**, **08**, and a series of sandy make-up deposits*

Trench 4 (Fig. 4)

6.18 Trench 4 measured 1.2m x 1.7m and was orientated east–west. It was excavated to a depth of 1.2m against the wall of the lighthouse keepers' cottages, to the south of the present shop entrance, in order to reveal and assess the condition of the 19th-century foundations.

6.19 The position of the trench meant that as well as the foundations of the lighthouse keepers' cottages, the foundations of the link building were also revealed and the interface between the two structures could be examined.

*Plate 11: Trench 4, interface between wall foundations **52** and **39** and base of cut **38***

6.20 The earlier foundations of the lighthouse keepers' cottages **52** comprised five visible courses of local sandstone. The blocks were roughly squared but uneven in size and form, resulting in uneven courses bonded with thick cement mortar.

6.21 In contrast, the later foundations of the link building **39** consisted of six visible courses of laminated yellow sandstone slabs, laid stretcher and forming regular courses. They were bonded with apparently the same cement mortar as **52**, as had the interface between the two foundations, which had also been packed with sandstone fragments. Although consistent in form with foundation deposit **08** in T3 to the north, those seen in T4 were not only markedly deeper – in excess of 1.2m – but lacked a comparable

irregular upper course to **07** (Plate 9). Furthermore, the foundations were situated within a cut, **38**, although this was probably an extension of that used in the construction of the earlier wall foundations **52** (Plate 11).

6.22 As noted above, T4 was the only trench in which a construction cut relating to the lighthouse keepers' cottages and link building was visible. In T1, any evidence had been obscured by storage tank **30**, whereas in T3 the wall foundations appeared to have been constructed on top of an artificial ground surface before the area was built up further. Seen clearly in the south-facing section of T4, cut **38** appeareds at a depth of 0.9m in the west side of the trench following a shallow descent to the base of the trench at the east, cutting dark brown sandy clay horizon **51**. The cut was backfilled with a series of sandy deposits **37**, **40**, **41**, **42** to seal the wall foundations before the area was levelled and covered with a layer of gravel **44** (Plate 12).

*Plate 12: Trench 4, south-facing section showing construction cut **38** cutting dark sandy clay **51**, which contained grave cut **36***

6.23 At the base of T4 there was a dark brown sandy clay horizon **51**, which had been cut away by construction cut **38** for wall foundations **39** and **52**. Within deposit **51** and at the maximum depth of 1.2m part of an oval-shaped grave cut **36** was revealed. Orientated west–east, it was filled with mid-orange brown sand **35**, which on further

cleaning revealed a human skull **SK34** at the west end. The right parietal bone, right temporal bone, and the occipital bone at the back of the skull were exposed, but were unfortunately damaged. The visible remains demonstrated that **SK34** had been interred facing north, but due to maximum safe working depth being reached no further excavation of the burial could occur, thereby limiting the information that could be gathered from the remains (Plate 13). The orientation of the grave means that its east end has almost certainly been destroyed by construction cut **38**.

*Plate 13: Trench 4, exposed skull of burial **SK34** at west end of grave cut **36***

6.24 On the advice of the Tyne and Wear Archaeology Officer, **SK34** was left *in situ* until such a time when the burial can be fully excavated should the need arise. The remains were covered with wooden boards to protect them before T4 was backfilled.

7.0 DISCUSSION

7.1 The evaluation on St Mary's Island achieved all of its principal aims. Wall foundations, buried structures and services relating to the lighthouse keepers' cottages and link building were recorded in three of the four trenches, and all of the trenches provided information about substantial make-up deposits used to increase the ground level of the island prior to the construction of the lighthouse and its associated buildings. The only elevation that it was not possible to obtain was that of the revetment wall in T2, due to modern services, however details of its construction can be seen in the external

elevation and also in the original Trinity House plans (Plate 5). Trench 4 identified an original ground surface associated with activity on the island prior to the construction of the lighthouse buildings, a phase relating to the use of the site for human burials.

7.2 The discovery of a natural ground level at a depth of 0.9m on the west side of the lighthouse demonstrates the extent to which the original topography of the island was altered in the 19th century, prior to the construction of the lighthouse and associated structures. At the east side of the island, the depth is likely to be significantly greater, as no natural surface was reached or identified in T1 or T2 (at 1.2m depth) and information from the Trinity House plans suggests that artificial deposits behind the revetment wall could measure up to 15'6" (approximately 4.5m) (Plate 5).

