

Post Excavation Assessment and Updated Project Design

7 DOCK STREET LONDON E1

For JMS Estates Ltd.

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L~P:ARCHÆOLOGY

Post Excavation Assessment and Updated Project Design

7 DOCK STREET LONDON E1

Client: JMS Estates Ltd.

Local Authority: London Borough of Tower Hamlets

NGR: 534155, 180815

Planning App: N/A

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Abstract

An archaeological watching brief and excavation was carried out during redevelopment of a hostel at 7 Dock Street, London, E1 8JN. This report has been prepared by Thomas Swannick of L - P : Archaeology on behalf of JMS Estates Ltd. Archaeological excavation was required due to discovery by groundworkers of human remains beneath Victorian coal stores.

The objectives of the watching brief and excavation were to record and remove disturbed human remains in basement level coal stores, to understand stratigraphic relationships between the human remains and coal store buildings and to record and remove any further archaeological remains exposed during the works.

The site was a former Sailor's Home, which provided food and board to onshore sailors in the 19th century. The excavation was centred on the coal stores of this building, originally constructed in 1865. A total of three coal stores were excavated under archaeological conditions, with a further two observed on a Watching Brief.

Two sets of human remains were excavated in two different coal stores. The first set having been heavily disturbed by groundworkers. The second set of remains were located within a discrete pit cut, that was stratigraphically later than the coal store buildings. The remains were interpreted as charnel pits.

Deposition of the charnel seems to have occurred during a period of renovation in the coal stores in 1870. This is contemporary with the demolition of a nearby Danish and Norwegian church, and C14 dating has suggested that the remains are contemporary with this church. It is therefore possible that the human remains are originally from this church's graveyard.

1. Introduction

- 1.1. This report contains the assessment of results from a programme of archaeological works. It has been prepared by Thomas Swannick of L - P : Archaeology for JMS Estates Ltd.
- 1.2. This Post Excavation Assessment (PXA) considers land at 7 Dock Street, Borough of Tower Hamlets, E1 8JN (hereafter “the site”). The site is centred on National Grid Reference (NGR) 534155,180815 (FIGURE 1).
- 1.3. The site lies on the east side of Dock Street and is currently in use as a hostel. The site is bounded to the north by adjacent property 3-5 Dock Street and to the south by 11 Dock Street (FIGURE 2).
- 1.4. The fieldwork was carried out by Thomas Swannick of L - P : Archaeology in January 2016.
- 1.5. The site code allocated by the Museum of London is DKS16.
- 1.6. The work was carried out in accordance with a Written Scheme of Investigation (WSI) prepared by Thomas Swannick and Guy Hunt of L - P : Archaeology (SWANNICK & HUNT 2015).
- 1.7. Archaeological work was required when groundworkers began to lower the floor levels in the coal stores and disturbed human remains. Further information on the circumstances of excavation can be seen in SECTION 2.
- 1.8. The total area under watching brief was 365m².

2. Site Background

2.1. CIRCUMSTANCES FOR ARCHAEOLOGICAL WORK

- 2.1.1. A full account of circumstances for archaeological work can be found in the WSI (SWANNICK & HUNT 2015). The following summary is included here for the convenience of the reader.
- 2.1.2. In brief, basement level 19th century coal stores were being refurbished at the site. There were no archaeological planning conditions placed on the refurbishment works by the Local Planning Authority. During floor lowering, human remains were uncovered by labourers in a coal store. These were co-mingled remains, likely charnel. Excavation ceased, the area was sealed off and L - P : Archaeology and the Metropolitan Police were contacted.
- 2.1.3. After initial on-site assessment, it was determined that the remains were more than 100 years old and thus would be treated as archaeological remains. The police reference code generated on 15/12/15 was CAD5302.
- 2.1.4. The WSI and an excavation of human remains licence were sought in order to commence the recording and excavation of the remains. Excavation and the Watching Brief commenced on 11/01/2016 and was completed on 17/02/2016.

2.2. GEOLOGY

- 2.2.1. The British Geological Survey Geoscience Data Index shows the site to be located on river terrace gravels above London Clay (BRITISH GEOLOGICAL SURVEY 2015).
- 2.2.2. The upper levels of natural geology are river terrace gravels. The natural geology on the study site is therefore largely the river terrace gravels which survive at varying depths according to the level of truncation (BRITISH GEOLOGICAL SURVEY 2015).
- 2.2.3. Made ground is known to be very deep based on observations at 20 Dock Street (HUNT 2010).

2.2.4. Natural geology was not observed during excavation, as excavations ceased at formation level at 7.77m OD.

2.3.SITE CONDITIONS

2.3.1. The site is currently operating as a hostel, with work being undertaken at basement level at the front of the building in coal stores.

2.3.2. The coal stores had very little natural light. Electric lighting was provided by the client.

2.3.3. It was anticipated that previous building work may have impacted on buried archaeological remains in some areas.

3. Archaeological and Historical Background

3.1. TIMESCALES USED IN THIS REPORT:

PERIOD	FROM	TO
PREHISTORIC		
PALAEOLITHIC	450,000	12,000 BC
MESOLITHIC	12,000	4,000 BC
NEOLITHIC	4,000	1,800 BC
BRONZE AGE	1,800	600 BC
IRON AGE	600	43 AD
HISTORIC		
ROMAN	43	410 AD
EARLY MEDIEVAL	410	1066 AD
MEDIEVAL	1066	1485 AD
POST MEDIEVAL	1485	PRESENT

Table 1 - Timescales used in this report

3.2. Due to the circumstances in which archaeological excavation took place, no prior work had been undertaken to establish the archaeological and historical background of the site.

3.3. A combination of documentary research and HER data was used to analyse the site, within a 500m radius.

3.4. Information from the Greater London Historic Environment Record (GLHER) is referenced with the Monument or Designation code in brackets e.g. (ABC1234), (DES1234).

3.5. PREHISTORIC

3.5.1. There is only one record for Prehistoric activity in the study area and its immediate surroundings (500m radius) recorded in the Greater London Sites and Monuments Record (GLSMR). An evaluation undertaken at 77-101 The Highway revealed a possible Prehistoric pit cut into the natural gravels.

3.5.2. The paucity of evidence is most likely due to a combination of factors, including a general lack of recording of Prehistoric remains in London and the

extent to which later activity has disturbed and removed the more ephemeral evidence of Prehistoric activity (MERRIMAN 1990).

3.6.ROMAN

3.6.1. The study site lies only 400m east of the eastern wall of Roman '*Londinium*'. The area east of the city is recognised as a large Roman cemetery, with the cemetery road running east-west through it (BARBER & BOWSER 2000). This cemetery lies a short distance to the north of the study site.

3.6.2. Another focus of Roman activity within the area is quarrying and gravel pits (MERRIFIELD 1983). These have been suggested at Royal Mint Street, East Tenter Street and Prescott Street.

3.7.MEDIEVAL

3.7.1. The area may have been left fallow or cultivated in the early Medieval period. However, by the 12th century much of the area probably would have been agricultural land (MOLAS 1995: 12). A watching brief at 38-40 Dock Street by Pre-Construct Archaeology (DOT00) reported evidence for one or possibly two 14th century property/field boundaries and a probable refuse pit.

3.7.2. Excavations in 1995 at 4–10 Dock Street (DCS95), found little Medieval remains and results suggest that the site was probably left open and used for agriculture (MOLAS 1995: 12).

3.8.POST MEDIEVAL

3.8.1. There is a rich source of documentary evidence for this area to the east of the City from the 16th century onwards.

3.8.2. The the density of development in the area around the site grew rapidly throughout the Post Medieval period. Many hamlets had been established outside the City to the east and along the northern banks of the Thames where thriving communities serviced, and profited from, growing river trade (PALIN 2012) (BAKER 2000).

3.8.3. The Morgan map from 1681-82 (FIGURE 3) shows the site to be tightly packed with buildings and an alley that cuts east to west across the site. The road

system was relatively undeveloped at this time, the main roads being 'Knock Fergus' to the north and 'Ratcliffe Highway' to the south.

3.8.4. After the Great Fire in 1666, speculators invested heavily in the area. The area around the site was invested in by Nicolas Barbon, who leased the Wellclose Liberty from the crown (PLATE 1) (PALIN 2012).

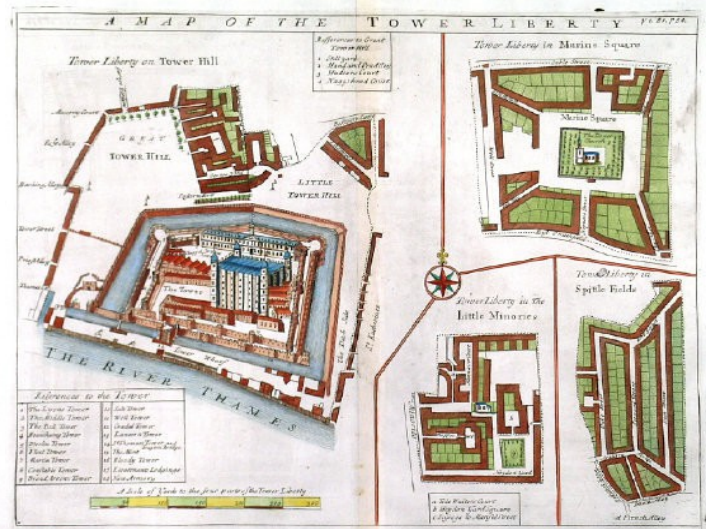


Plate 1 - Liberties of the Tower. Top right shows the Liberty of Wellclose (London Metropolitan Archives)

3.8.5. These land speculations were intended to entice the burgeoning trade and maritime communities around the East End.

3.8.6. As Britain's naval links increased globally, the areas around the docks benefitted from the increase in mercantile activity, especially from an influx of immigrants who profited from the rebuilding of the city.

3.8.7. The huge demand for timber, flax and iron ore created a lucrative trade for the Scandinavians (PALIN 2012). This led to the construction of Wellclose square and the Danish and Norwegian church at its centre, c.120m east of the site.



Plate 2 - Exterior of the Danish Church in 1796 by Johannes Kip (London Metropolitan Archives).

- 3.8.8. The church was designed by Caius Gabriel Cibber, a Danish sculptor who had become popular with the Crown in the late 17th century. The church, built in the baroque style, was completed in 1696 and served the Danish and Norwegian community. The church was itself funded directly by King Christian V. The church was serviced by an internal burial vault and squared railed-off graveyard (PLATE 2).
- 3.8.9. The development of the area, including the Scandinavian influx can be seen in Rocque's map of 1746 (FIGURE 4). The site lies on 'Salt Petre Bank', the precursor to modern day Dock Street, and an indicator to the study area's link to glass production at the time.
- 3.8.10. Located c.75m to the south east of the site fronting onto Well Street was 'Glass House Hill' and c.150m to the south of the site on Salt Petre Bank was another glass house. The increase in popularity of glass continued throughout the Post Medieval period and the Wapping to Ratcliffe areas were one of the main glass producers in London.
- 3.8.11. The area in the 17th and 18th centuries saw significant building of both dwellings and places of trade and goods storage (MORRIS & COZENS 2009).
- 3.8.12. The site itself is noted as 'Lodise's Court', with a frontage onto Salt Petre Bank as well as access to Well Street through 'Lodise's alley'. It is likely that this

frontage, likely a storehouse, onto Salt Petre Bank was used for trade, with the yard and alley to the rear of the property used for manufacture and/or transportation of goods, as was typical of the time (MORRIS & COZENS 2014).

3.8.13. The buildings in the area were typical Georgian terrace developments, with some weatherboarded housing and with interspersed warehouses and manufacturing yards.

3.8.14. The area's links with the docks increased throughout the 18th century, and by the late 18th century there were many boarding houses for sailors to stay whilst onshore. This led to the inevitable proliferation of public houses and music halls, such as the Royal Brunswick Theatre which opened in 1787 on Well Street.

3.8.15. By the beginning of the 19th century, the area had lost much of its appeal for the middle classes, many of whom had moved out of the area. This is the case for the Danish and Norwegian church, which was out of use by 1816.

3.8.16. Carey's map of 1818 (not reproduced), demonstrates the increase in industrialisation of the area, with many more buildings located within the area.

3.8.17. Enclosure of the nearby docks at Shadwell and Wapping meant that seamen could more readily leave their ships during the unloading and loading of cargo. This further added to 'houses of ill-fame', as well as social problems related to the excessive consumption of alcohol (MORRIS & COZENS 2009).

3.8.18. The process of 'crimping' was also rife in the area. This was a process whereby middlemen guaranteed to find crew for a ship and took a cut from the sailors whom they lured by providing cheap lodgings, food and loans, leaving them in debt and adding to the social issues of the area.

3.8.19. The increase in social issues, combined with Victorian philanthropic and religious fervour led to a group of individuals campaigning for the opening of a place for onshore sailors to receive shelter and relief. The Sailor's Home opened in 1827, originally at 19 Wellclose Square, in order to facilitate these needs.

3.8.20. Greenwood's map of 1827 (FIGURE 5), shows little change in the area from

Carey's map, although it does now refer to Dock Street, instead of Salt Petre Bank.

- 3.8.21. The Royal Brunswick Theatre collapsed in 1828, allowing for a more permanent Home for Sailors to be established, providing 100 berths. This was located less than c.20m east of the site on Well Street.
- 3.8.22. The Home was governed by the Anglican church and employed agents to meet ships arriving in the ports to persuade seamen to stay there. It established the Episcopal Floating Church to provide regular Anglican services for seamen visiting the Pool of London
- 3.8.23. The Home was expanded in 1848 and a dedicated church built (St. Paul's Church for Seaman c.50m south of the site) built after fundraising.
- 3.8.24. By 1863, an old warehouse on Dock Street was obtained by investors in the Home and conversion had been completed by 1865. The conversion allowed for 500 berths and moved the frontage of the Home to Dock Street.
- 3.8.25. Construction of the coal stores, which comprise the site area, were constructed with the Dock Street frontage in 1865.
- 3.8.26. Religious care of the sailors at the Home at this time was provided by the Reverend Daniel Greatorex. The archetypical Victorian social reformer, he instigated the purchase of the former Danish church in 1868, had it demolished and constructed St. Paul's Infant school in 1870. The construction of the school was linked with the orphans of seamen in the area.
- 3.8.27. It is of note that during the construction of the school, improvement works were ongoing in the basements of the Home including; "...luggage lift, scullery, store rooms....coal and beer cellars, navigation school and laundry" (Annual Report of The Sailor Home, Well Street and Dock Street, London Docks, 1871: Greenwich Maritime Museum).

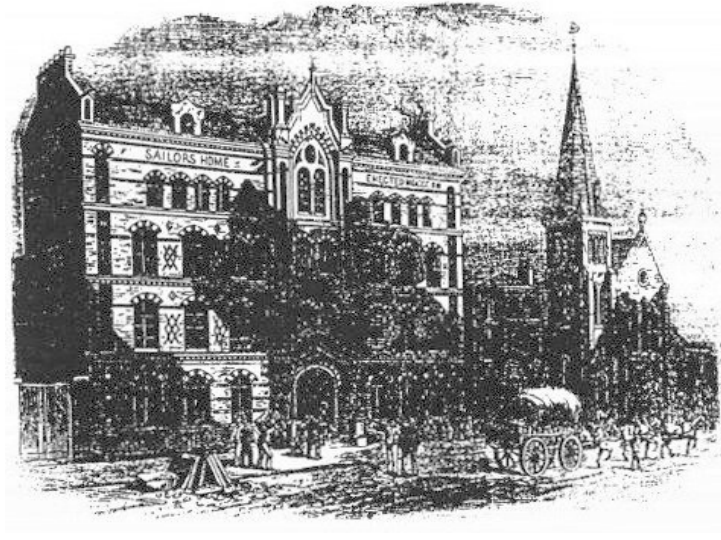


Plate 3 - The Dock Street Frontage of the Sailor's Home
c.1865 (London Metropolitan Archives).

3.8.28. The Ordnance Survey map of 1880 (FIGURE 6), shows the site as part of the Sailors Home which creates a unified block from Dock Street to Well Street. It also shows St. Paul's school over the former Danish church.

3.8.29. The area continued to suffer from poverty through the late 19th century, as shown by Booth's Poverty Survey, indicating the area as chronically poor and 'semi-criminal'.

3.8.30. This 'degeneration' is directly linked to increasingly difficult economic circumstances. This was due to the docks, which had been instrumental to the initial growth and continued wealth of the area, shifting further to the east.

3.9. MODERN

3.9.1. The Sailors Home continued its function well into the 20th century.

3.9.2. The area was heavily bombed in the Second World War due to its proximity to Docklands. The site was not damaged by bombing at this time.

3.9.3. The Home continued in existence under the name The Sailor's Home and Red Ensign Club. To provide better facilities, the Dock Street part of the site was rebuilt between 1951-61.

3.9.4. With the decline of the docks the need for such accommodation declined, and

in financial difficulties it closed on New Year's Eve 1974.

3.9.5. The site is now a hostel.

4. Aims and Objectives

4.1. The immediate concern was the recording and excavation of the exposed human remains on site. After this a Watching Brief was maintained to observe for any other archaeological features and human remains.

4.2. The aims of the excavation were:

- ◆ To record, photograph and excavate the disturbed human remains and any other archaeological features.
- ◆ To look for any dating evidence to facilitate dating of assemblage.
- ◆ To look for evidence of cut features and stratigraphic relationships related to the remains
- ◆ To understand the nature of the deposition of the remains.
- ◆ To define, record and remove any other archaeological deposits that would be destroyed as a result of building works within the excavation area.

4.3. The general aims of the Watching Brief were:

- ◆ To record, and where necessary, to hand excavate archaeological remains revealed during further groundworks operations.
- ◆ To ensure that should significant remains (such as human remains) be encountered, that Historic England be informed and appropriate action be taken.

4.4. The specific aims of the Watching Brief were:

- ◆ To watch for the presence of articulated and/or disarticulated human remains on the study site.
- ◆ To record evidence for the land use of the site and its nature over time.
- ◆ To understand the stratigraphic sequence of the site.

5. Methodology

- 5.1. For a full description of the archaeological methodology please refer to section 4 of the WSI (SWANNICK & HUNT 2015).
- 5.2. The works covered by the WSI comprised excavation of stratigraphy below the ragstone floor within the coal stores and watching brief on other works in the basement areas.
- 5.3. The watching brief monitored all ground works including but not limited to hand excavation by the labourers and breaking out of 20th century drain runs.
- 5.4. All excavation on site was done by hand with no machine excavation.
- 5.5. Labourers were provided by the client to expedite the excavation process.
- 5.6. Most of the excavation within the coal stores had been completed prior to archaeological involvement. There were a total of four un-excavated or partially excavated coal stores remaining that would fall into the remit of the archaeological watching brief (FIGURE 7). These have been listed as Coal Store 1 to 5 ('hereafter CS1, CS2, CS3 & CS4, CS5').
- 5.7. CS1 contained fully disturbed human remains, the remaining stratigraphy was excavated archaeologically. It became apparent that there was a second charnel pit within CS2 that had also been slightly disturbed by the labourers. This required CS2 to be hand excavated by L - P and it was possible to detail the stratigraphic events within the coal store in more detail than in CS1.
- 5.8. CS3, CS4 and CS5 were monitored under watching brief (to be excavated archaeologically if deemed necessary).
- 5.9. Approximate ground level was calculated at 11.90m OD, based on a spot height in the street shown on the OS Mastermap data. All levels recorded during fieldwork were measured relative to this level.
- 5.10. All excavation was undertaken with hand tools under the constant supervision of or by a qualified archaeologist.

6. Results

6.1. The stratigraphic sequence observed on site is illustrated in the site stratigraphic matrix APPENDIX 1.

6.2. The contexts have not been formally grouped or sub-grouped due to the relatively small quantity of contexts and size of the site. General groups will be discussed below, starting with the earliest stratigraphy on site.

6.3. Contexts that are deposits, fills or layers are marked within (parentheses), cuts within [square brackets] and masonry underlined.

6.4. All levels are noted in m OD.

6.5. QUARRY BACKFILLS

6.5.1. Mid brown orange sandy gravels were the earliest deposits found onsite in two of the four coal stores CS1 (1008) and CS2 (2011). The gravels were recorded and initially described as natural gravel, however the presence of silt within the gravels, indicates that the gravels had been disturbed in antiquity. No dating evidence was located in these deposits.

6.5.2. The gravels in CS1 were observed at 7.60m OD and 7.77m OD in CS2.

6.5.3. These deposits are indicative of quarrying/extraction activity in the area prior to the construction of buildings on the site.

6.5.4. There was no further excavation of layers or deposits below this level as it was the required formation level for the new floor level. Archaeology below this level will be preserved *in situ*.

6.6. POST-MEDIEVAL PHASE 1 - PITTING

6.6.1. In CS5, a pit [4001] was identified with a dark brown black fill (4000) at 8.15m OD (PLATE 4). The pit contained pottery dated to 1580-1630. This pit was truncated to the south and west by the construction cut for the coal store, making it stratigraphically earlier in date than the coal stores.

6.6.2. The date of the pottery and its stratigraphic relationship indicates that it is a refuse pit, that is probably related to the buildings predating the Seaman's

Home which were involved in glass production. This would mean that the pit is probably associated with the 'Lodises Court' building which is marked on Rocque's 1746 map.



Plate 4 - Refuse Pit [4001], within CS5.

- 6.6.3. The height at which the pit was cut could not be accurately defined due to removal of stratigraphy prior to the commencement of archaeological work. The pit was not fully excavated due to the formation level for the new floor.

6.7. POST MEDIEVAL PHASE 2 - COAL STORE CONSTRUCTION

- 6.7.1. Construction cuts for the coal stores were observed in CS1 [1006] at 8.03m OD and CS2 [2010] at 8.10m OD. No other coal stores were excavated to the level where construction cuts could be seen.
- 6.7.2. The construction cuts were cut into the gravel which suggests that the gravels had been left exposed, possibly after a strip cut which was not archaeologically observable due to modern truncation, and the coal stores dug into the gravel.
- 6.7.3. The walls were a mix of Victorian yellow stock brick and mid purple red slightly frogged bricks. There was a series of three internal offset footings within both the coal stores.
- 6.7.4. Construction backfills (1005) at 7.95m OD and (2008) at 8.10m OD, were very loose sandy silt. There were no finds within the fills, and the fill was likely redeposition of earth that had been disturbed during the construction cut.

6.7.5. A small amount of construction trample (1004) was identified at 8.10m OD within CS1. A similar deposit was not observed in the less disturbed CS2.

6.7.6. This matches the documentary evidence that there were coal and beer stores constructed in 1865 as part of the expansion of the Seaman's Home onto Dock Street, and refurbished in the 1890's.

6.8. LEVELLING LAYERS AND EARLY SURFACES

6.8.1. Levelling and make up layers were observed in CS1 (1002) at 8.10m OD, CS2 (2007) at 8.31m OD and CS3 (3003) at 8.03m.

6.8.2. In CS1 and CS2, the levelling layers were a similar compacted stoney sandy silt. Pottery from (1002) dates to 1660-1700 and pottery from (2007) dates to 1630-1700. These finds were residual, derived from the disturbance of earlier deposits during the coal store construction.

6.8.3. In CS3, the levelling layer was a looser sandy silt which was sealed by a series of floor surfaces 3000, 3001 and 3002 at 8.05m OD. This was the likely the original and only floor level within CS3, comprising York stone 3000 as the predominant flooring surface, with yellow stock bricks 3001 & 3002 packed into gaps in the flooring (PLATE 5).