7.3 From the information obtained, it appears that after the construction of the revetment wall the east side of the island was built up, initially with a thick levelling deposit of clay that is apparently absent to the west, followed by a series of layers of compacted sand and rubble. The lighthouse tower and keepers' cottages were subsequently constructed within cuts made into these deposits, and the cuts were then backfilled. The later link building foundations are inconsistent: at the north end, the foundations are in excess of 1.2m deep and situated within the construction cut for the keeper's cottages, whereas at the south end, close to the tower, its foundations are 0.75m deep with no visible construction cut. The reason for these differences remains unclear.

7.4 The early horizon revealed in T4 and the intact remains of a human burial interred therein provide a glimpse into past activity on St Mary's Island. The east–west orientation of the grave is typical of Christian burial practice and lends credence to the local tradition of the island as the site of a church or chapel. However, no structural remains or material dating evidence were found to tie the skeletal remains to a specific time period.

7.5 The results of the evaluation have identified areas outlined in the proposed redevelopment plan (Fig. 2) that may require further archaeological work or mitigation.

7.6 The presence of an intact burial at a depth of 1.2m in T4 indicates that human remains could be present at a similar level across the area west of the lighthouse. This is particularly relevant to the new southern extension, set to be constructed on the site of what is now the main entrance. Although T3 located no buried archaeological horizon

or human remains, there is potential for the foundations of the proposed western wall to impact on undisturbed deposits located away from construction cuts of the original lighthouse buildings. This could also be true of the new eastern extension, as the depth and nature of deposits in this area have not yet been verified.

7.7 Although T1 and T2 on the east side of the island failed to identify any pre-19th-century deposits, it is likely that the substantial make-up layers associated with the consolidation of the ground surface were emplaced directly on top of any earlier archaeological horizons. This would increase the probability that earlier remains here will be undisturbed and could possibly be impacted by the construction of the new two-storey extension at the north-east corner of the lighthouse keepers' cottages.

7.8 Owing to the frequency with which human remains have been uncovered during previous construction events and installation of services, it is recommended that future work on St Mary's Island is subject to archaeological investigation in external and internal areas where the ground is potentially undisturbed. Information regarding the proposed building design and potential impact depth relating to the new development will help inform the requirement and plans for future archaeological work.

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APPENDIX A

CONTEXT AND FINDS CATALOGUE

Context	Interpretative description	Relationships	Trench	Notes	Finds and sample information
01	Modern Tarmac		2		
02	Dirty sand under 01		2		
03	Light orange sand under 02		2		
04	Chipped stone layer under 03		2		
05	Layer of pink/brown clay under 04		2		
06	Mixed sand with brick and clay under 05		2		
07	Un-bonded course of wall foundation		3		
08	Mortar-bonded wall foundations	Below 07	3		
09	Orange brown clay deposit		3		
10	Mixed deposit of sand, brick and water-worn pebbles		3		6 x CBM, 1x Fe object, 1x glass
11	Discoloured buff sand		3		
12	Light yellow/ white sand		3		
13	Make up ground deposit - greyish sandy silt		3		
14	Mixed mottled buff sand		3		
15	Pink/reddish sandy deposit		3		
16	Yellow sand deposit		3		
17	Buff brownish sand with black lenses		3		
18	Thin covering of modern tarmac		3		
19	Concrete path		3		
20	Discoloured buff/brownish sand		3		
21	Construction cut for lighthouse	Cuts **11**, **12**, **17**	3		
22	Backfill of 21		3	Possibly the same as **10**	
23	Topsoil and pea gravel		1		
24	Sand and charcoal under 23		1		
25	Cut of upper ceramic drain		1		
26	Ceramic drain and fill of 25		1		
27	Cut of lower drain	Cut by 25	1		
28	Concrete capping and fill in 27		1		
29	Mixed sand and rubble deposit over tank 30	Cut by 27	1		1 x glass, 2 x post-med pottery, 6 x mammal bone, 10 x fish bone, 2 x shell.
30	Brick and concrete storage tank		1		
31	Eastern wall foundation of visitor's centre		1		