6.8.4. It is likely that the York stone was reused, if the stone had been made to measure CS3 then it is unlikely there would have been gaps to be filled by bricks. It is not possible to ascertain the original use and origin of the York stone, but it is probable that it was previously used as a floor surface elsewhere.



Plate 5 - West Facing shot of Floor Surfaces 3000, 3001 and 3002, within CS3. 1m Scale.

6.8.5. These early surfaces were the original surfaces of the coal stores, with later surfaces added over time.

6.9. POST MEDIEVAL PHASE 3 - CHARNEL PITS

6.9.1. In CS2 a charnel pit cut [2004] was preserved. However in CS1 owing to modern disturbance by the groundworkers the original cut had been removed.

6.9.2. Cut [2004] in CS2, truncated the underlying make up layer (2007), the construction cut for the coal store wall [2010] and the gravel (2011), indicating that construction of the coal stores had begun before the charnel pit was dug.

6.9.3. The pit was a rectangular cut with a flat base and steep sides at the top which gently sloped to the base. The dimensions were 1.43m east to west and 0.60m north to south. The pit was cut from 8.36m OD and reached a depth of 7.77m OD (PLATE 6).



Plate 6 - North Facing Shot of Charnel Pit [2004], Cut through make up layer (2007). 1m Scale.

- 6.9.4. The top of the cut at its eastern extent had been slightly truncated by a modern labourer cut [2000], which disturbed a small amount of human remains (2003). Despite this, most of the original cut survived.
- 6.9.5. Within the pit were human remains (2006). The remains lay in the cut at 8.15m OD and were 0.56m thick. This thickness of the deposit was due to the layering of the skeletal material (PLATE 7). The arrangement of the remains comprised long leg bones (femur and tibia) as the upper layer overlying the crania, which overlay vertebral, rib and pelvis, which overlay the bottom layer of long bones of the upper body (radius, ulna and humerus).
- 6.9.6. There were very few small bones present. This charnel was comprised of a 416 bones, with a minimum number of individuals (MNI) of 17.
- 6.9.7. The assemblage had a relatively even sex distribution of 1.3:1 male to female split, and the population was heavily biased toward adults who made up 95% of the aged elements in this context. More information regarding osteology can be seen in SECTION 8.
- 6.9.8. Overall, the remains were from a relatively healthy population who were heavily biased towards adults. It is likely that this bias is linked to the disturbance from the removal and redeposition of the remains into the charnel

pit.



Plate 7 - North Facing Shot of Charnel (2006). 1m Scale.

6.9.9. A single piece of residual pottery was found in relation with the remains, dating to 1550-1700.

6.9.10. A loose sandy gravel matrix (2005) was deposited onto the top of the charnel at 8.33m OD. This fill mostly sealed the top of the charnel although some of the material did percolate down into the charnel deposit. This deposit was redeposited sandy gravel upcast material from the underlying deposits (PLATE 8).



Plate 8 - North Facing Shot of sandy gravel backfill (2005) sealing (2006). Disturbed Charnel (2003) on right of shot. 1m Scale.

6.10. POST MEDIEVAL PHASE 4 – SCREED AND MAKE UP

6.10.1. A lime mortared plaster surface was identified in CS1 1003 at 8.32m OD, and CS2 2002, at 8.57m OD.

6.10.2. The surface was laminated and mortar flecks and crushed brick were pressed into the surface. The surface was 'spread' onto the underlying surfaces sealing the CS2 charnel (2006). The plaster abutted and was smeared onto the coal store walls.

6.10.3. Due to modern truncation it was not possible to stratigraphically ascertain whether the screed 1003 (PLATE 9) covered the entire floor surface of CS1, although it seems likely that it would have done.

6.10.4. It is noted in the watching brief stages that this screed flooring was only observed within the coal stores which had charnel pits located within them. This direct relationship with the screed placed over the charnel pits, indicates a significant difference between the construction method of the coal stores with charnel and those without.



Plate 9 - West Facing Shot of Screed 1003 in CS1. 1m Scale.

6.10.5. Above both screed floor surfaces were silty sand levelling deposits (1000) and (2003), to level out the surface for the 19th century slab level.

6.10.6. The finds from these deposits include pottery and glass dated from 1800-1900.

6.11. MODERN

6.11.1. In both CS1 and CS2 disturbance to human remains in the charnel pits, had occurred during discovery. This varied in severity between the coal stores.

6.11.2. CS1 had significant disturbance of human remains (1001) due to a modern groundworker disturbance [1007]. The deposit was of co-mingled ex-situ human bones, at 8.20m OD, which were representative of a charnel pit assemblage as seen in CS2. No pit cut or fill was associated with the remains due to the groundworker disturbance.

6.11.3. As in (2006), the assemblage of (1001) contained very few small bones. This context was slightly larger in comparison with (2006) as it comprised 1063 bone fragments, with a minimum number of individuals (MNI) of 23. There was a significant increase in the amount of modern breaks to the assemblage, likely increasing the bone fragment count. This increase was caused by the modern disturbance [1007]. The context had a similarly even sex distribution

of 1.3:1 male to female split to (2006), and once again the population was heavily biased toward adults who made up 85% of the aged elements in this context. More information regarding osteology can be seen in SECTION 8. Overall, the remains within this context were a relatively healthy population who were heavily biased towards adults. It is likely that this bias is linked to the disturbance of the removal and redeposition of the remains into the charnel pit and then again by modern truncation.

- 6.11.4. The finds contained within (1001) comprised of pottery, clay tobacco pipe, ceramic building material and iron slag. Due to the level of modern disturbance, these finds are treated as contaminated.
- 6.11.5. The disturbance of human remains in CS2 (2003), was significantly less than that of (1001). The remains in this context were disturbed from the charnel pit cut [2004] at 8.27m OD, by a groundworker disturbance [2000]. This context would have originally formed part of the charnel (2006).
- 6.11.6. The assemblage comprised of 17 bones, with a low level of fragmentation, owing to the remains being crania and long bones. The calculated MNI of this context was two, with all aged elements relating to adults, with a single sexed element belonging to a male. This is a very small sample, which would have belonged to (2006).

7. Finds Assessment and Results

7.1. SUMMARY

- 7.1.1. This finds assessment was prepared by Jacqui Pearce, Beth Richardson and Ian Betts of MOLA and Tom Swannick of L - P : Archaeology.
- 7.1.2. The assemblage recovered from the site is small, and consists of: pottery, ceramic building material, clay tobacco pipes, animal bone, slag and glass. There are also three small pieces of leather. The date range is Post Medieval.
- 7.1.3. Finds reports and tables can be seen in APPENDIX 2 and APPENDIX 3.

7.2. POTTERY

- 7.2.1. The pottery from DKS16 was spot-dated and recorded in accordance with current MOLA practice, using standard codes for fabric, form and decoration.
- 7.2.2. A total of 23 sherds from a minimum of 23 vessels, weight 1006 g, were recovered from seven small contexts, none of which yielded more than six sherds. The small size of the contexts makes close dating difficult, especially with long-lived fabrics in which forms changed little over many decades.
- 7.2.3. All contexts in which pottery was found have been dated between c 1550 and 1900, although it is likely that none was deposited before c 1580.
- 7.2.4. Context (4000), a refuse pit, has been dated to c 1580–1630, although it could be later in the 17th century (there are too few sherds to be certain). It is dated by the presence of a sherd of London-area post-medieval redware (PMR), part of a probable jar, glazed inside and out, and by a sherd from a dish in tin-glazed ware decorated in a style typical of the earliest period of manufacture (TGW A). There are also sherds from two tripod pipkins, one each in BORDG and BORDY, and from a porringer in Surrey-Hampshire border redware (RBOR). These finds were uncontaminated by modern activity and dating is secure.
- 7.2.5. All of the other contexts underwent a degree of disturbance during the construction of the coal stores, and as a result the rest of the pottery assemblage is residual.

7.2.6. Most of the pottery from the site is typical of domestic activity, with fabrics and forms in widespread use across the London area.

7.3. CLAY TOBACCO PIPE

7.3.1. Five stem fragments and a single clay pipe bowl were recorded. These are all likely redeposited during the construction of the coal stores.

7.4. GLASS

7.4.1. One fragment of natural green glass was found in context [2001], and comes from a bottle of square shape with rounded corners, probably dating to c 1800–1900, or possibly even later.

7.5. LEATHER

7.5.1. Three fragments of leather were found in context (1001), dated c 1550–1700 by ceramics. The largest is a roughly rectangular piece of leather (length 132mm, max width 25mm) with cut edges (partially torn) and one irregularly spatulate end, angled at one side to form a point.

7.5.2. The other two small torn fragments probably originate from the same object. It is possible that these fragments originally came from a shoe sole or soles with stitching for clump soles and heels (typical of soles of this date), the larger piece cut down for re-use, or simply a by-product of waste. Although the rectangular piece's end is shaped, the V-shaped section and stitch holes would suggest that it is probably not part of a strap.

7.6. SLAG

7.6.1. One small fragment of slag was found in context (1001).

7.7. CERAMIC BUILDING MATERIAL

7.7.1. Recovered from context (1001) was a small piece of cream coloured, partly laminated, fine grained sandstone with a cut upper and lower face. It measures

37mm in thickness.

- 7.7.2. This could be part of a stone paving slab, although there are no signs of wear. The cream colour suggests it may have been brought into London from a quarry situated in the Midlands or northern England during the 18th–19th century.
- 7.7.3. The finds from CS1 included a small fragment of brick from the disturbed charnel pit (1001). This is later contamination. A larger brick fragment was recovered from a makeup/levelling layer (1000). The brick is fairly sharp edged indicating a probable mid-18th–19th century date.
- 7.7.4. Post Medieval white plaster was recovered from context (1003). This measures 13–14mm thick and has mortar attached to the top and bottom surface. This formed part of a plaster screed/flooring sealing the charnel pit in CS1. Similar flooring was used to seal the charnel pit in CS2.

7.8. ANIMAL BONE

- 7.8.1. Animal bone was recovered from five contexts, totalling a weight of 4642grams. Contexts containing animal bone were (1001), (1002), (1005), (2006) and (2007).
- 7.8.2. Context (1001) contained the largest amount of animal bone, with a weight totalling 2966g. However, as previously stated, this context was heavily disturbed by a modern robber cut and the finds are contaminated.
- 7.8.3. The animal bone is typical of a Post Medieval assemblage, comprising of sheep/goat, cow, chicken and rabbit remains. Most of the assemblage contained evidence of butchery and is food waste.
- 7.8.4. The cranium of a small dog was found within the charnel deposit (2006). This may have been disturbed from the surrounding layers or transported with the charnel remains from their original interments.
- 7.8.5. Overall, the potential for further work is very low to nil and no further study is required.

7.9. POTENTIAL AND FURTHER WORK

- 7.9.1. This is a small assemblage, which has a correspondingly limited potential to contribute further to an understanding of the site beyond what has already been recorded in terms of the range of types and their chronology. There is significant disturbance of material associated with contexts (1001) and (2003), and so the finds from these contexts must be treated as contaminated and therefore inaccurate for dating of the deposits.
- 7.9.2. The finds assessment indicates that the assemblage appears to represent standard domestic refuse, although quantities are too small to draw firm conclusions.
- 7.9.3. Most of the building material probably relates to the Victorian Coal stores constructed in 1863–1865.
- 7.9.4. The use of thin plaster layer to seal the charnel pits is an unusual construction technique. It would be useful if further research could determine whether it was a capping or sealing over the burials in the basement stores.
- 7.9.5. Overall the finds are significant only to the site environs, and no further work is suggested.

8. Osteology Assessment

8.1. SUMMARY

- 8.1.1. This human osteological assessment was prepared by Tom Swannick of L - P : Archaeology.
- 8.1.2. The assemblages recovered from the site are split into three separate contexts. Context (1001) was heavily disturbed by modern activity and located within CS1. Context (2003) and (2006) were both located in CS2, with (2003) having suffered disturbance. It is certain that (2003) and (2006) were the same context as they were located within the same cut.
- 8.1.3. The human osteological report and tables can be seen in APPENDIX 4.

8.2. THE ASSEMBLAGE

- 8.2.1. A total of 1493 human bone fragments were analysed, of which rib fragments were the most common making up 14.%. Ribs were over-represented due to fragmentation.
- 8.2.2. Context (1001) contained the largest number of elements, making up 71.20% of all the bones collected. This was followed by context 2006 (27.66%), and finally 2003 (1.14%).
- 8.2.3. Of the 1493 elements, 963 (65%) of the assemblage was highly fragmented, meaning that less than 25% of the element remained. A total of 96% of the assemblage was fragmented to some extent.
- 8.2.4. Overall, preservation of the assemblage was good. There was no taphonomic damage noted on any of the bones from animal contact or human agency, and it is evident that changes to the preservation condition related to soil/ground conditions and possibly exposure/weathering when the remains were moved from their original location.
- 8.2.5. A minimum number of individuals (MNI) was calculated from the sided frontal bones of the crania within the collection. This produced a MNI of 42 individuals.

- 8.2.6. Of the 1493 elements in the assemblage, a total of 1039 (69.59%) could be assigned a broad age bracket of adult, adolescent/adult or immature.
- 8.2.7. A total of 67 (6.45%) of the elements within the entire assemblage could be given a more specific age range. Of the elements assigned an age, the largest number (31.34%) were between the age of 30-40. Individuals under the age of 20, made up 12 (17.92%) of the specifically aged elements.
- 8.2.8. The results indicate a relatively even sex split between males and females, with a ratio of 1.35:1 across the entire assemblage.
- 8.2.9. Non-metric traits are anomalies in the normal anatomy of the skeleton. They are not measurable and are simply recorded on a present or absent basis. In most cases they are thought to have a genetic origin, and for this reason a reasonable amount of attention has been devoted to them in the hope that relationships both within and between groups might be postulated. There were a total of 6 separate non-metric traits within the assemblage. The most prevalent non-metric trait was a double anterior calcaneal facet with a TPR of 16.67%. This may however be biased by the relatively few calcanea (12) within the assemblage.
- 8.2.10. There were 12 separate pathologies affecting 104 elements within the assemblage.
- 8.2.11. Only 6.97% of the elements were affected by pathologies, with no observable pathology being particularly severe or direct cause of death.
- 8.2.12. The most common skeletal pathology were osteophytes, which predominately affected the vertebrae, presenting as calcified lipping over the anterior vertebral bodies. Osteophytes affected the lumbar and thoracic vertebrae an equal amount which is common for older individuals, due to the natural degeneration of the spine over time.
- 8.2.13. A total of 6 dental pathologies that were observed.
- 8.2.14. A total of 47 permanent teeth and 304 permanent sockets which gave a TPR of 15.46% of teeth remaining within the assemblage. There were no deciduous teeth or deciduous sockets present, perhaps an indication of preservation and

selection bias within the charnel.

8.2.15. Overall there was a low yield of teeth, which is surprising as they normally preserve well, further suggesting that many were lost when the burials were disturbed.

8.2.16. Calculus was the most common dental pathology although the small number of teeth may have artificially increased the prevalence of the pathology. Calculus is the build up of dental plaque, that solidifies and eventually leads to gum damage or gingivitis.

8.3. CONCLUSIONS AND FURTHER WORK

8.3.1. The high level of fragmentation was due to the remains being disturbed, first by the Victorian relocating of the inhumations and then again, in the case of (1001) and (2003), by modern groundworker disturbance. The preservation conditions are likely due to the soil conditions, which, when excavated were well drained and mainly gravelly sand. It is unlikely that the charnel remains were moved a significant distance, thus soil conditions were likely similar to the inhumation conditions. Preservation damage may have been increased by weathering if the remains were left exposed from the time they were initially removed from inhumation until redeposited into the charnel pit.

8.3.2. It can however be seen that the completeness and preservation of all the contexts is very similar, likely indicating that the majority of damage to the remains was done during their the removal and subsequent deposition into the charnel pits.

8.3.3. There is no specific selection bias towards gender within the pits, suggesting that the remains of individuals were of unknown age and/or that these were not important factors in the reburial of the remains.

8.3.4. Age distribution was heavily skewed toward adults, which is indicative of a loss of evidence due to the collection, movement and fragmentation of smaller and less developed bones from sub-adults. It may however indicate a bias in the original inhumation population, possibly indicating that only an area containing adults was disturbed and thus were reburied in the charnel pits. It is

unlikely that a population with a broad gender split would have intentionally selected against the deposition of sub-adults.

- 8.3.5. The specific age range within the adult population showed that those between 20 – 40 were the most represented. This could be indicative of a population that suffering from a disease event or hazardous work environment. An age profile like this may also be related to demographic trends in the initial burial area or potentially remain damage/loss of remains during the historic burial disturbance.
- 8.3.6. Skeletal and dental pathologies within the assemblage showed a relatively healthy group of individuals. It is probable that some level of manual work was being performed within the population due to pathologies of the spine related to this work. The vertebral pathologies, culminating in degenerative joint disease, are likely be linked to old age.
- 8.3.7. It was deemed desirable to take two bone samples for C14 radiocarbon dating. This gives a timeframe for the date of death despite the lack of dating material within the charnel.
- 8.3.8. The dates generated were representative for the entire assemblage, rather than for known individuals.
- 8.3.9. The results of the C14 dating can be seen in APPENDIX 5, and have produced radiocarbon ages of BP 182 ± 31 and 188 ± 27 . This gives the highest probability that the date of death range of these two samples are 1735 – 1785calAD and 1762 – 1785calAD respectively.

9. Discussion of Results

9.1. The purpose of this section is to discuss the results of the excavation with reference to the original research aims that were set out in the WSI. These aims have been reproduced in SECTION 4 of this report. Each aim has been re-examined in light of the findings and is discussed below.

9.2. The level of information retrieval from the excavation and watching brief was good and along with post excavation documentary research the aims have been achieved.

9.3. POST MEDIEVAL – EARLY PHASE 16TH TO 17TH CENTURY

9.3.1. This phase is represented by the presence of a pit [4001] in CS5, which was identified during the watching brief.

9.3.2. The fill of this pit contained pottery dating to 1580-1630, indicating that the pit was likely used for refuse.

9.3.3. Together with documentary evidence from maps of the period, it is likely a rubbish pit relating to the early buildings on the site and perhaps the 'Lodises Court' building, noted on Rocque's map.

9.3.4. The western half of the pit was truncated by the construction of the coal stores, therefore was not fully excavated.

9.3.5. The area at the time was known for glass making, however the lack of glass making by-product such as slag, indicates that this was not related to the function of this pit.

9.4. POST MEDIEVAL – COAL STORE CONSTRUCTION 19TH CENTURY

9.4.1. The coal stores were constructed between 1863 to 1865, based on both documentary and building material evidence.

9.4.2. The stores were constructed in the typical style, which is located below the pavement at the Dock Street frontage (YORKE 2010: 116).

9.4.3. There were a series of make up and levelling layers within the excavated stores (1002) & (2007), which contained pottery dated to the 17th and 18th century. These were the layers that were used to form the coal store floor levels during

construction and sealed the construction cuts for the stores. These layers were disturbed during the coal store construction and likely moved into the coal store to build up the ground level or were 17th to 18th century surfaces.

9.4.4. Within CS3, a mixture of brick and York stone was used to create a solid floor level, unlike that in the other coal stores at this level (8.13m OD). This floor level was lower than that of CS2 and CS4, which neighboured the coal store. This was because CS3 was a central chamber in which coal was shovelled down onto in order to move it into the Seaman's Home.

9.5. POST MEDIEVAL – CHARNEL DEPOSITION

9.5.1. The undisturbed charnel deposit (2006), located in cut [2004], was stratigraphically later than both the make up layer and the construction cut [2010] for the coal stores.

9.5.2. The charnel remains (2003), were disturbed by labourers, thus were allocated a separate number due to the single context recording system. However it is almost certain that they are part of the (2006) assemblage.

9.5.3. Charnel remains within CS1 (1001), were heavily disturbed by a modern robber cut and no charnel cut survived. It is however very likely that these remains were deposited at in same manner and at the same time as (2006).

9.5.4. The deposition of (2006) took place after the coal stores had been in use. From documentary evidence (SEE SECTION 3.8.27), it is likely that this was around 1870 during the modification of the basement facilities within the Sailor's Home.

9.5.5. These modifications were likely to raise the floor level to the modern day slab level within the stores. This was probably done to decrease damp within the stores, as was a common problem (YORKE 2010: 116).

9.5.6. There is no evidence to suggest that any burial activity had taken place on the site prior to the Sailor's Home being constructed. The nearby St. Paul's church, constructed from 1846, did not have a graveyard or vaults, likely due to the urbanisation of the area at this time.

9.5.7. There is also no documentary evidence to suggest that any sailor's who entered

the mission and died there were ever buried at the Home. Indeed, due to the very nature of charnel, they would have had to completely go through the decomposition of any connective tissues in order to be disarticulated in such a way.

9.5.8. The Sailor's Home modifications took place at a contemporary time (1870) to the demolition of the former Danish and Norwegian church c.120m east of the site at Wellclose Square. The demolition was undertaken due to the subsidence of the walls and the building of St. Paul's Infant school. This project was spearheaded by Reverend Daniel Greatorex, who was minister at St. Paul's Church for Seaman and was on the board and head of religious teaching at the Sailor's Home.

9.5.9. The former Danish and Norwegian church was known to have vaults, which were bricked up prior to construction of the school. In a note (APPENDIX 7), it is verified by the Burial Office that there were:

'deposited 37 coffins, of which 35 were of lead and 2 of wood', and that 'the vaults are bricked up, so that it is impossible that any danger to health can arise from emanations from the dead bodies in the vaults'.

9.5.10. Modern inspections of the vaults have confirmed this bricking up of the vaults.

9.5.11. This does not however account for the remains located within the railed and walled burial ground which surrounded the church (PLATE 2). It is likely that the charnel remains belong to this group of people.

9.5.12. Samples of bone have been taken from the assemblage and radiocarbon (C14) dated, which can be seen in APPENDIX 5. This shows that the samples from (1001) and (2006) are from individuals who almost certainly did not die any later than 1815 cal AD. This would make them contemporary to the church's use, which was abandoned by 1816.

9.5.13. The 42 minimum number of individuals from both charnel deposits indicate a 'normal' cemetery group, although generally biased toward adults. This may be a result in collection bias from the cemetery, i.e. favouring large obvious bones, as opposed to the small fragile bones of juveniles.

9.5.14. No documentary record is made regarding the removal of the remains interred

within the cemetery surrounding the church. Their remains were likely removed so that foundations and services for the new school could be built.

9.5.15. It is unclear as to why the remains were not placed within the vaults before they were bricked up. Perhaps it was simply not practical, due to either time or space, to place the remains within the vault.

9.5.16. Fragmentation and post mortem damage to the remains may indicate that they were removed from their initial interments a little coarsely, perhaps even quickly. It may also be a result of the inability to see where graves were positioned due to the unkept nature of the graveyard, which had likely not been tended to or used since the last recorded burial there in 1845. This may have led to the accidental destruction of graves and remains.

9.5.17. It is however clear from (2006) that the remains were carefully placed in the charnel pit. This is apparent from the layering of the remains, perhaps suggesting a degree of reverence for the individuals rather than a simplistic and disorganised bundling of the remains into a hole in a subterranean coal store. This was likely the case for the remains within coal store 1, although due to disturbance this cannot be ascertained.