Context	Interpretative description	Relationships	Trench	Notes	Finds and sample information
32	Thick mixed sand at eastern end T1		1		
33	Clay under 32		1		
34	Skeleton		4		
35	Fill of grave (single skeleton within)		4		1 x Fe object, possible coffin nail.
36	Grave cut, filled by 35		4		
37	Fill of construction cut 38		4		
38	Construction cut for wall foundations 39		4		
39	wall foundations in cut 38		4		
40	Yellow sandy fill in construction cut 38		4		
41	Pink sand deposit		4	Possibly the same as 15 in Trench 2	
42	Mixed dark yellow sand/clay in 38		4		
43	Construction deposit for concrete surface		4		
44	Gravel bedding under concrete 46		4		
45	Bedding material for concrete surface 46		4		
46	Concrete surface abutting wall 47		4		
47	West-facing concrete rendered wall		4		
48	Concrete		1		
49	Sand overlying storage tank 30		1		
50	Lower topsoil		1		
51	Dark brown sand cut by grave cut 36	Cut by 36	4		
52	Wall foundations under wall 47		4		

APPENDIX B

FINDS AND ENVIRONMENTAL REPORT

Chrystal M.L. Antink, Charlotte Britton, Elizabeth M. Foulds, Hannah Russ

INTRODUCTION

Evaluation trenching at St Mary's Island recovered a small assemblage of artefacts consisting of: two pottery fragments, two fragments of glass, two iron objects, and six bricks. There was also a small collection of faunal remains (Table 1). The artefacts generally reflected post-medieval activity at the site.

	10	29	35	Total
Glass	1	1	-	2
Pottery	-	2	-	2
Iron	1	-	1	2
Ceramic building material	6	-	-	6
Large mammal bone (cattle/horse)	-	3	-	3
Medium mammal bone	-	2	-	2
Bird bone (galliforme)	-	1	-	1
Fish bone	-	10	-	10
Shell (common whelk)	-	2	-	2
Total	8	21	1	30

Table 1: summary of finds from trial trenching at St Mary's Lighthouse (SML17)

DISCUSSION

Pottery

Two fragments of pottery were recovered from Trench 1 context 29. One was a willow pattern transfer ware rim fragment from a saucer. The other was a flatware sherd of another transfer ware pattern. Both fragments were manufactured in the 19th century.

Small finds

Other finds consisted of a body fragment of a milk glass vessel, a large fragment of an olive green bottle, an iron nail (associated with SK34), and a possibly decorative iron fitting. Although the iron artefacts are not diagnostic in terms of dating, the bottle and milk glass fragment suggested a post-medieval date.

Building material

A total of six fragments of ceramic building material, in two fabrics, totalling 9,711g, were recovered from context 10. All fragments were identified as post-medieval brick. Those of fabric 1 are frogged on both faces, and retain the stamp 'WHITLEY BSO', so it is reasonable to assume they were manufactured by the Whitley Colliery in the immediate vicinity, which was active in the 19th century. These were much decayed and crumbled on handling. The complete example measured 240mm x 112mm x 78mm.

Fragments of fabric 2 bricks were much more dense and robust, and are highly fired. They had shallow frogs on both faces, but no stamps or identifying marks were present. One of the fragments was so overfired it had gone dark, ashy grey, with patches of vitrified material on one

face and edge, but was not blown out of shape and was presumably judged fit to use. No complete examples were present, but all measured 113mm x 73mm.

Faunal remains

Animal bone and marine shell fragments were recovered from context **29**, which comprised the remains of large and medium mammal, bird, fish, and common whelk (*Buccinum undatum*). None were unexpected for the area or types of deposits expected. The large mammal remains, which exhibited butchery marks, and the single bird bone (in this case consistent with galliforme, likely representing domestic chicken) almost certainly represent food waste. The fish and shell remains, while representing edible food resources, could equally be natural inclusions given the site location. The small size of the assemblage does not allow any further comment to be made.