9.6. POST MEDIEVAL – SCREED FLOORING AND FLOOR RAISING

9.6.1. Following the charnel deposition, a plaster screed surface was placed in CS1 and CS2.

9.6.2. This was only identified in the coal stores which had charnel remains in, although it is not clear why this was. It was apparent from CS2 that this screed covered the charnel fill. No stratigraphic relationship could be drawn in CS1 due to modern truncation, although it was apparent that smears of the screed could be seen on the walls of CS1.

9.6.3. The screed itself may have been thought useful to add additional water proofing to the floors of the coal stores after the floor level was raised. However this practice was not observed in the watching brief of CS4 or CS5, perhaps suggesting a localisation to the coal stores with charnel.

9.6.4. More make up and levelling deposits then sealed the screed surface onto which

the slab level was placed.

9.6.5. The Watching Brief in CS4 simply revealed a series of make up and levelling deposits with no screed. It is possible that this practice took place in other coal stores, however no smears of the screed were identified on any of the other walls.

10. Significance

- 10.1. The results of the excavation and watching brief add to the existing documentary knowledge of the site and wider study area, and thus enable a good assessment of the significance of the archaeological deposits.
- 10.2. The site contains remains of solely the Post Medieval period, this is evidence of activity of the early urbanisation and industrialisation in the 16th to 18th centuries, and the subsequent Sailor's Home in the 19th century.
- 10.3. The evidence for the 16th to 18th centuries Post Medieval activity in CS5, is of local significance as it relates to the urbanisation of the hamlets to the east of the city wall.
- 10.4. The evidence for 19th century Post Medieval activity relating to the construction of the coal stores is of local significance, as it is well documented and relates to the development of the Dock Street frontage of the Sailor's Home.
- 10.5. The charnel deposits (1001), (2003) and (2006) contained the remains of at least 42 individuals. The remains likely came from the former Danish and Norwegian church in Wellclose Square, when the cemetery was cleared before the construction of the new school. The C14 dates from the remains indicate that they would have been contemporary to the use of the church graveyard.
- 10.6. The charnel remains themselves are of local significance, informing on the likely clearing out of a graveyard and the subsequent deposition of the remains at the Sailor's Home during renovations of the coal stores. The clearing of graveyards to make additional space is not unusual in itself, indeed it was practical and relatively commonplace. However, the removing of remains from land belonging to the church onto unconsecrated land is and potentially requires further work.
- 10.7. The possibility of the charnel belonging to the Danish and Norwegian community centred around the Wellclose area is of moderate significance. This may allow for several further lines of enquiry such as, isotopic analysis, in order to trace the communities origins, as well as highlighting any trends with the demography of the community. This may produce regionally significant information relating to population movement into London post Great Fire and into the early 19th century.
- 10.8. No remains of national significance were encountered in the excavation.

11. Updated Project Design

11.1.FURTHER RESEARCH

11.1.1.It is suggested that a small amount of further research will be conducted in order to complete the project.

11.1.2.Any further destructive sampling will take into account guidelines from the Advisory Panel on the Archaeology of Burials in England (APABE) (MAYS ET AL. 2015).

11.1.3.It is hoped that isotopic analysis of the human remains could be conducted in order to establish any migratory movement of the individuals from Scandinavia to London. This would also help with identifying whether the remains were likely to have come from the Danish Norwegian cemetery.

11.1.4. This would be completed by using the Strontium isotopes. Strontium isotope composition of tooth enamel can provide information about where an individual spent their childhood. Strontium isotopes provide a fingerprint for different rock types and, as the distribution of rocks is well mapped in Europe and around the world, the geology provides the key to geographic location (BROWN & BROWN 2011). This analysis may also strengthen the case for the remains being from the Danish and Norwegian church.

11.1.5.A small amount of further documentary research may indicate the original location of the remains and why the remains were not placed within the vaults.

11.2.MATERIAL ASSEMBLAGE AND HUMAN REMAINS

11.2.1.No further work is required on the material assemblage, which has been adequately described.

11.2.2. A number of human remains will need to be taken for isotopic analysis.

11.2.3.Reburial or archiving of the remains will need to be organised, as specified by the Ministry of Justice exhumation licence.

11.3.PUBLICATION

11.3.1.If the developer is willing and able to help fund the costs, it is hoped that the

results of the project could be published so as to bring to light this fascinating story.

11.3.2. It is proposed that publication will be in the form of an article in the local journal, the London Archaeologist. The article would contain a summary of findings, documentary research and results.

11.3.3. A summary of findings and local context will be made available online via ADS. This will be in a format accessible to the general public.

11.3.4. Management of the project and responsibility for completion will lie with L - P : Archaeology.

12. Archive

12.1. The archive is to be deposited by arrangement with Museum of London.

12.2. Work carried out on the stratigraphic site archive:

- ◆ The site records have been completed and checked.
- ◆ A stratigraphic matrix has been compiled for the site.
- ◆ All plans have been digitised using a desktop GIS system and attributed with the relevant context information
- ◆ Contexts have been dated with reference to the spot dating provided by the pottery assessments.
- ◆ Contexts have been grouped together into interpretative groups where possible.

12.3. The physical archive contains:

- ◆ 28 x Context Sheets
- ◆ 1 x Context Register Sheets
- ◆ 30 x Permatrace
- ◆ 222 x Photographs
- ◆ 1 x CD Digital Images
- ◆ 1 x Archive Boxes Pottery Sherds
- ◆ 3 x boxes of human remains

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From London Metropolitan Archives:

SURVEY OF THE CITY OF LONDON AND THE SURROUNDING BUILT-UP AREA (INCLUDING WESTMINSTER AND PART OF SOUTHWARK). 1682. BY WILLIAM MORGAN. (CLO/PL/02/G/044).

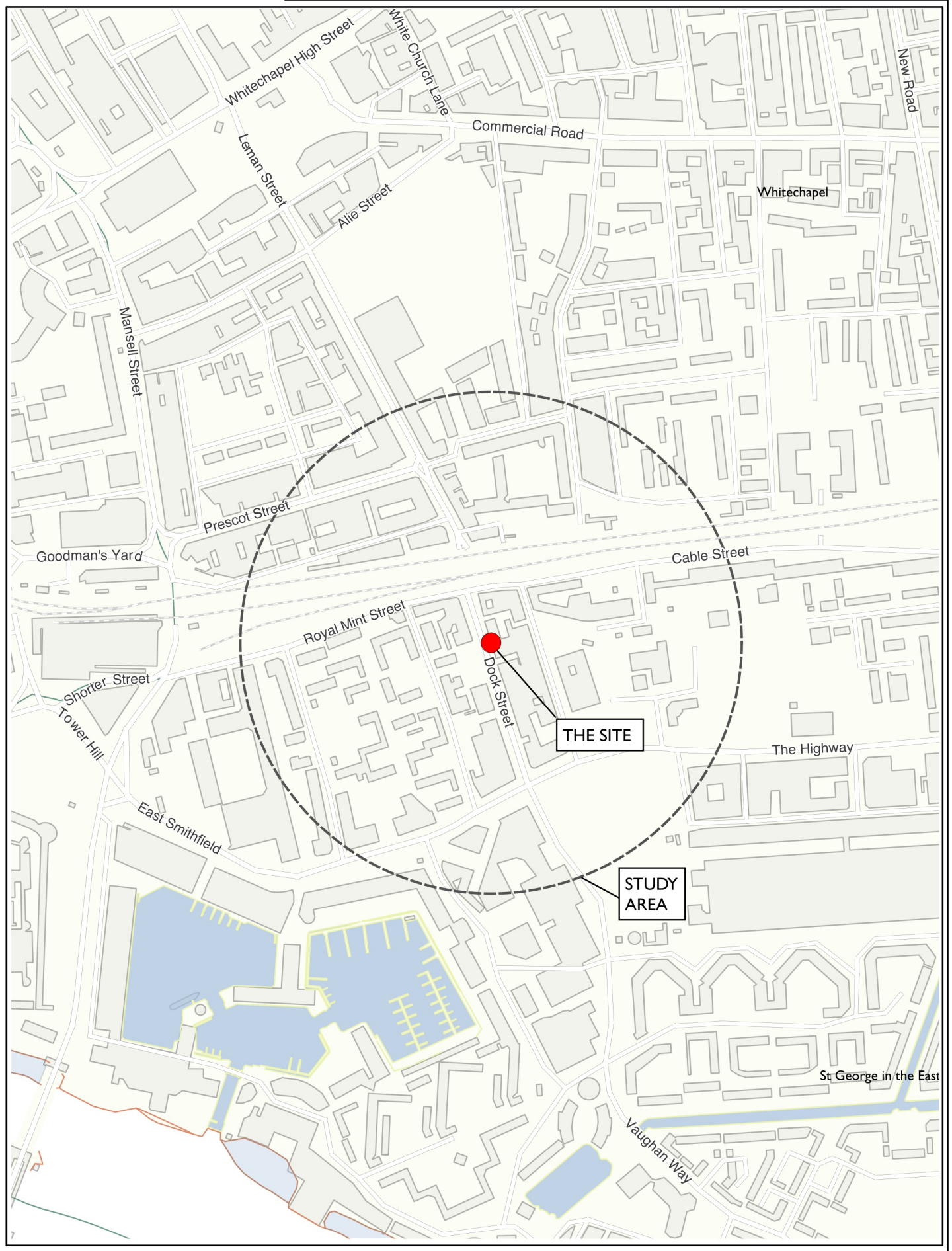
A MAP OF THE COUNTY OF SURREY 1746 BY JOHN ROCQUE.

MAP OF LONDON, FROM ACTUAL SURVEY. 1827. BY CHRISTOPHER GREENWOOD.

ORDNANCE SURVEY MAP – 1880 Scale 1:10000.

FIGURES

FIGURE 1 // Site Location - General



0 250 m



PROJECT // 2072L - 7 Dock Street, E1

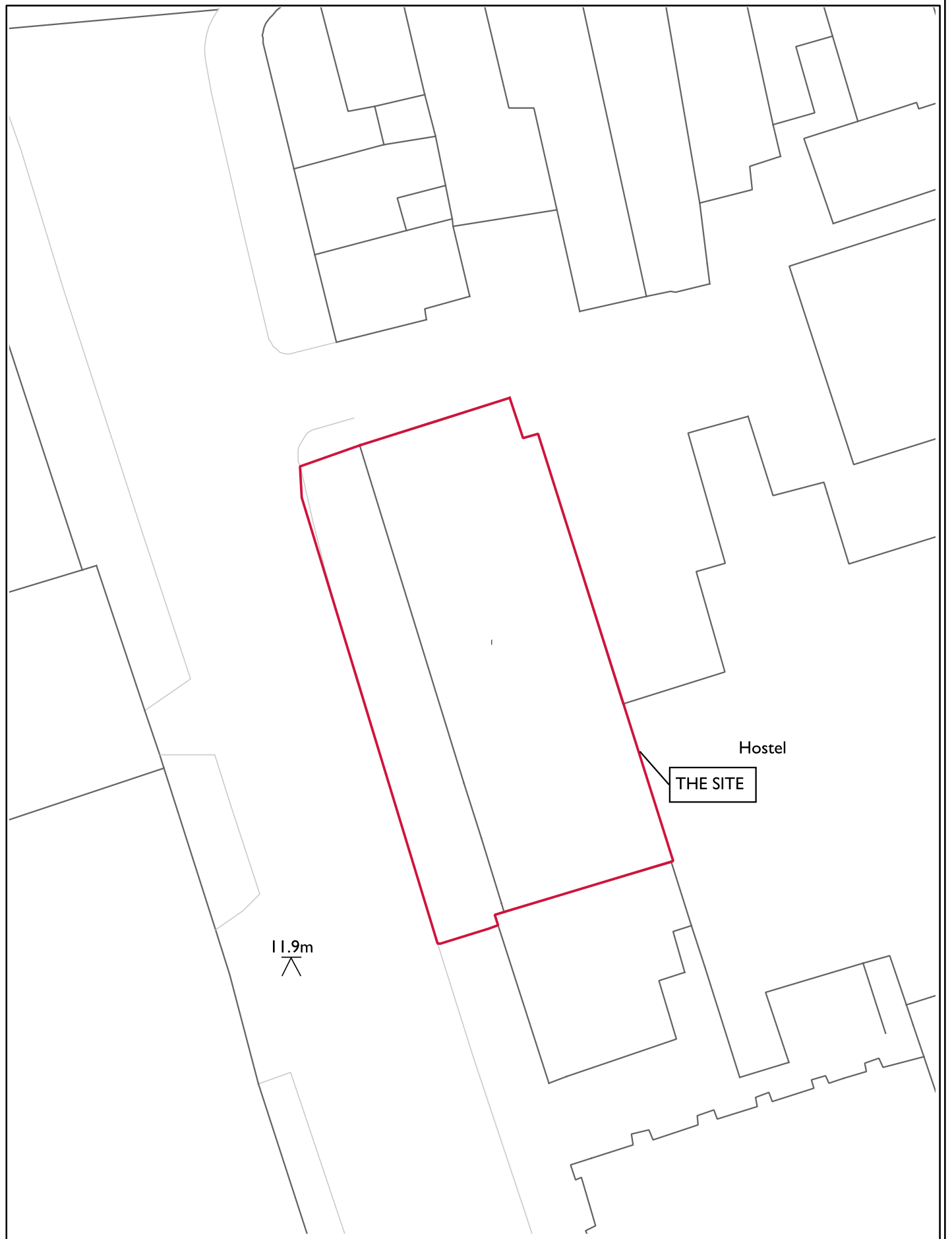
DESCRIPTION // Site Location - General

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DOC REF: LP2072L-WBR-v1

L-P:ARCHAEOLOGY

FIGURE 2 // Site Location - Detail



0

25 m



PROJECT // 2072L - 7 Dock Street, E1

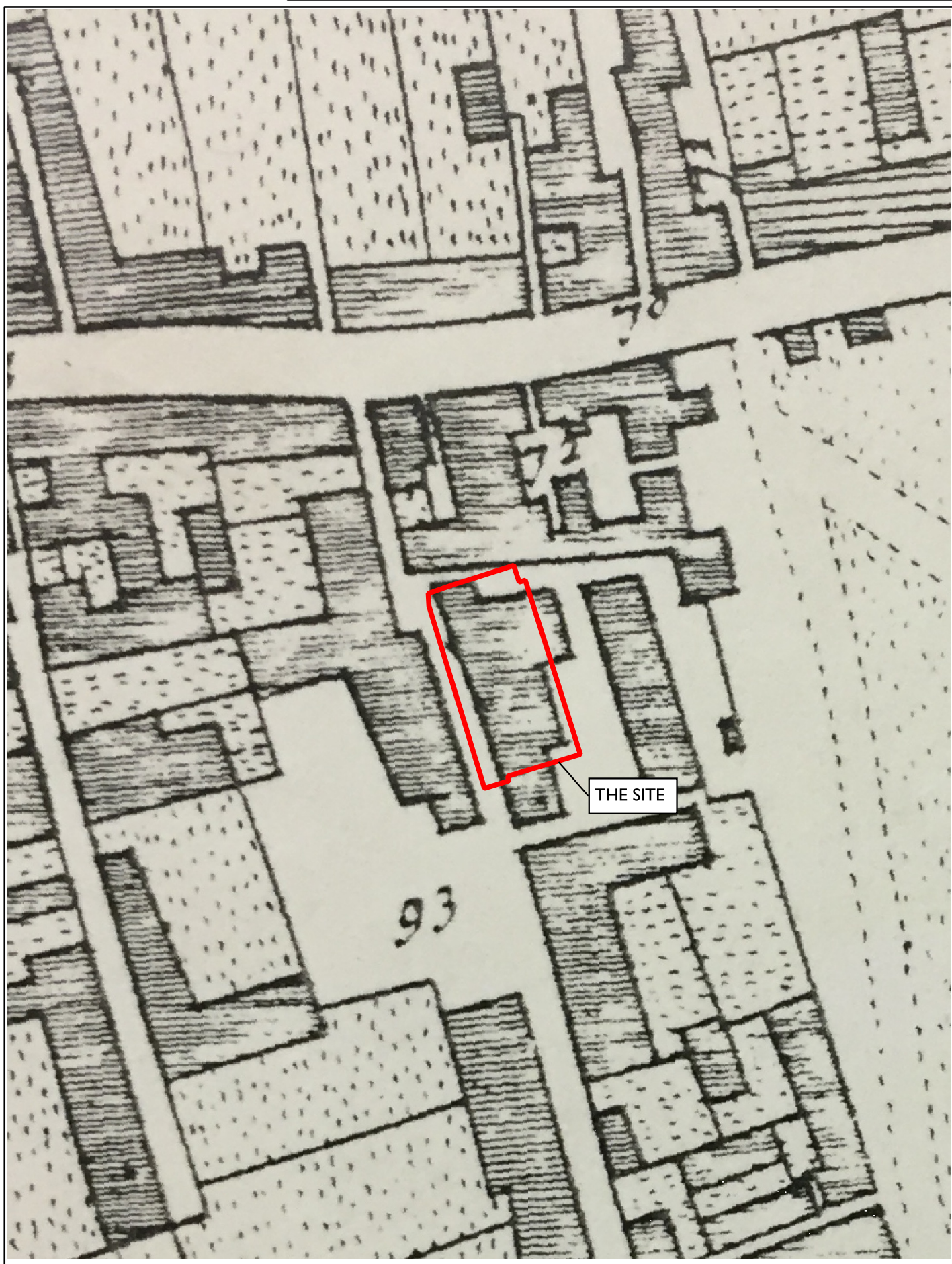
DESCRIPTION // Site Location - Detail

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DOC REF: LP2072L-WBR-v1

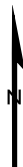
L~P:ARCHAEOLOGY

FIGURE 3 // Morgan's Map 1681-82



THE SITE

0 50 m



PROJECT // 2072L - 7 Dock Street, E1

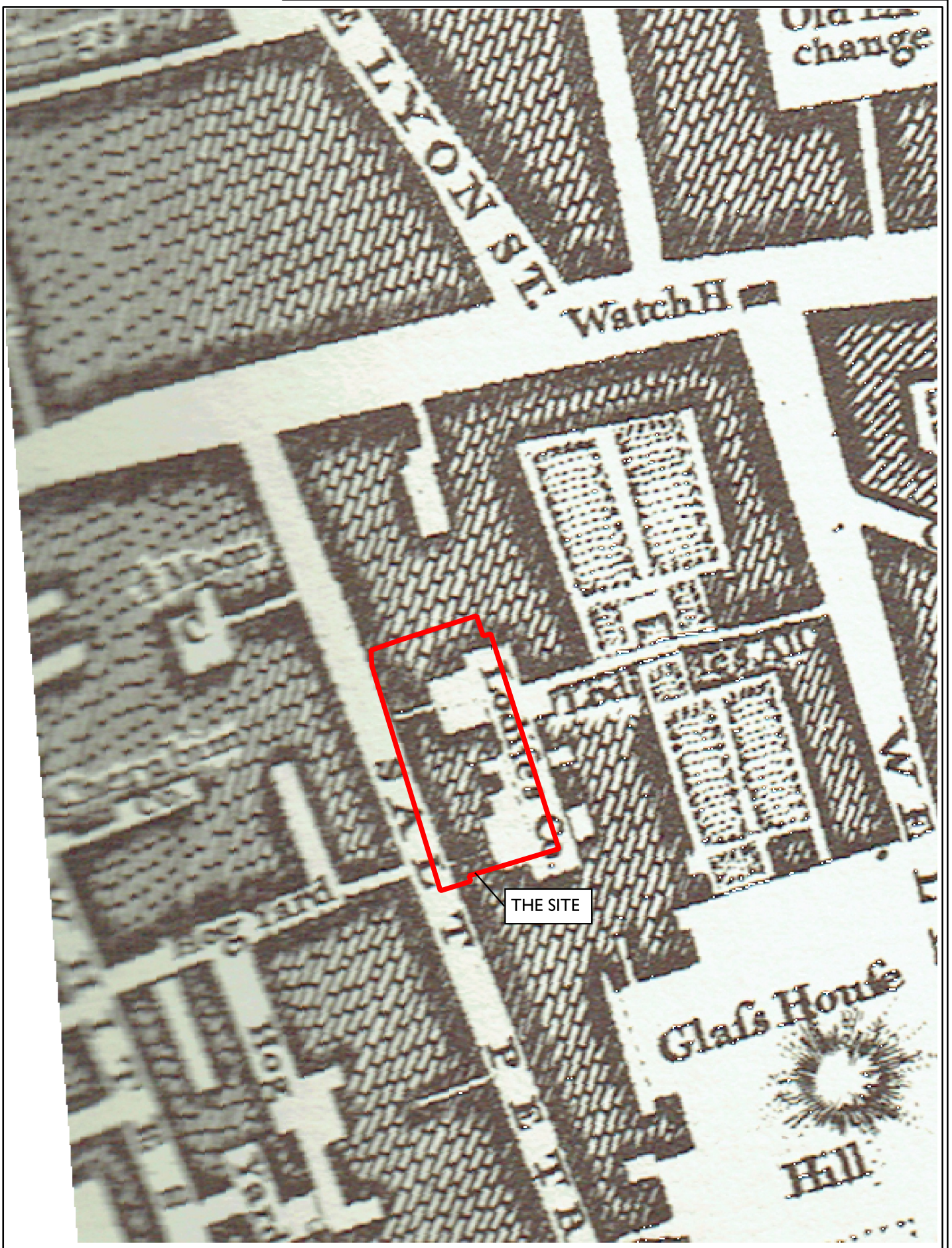
DESCRIPTION // Morgan's Map 1681-82

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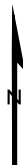
DOC REF: LP2072L-WBR-v1