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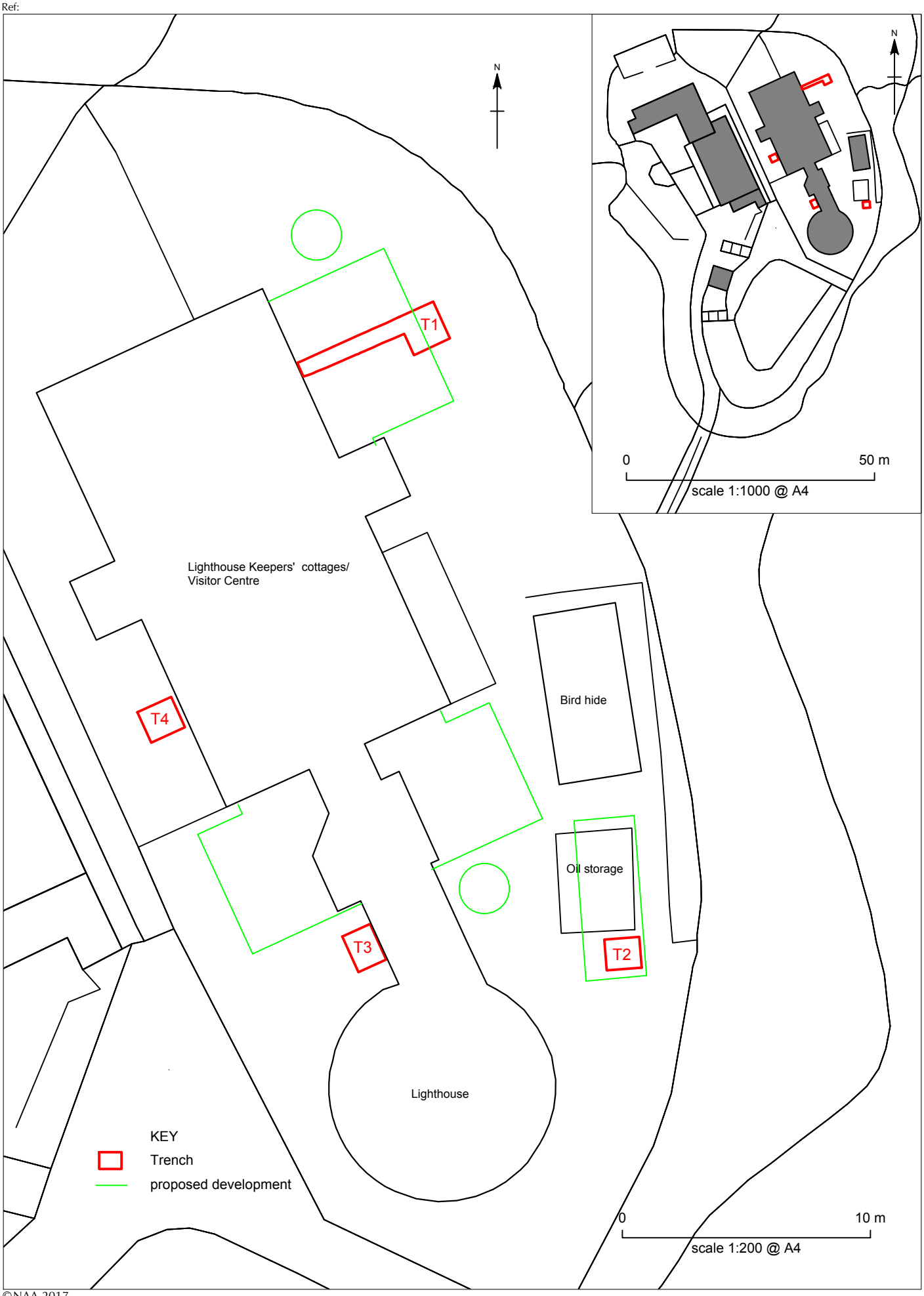
St. Mary's Island, North Tyneside: site location