L-P:ARCHÆOLOGY

FIGURE 4 // Rocque's Map 1746



0 25 m



PROJECT // 2072L - 7 Dock Street, E1

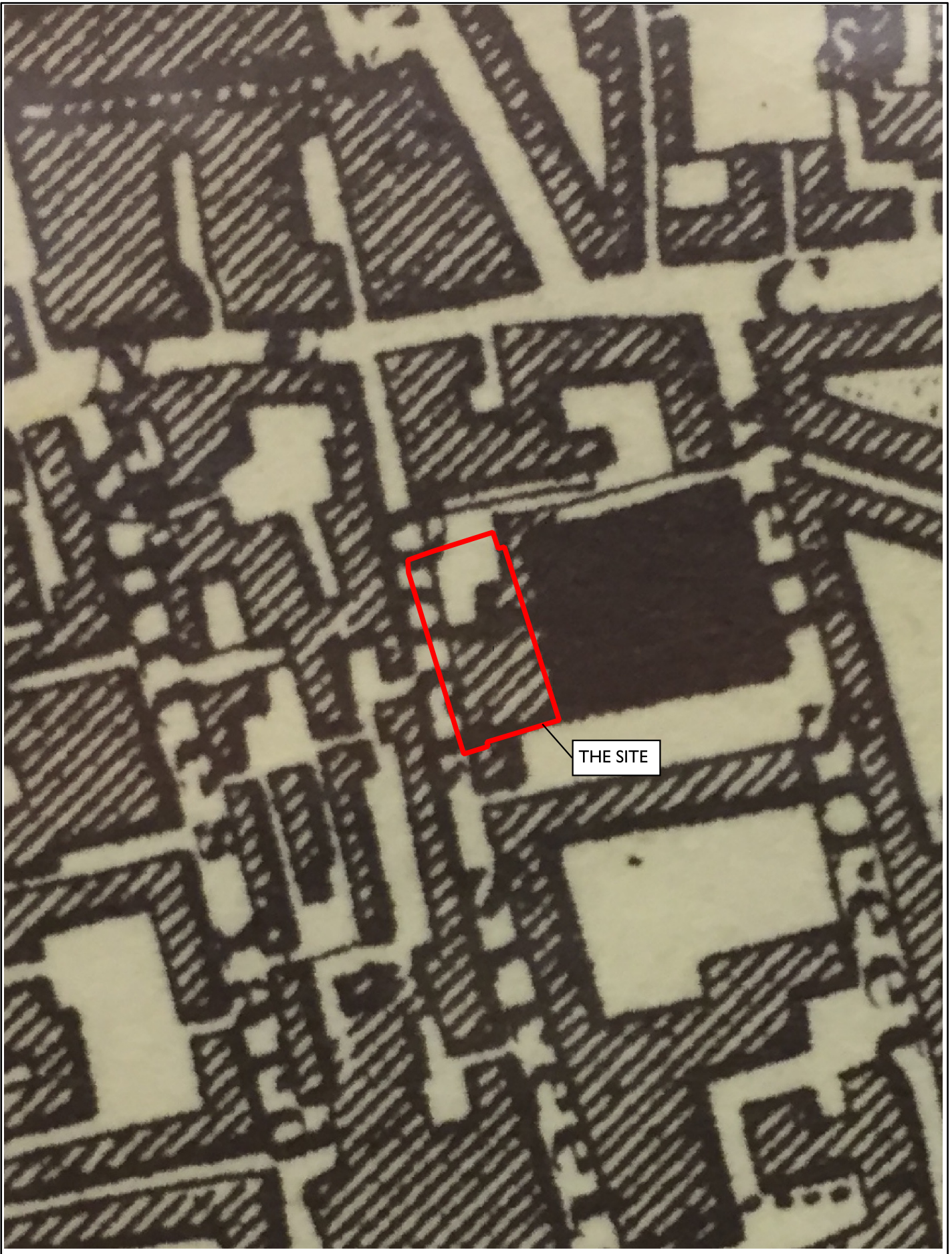
DESCRIPTION // Rocque's Map 1746

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DOC REF: LP2072L-WBR-v1

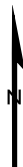
L-P:ARCHÆOLOGY

FIGURE 5 // Greenwood's Map 1827



THE SITE

0 50 m



PROJECT // 2072L - 7 Dock Street, E1

DESCRIPTION // Greenwood's Map 1827

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DOC REF: LP2072L-WBR-v1

L~P:ARCHÆOLOGY

FIGURE 6 // Ordnance Survey 1880



THE SITE

0 50 m



PROJECT // 2072L - 7 Dock Street, E1

DESCRIPTION // Ordnance Survey 1880

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DOC REF: LP2072L-WBR-v1

L-P:ARCHAEOLOGY

FIGURE 7 // Coal Store Locations



0 5 m



PROJECT // 2072L - 7 Dock Street, E1

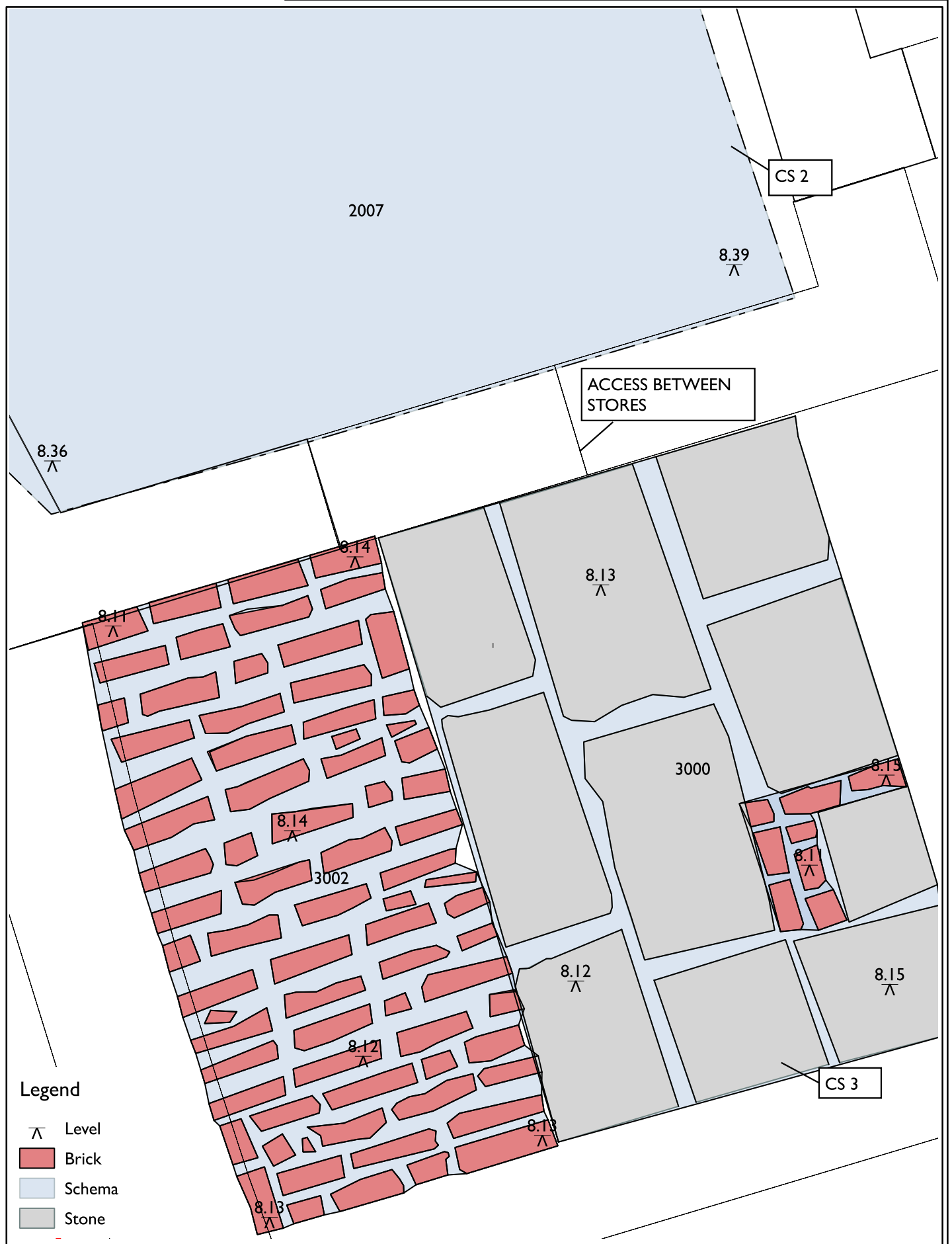
DESCRIPTION // Coal Store Locations

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L-P:ARCHAEOLOGY

FIGURE 8 // Coal Store 2 & 3 Floor Levels



Legend

- △ Level
- Brick
- Schema
- Stone

0 0.5 m



PROJECT // 2072L - 7 Dock Street, E1

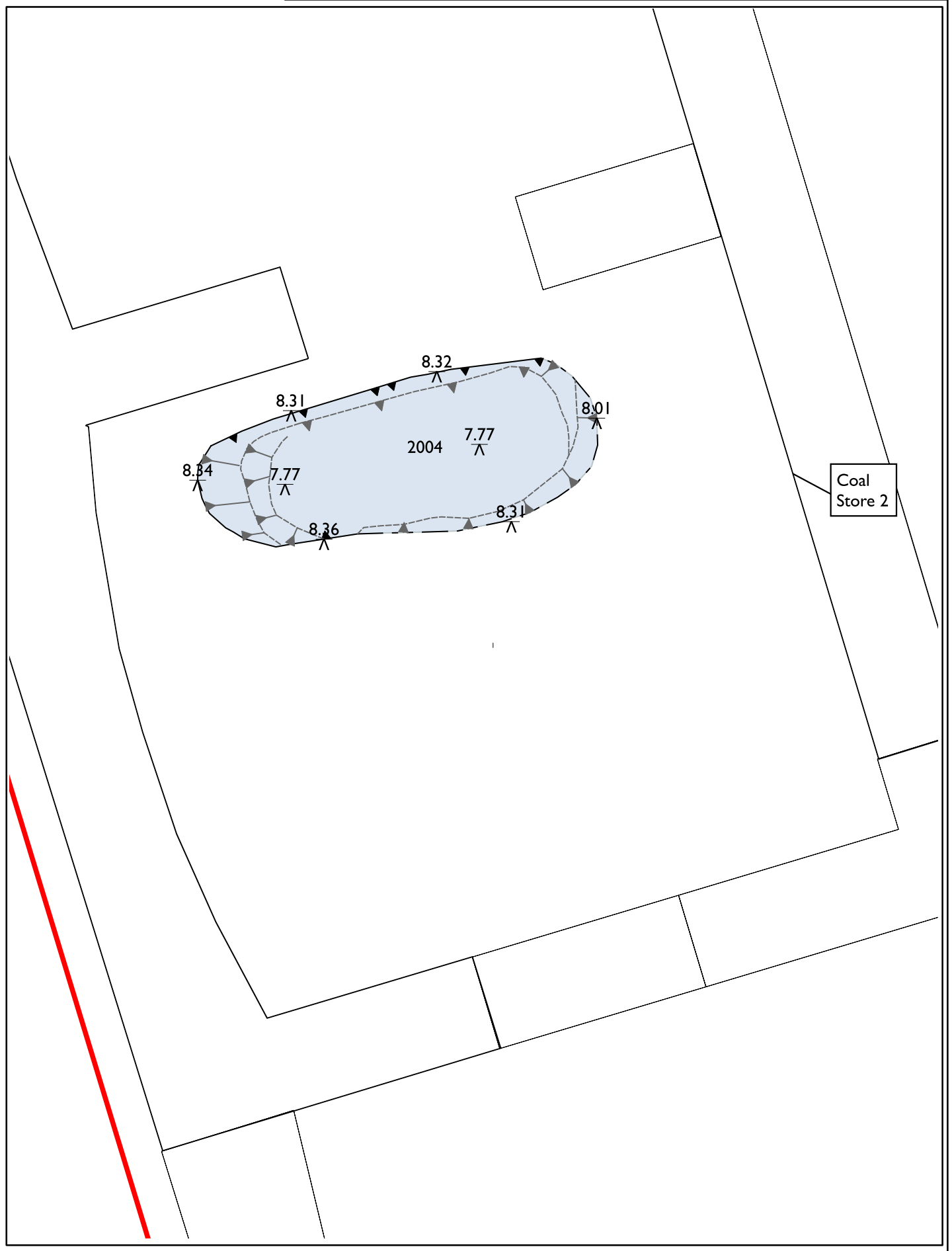
DESCRIPTION // Coal Store 2 & 3 Floor Levels

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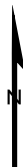
DOC REF: LP2072L-WBR-v1