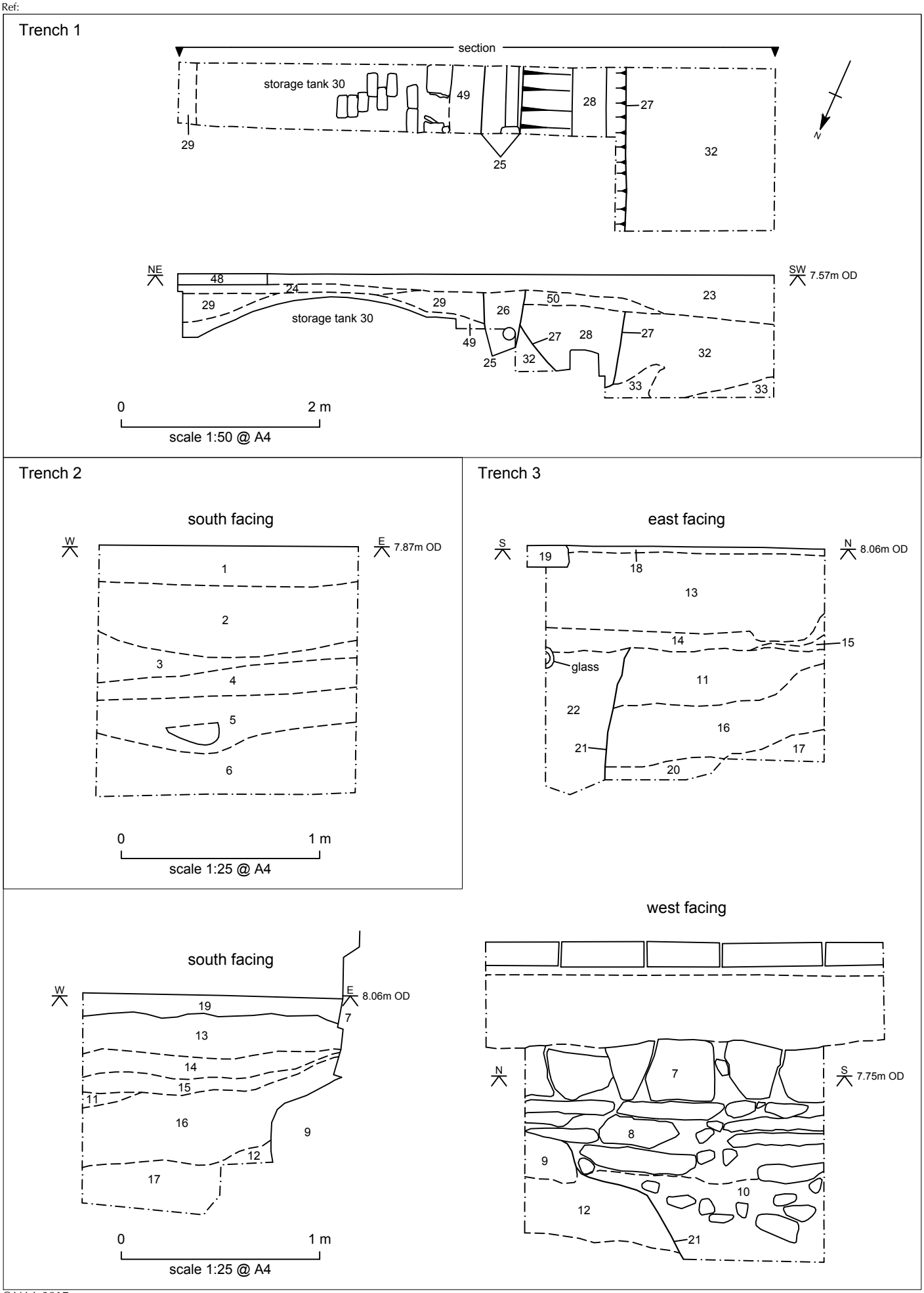
Figure 1

Ref:



St. Mary's Island, North Tyneside: trench location and extent of proposed development Figure 2

Ref:

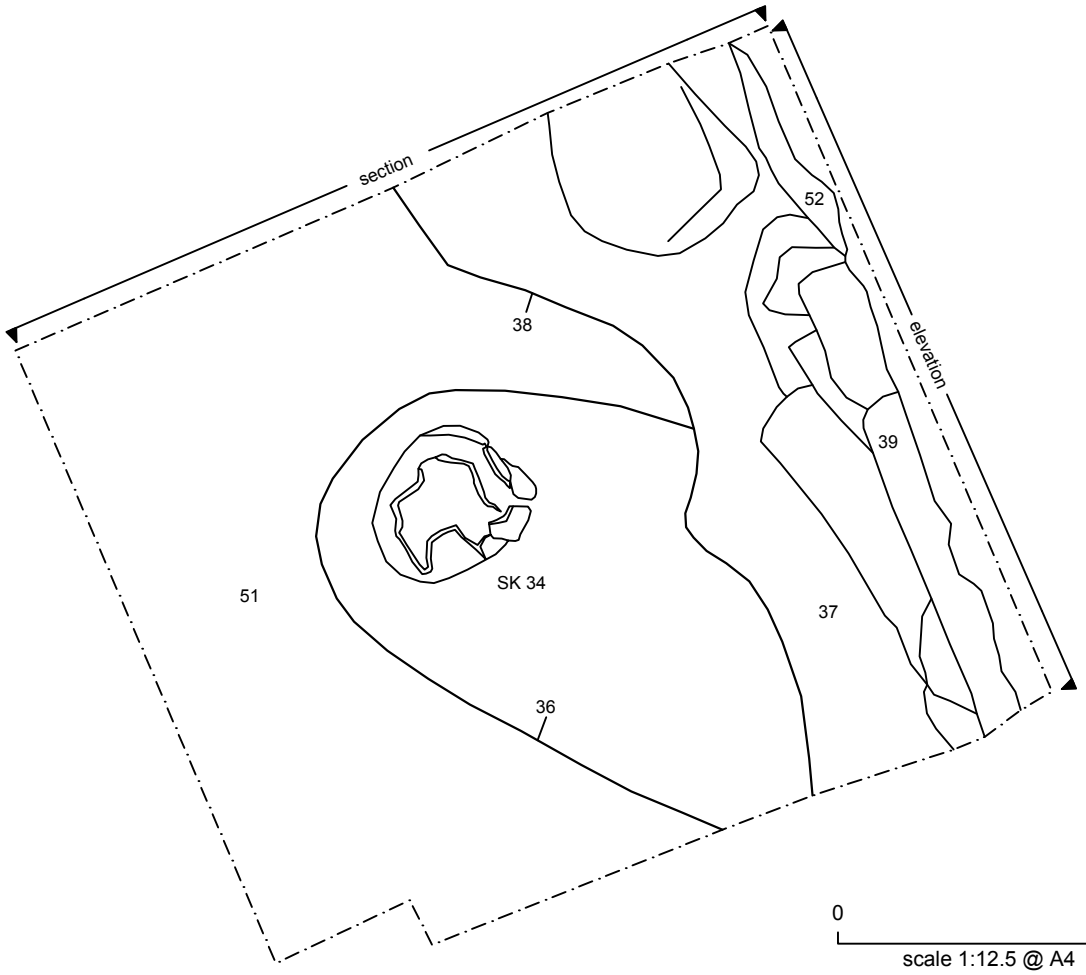


St. Mary's Island, North Tyneside: trenches 1, 2, and 3

Figure 3

Ref:

Trench 4



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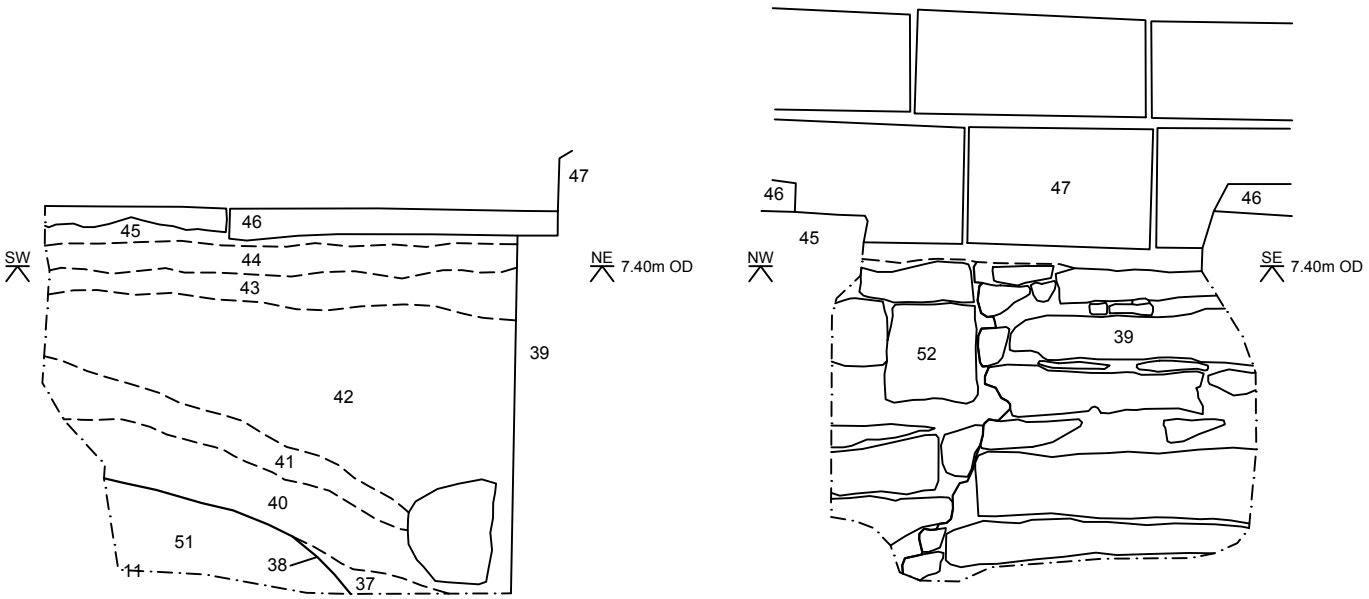
scale 1:12.5 @ A4



section elevation

0 1 m

scale 1:25 @ A4

St. Mary's Island, North Tyneside: trench 4

Figure 4