L-P:ARCHAEOLOGY

FIGURE 9 // Charnel Pit



0 1 m



PROJECT // 2072L - 7 Dock Street, E1

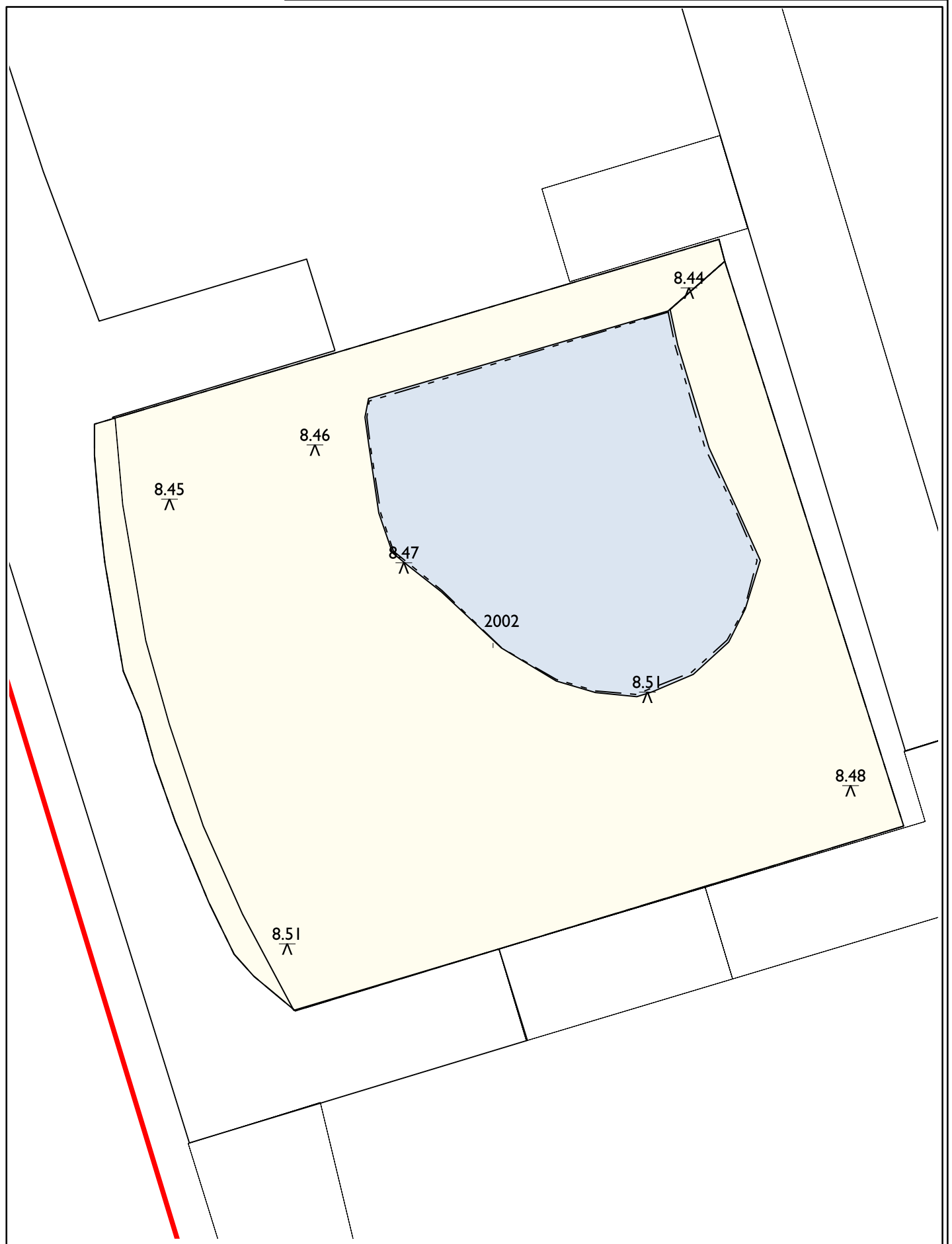
DESCRIPTION // Charnel Pit [2004]. Coal Store 2.

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DOC REF: LP2072L-WBR-v1

L~P:ARCHAEOLOGY

FIGURE 10 // Plaster Screed Surface



0 1 m



PROJECT // 2072L - 7 Dock Street, E1

DESCRIPTION // Plaster Screed Surface (2002). Coal Store 2.

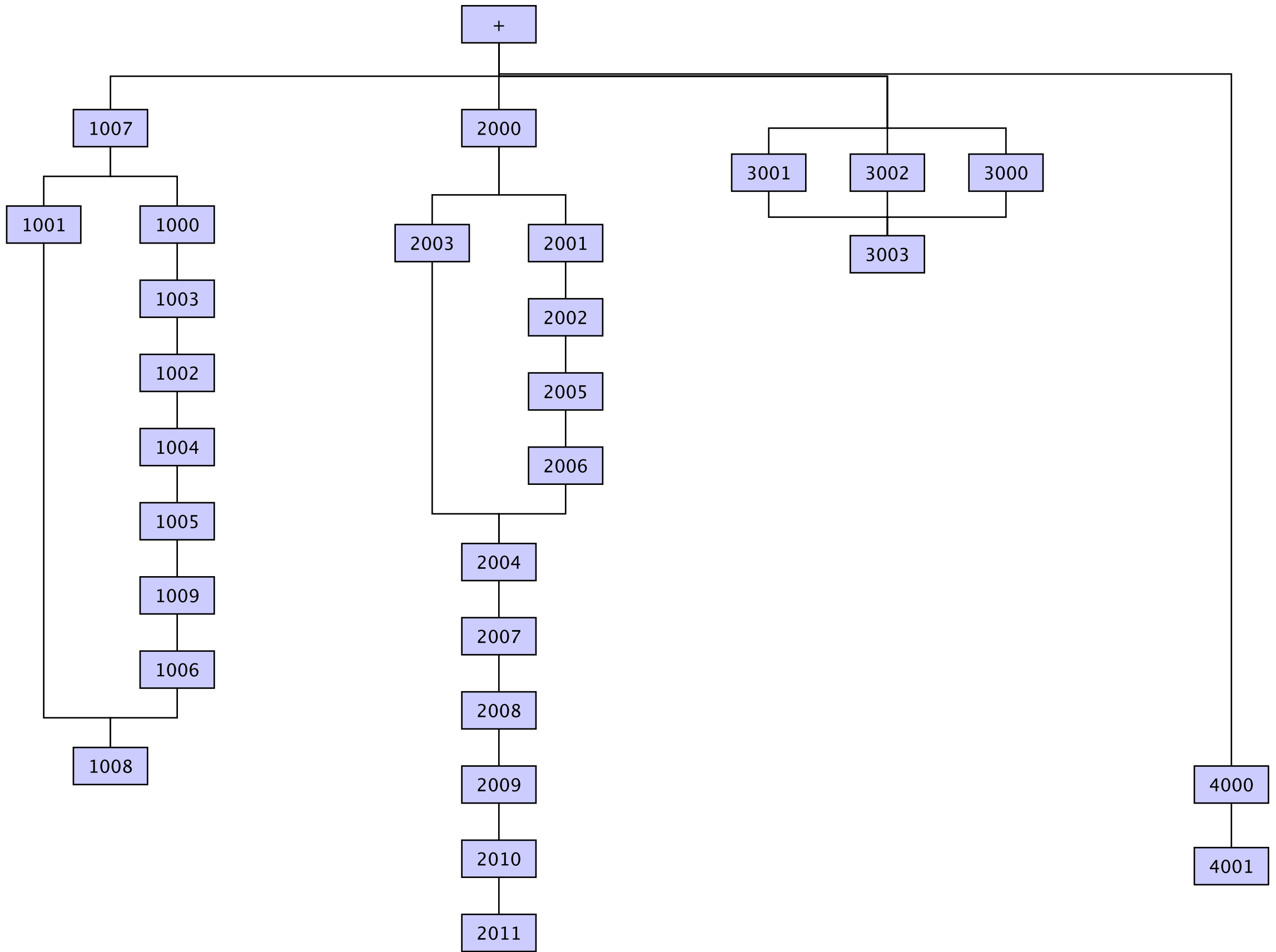
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DOC REF: LP2072L-WBR-v1

L-P:ARCHAEOLOGY

MATRIX DIAGRAM

APPENDIX I



FINDS REPORTS

APPENDIX 2

Pottery, glass, clay pipe, leather and slag from DKS16

Jacqui Pearce and Beth Richardson (31/03/16)

Pottery

Introduction

The pottery from DKS16 was spot-dated and recorded in accordance with current MOLA practice, using standard codes for fabric, form and decoration, with quantification by sherd count, estimated number of vessels (ENV) and weight in grams. The data were entered onto an Excel spreadsheet. A total of 23 sherds from a minimum of 23 vessels, weight 1006 g, were recovered from seven small contexts, none of which yielded more than six sherds. The small size of the contexts makes close dating difficult, especially with long-lived fabrics in which forms changed little over many decades.

Date, fabrics and forms

No medieval pottery was recorded. All contexts in which pottery was found have been dated between c 1550 and 1900, although it is likely that none was deposited before c 1580. Contexts [1001] and [2006] are each dated to c 1550-1700 by a single sherd of Surrey-Hampshire border whiteware, which was in current use during this period. The only form identified in these two contexts is part of a flanged dish in whiteware with clear (yellow) glaze (BORDY) in [1001]; the other sherd comes from an unidentified form with green glaze inside and out (BORDG).

Context [4000] has been dated to c 1580-1630, although it could be later in the 17th century (there are too few sherds to be certain). It is dated by the presence of a sherd of London-area post-medieval redware (PMR), part of a probable jar, glazed inside and out, and by a sherd from a dish in tin-glazed ware decorated in a style typical of the earliest period of manufacture (TGW A). There are also sherds from two tripod pipkins, one each in BORDG and BORDY, and from a porringer in Surrey-Hampshire border redware (RBOR). The absence of any fabrics, forms or decorative styles introduced after c 1630 may indicate that deposition took place before this date.

Context [2007] is dated to c 1630-1700 by the presence of a sherd of Metropolitan slipware (METS), the rim from a rounded bowl. This fine, slip-decorated redware was made at kilns in the Harlow are of Essex and is found in London between c 1630 and 1700. It was found together with sherds from two tripod pipkins in BORDY, and from a handled bowl and one other unidentified form in PMR, as well as part of a jug in Frechen stoneware, imported from the Rhineland between c 1550 and 1700 (FREC).

A late 17th-century date has been given to context [1002] (c 1660-1700) by a sherd from a dish in Staffordshire-type slipware (STSL), with combed slip decoration and a piecrust rim. The context also yielded one sherd from a flanged dish in BORDG with combed decoration around the rim, and from a probably bottle or jug in TGW from which the glaze has disappeared.

No 18th-century pottery was recorded on the site, and two contexts have been dated to the 19th century. Context [2001] includes part of the rim from a bottle in English brown salt-glazed stoneware (ENGS), of a kind in current use after c 1800. Three sherds of PMR include

part of a jar, glazed inside and out, part of a sugar cone mould and the large heavy base of a syrup collecting jar. These last two are associated with the sugar refining industry, with refineries usually situated close to the river. It is not unusual to find sherds of sugar refining wares in this kind of location, although they do not necessarily indicate that there was a refinery nearby.

The latest context recorded is [1000] (c 1807-1900). This is based on two sherds of transfer-printed ware with underglaze blue decoration (TPW2). Both come from plates, one decorated in the ubiquitous 'willow' pattern and the other with a landscape design of the kind popular in the early to mid 19th century. The context also included a single sherd from a chamber pot in RBOR.

Most of the pottery from the site is typical of domestic activity, with fabrics and forms in widespread use across the London area. The two sherds of sugar refining forms may or may not suggest that refining was taking place in the vicinity.

Potential and significance

The pottery from DKS16 is significant only in relation to the site and its immediate environs. As there is too little material to allow for further analysis, the potential of the ceramic assemblage is strictly limited. NO further work is recommended.

Clay tobacco pipes

Five stem fragments and a single clay pipe bowl were recorded. The bowl (from context [2001]) was identified according to Atkinson and Oswald's 1969 typology for London clay pipes (given the prefix AO), and is of type AO22, dating to c 1680-1710. There is no maker's mark or decoration, apart from a standard band of milling around the top of the bowl; the pipe has been smoked. The stem fragments cannot be dated in the absence of bowls and have been given a broad date range of c 1580-1910, which is the main period during which clay pipes were in production in this country. Single stem fragments were recovered from contexts [1000], [1001], [2007], [2008] and [4000].

Potential and significance

The clay pipes are significant only in relation to the site and have no potential for further work.

Glass

One fragment of natural green glass was found in context [2001], and comes from a bottle of square shape with rounded corners, probably dating to c 1800-1900, or possibly even later. No further work is required.

Leather (Beth Richardson)

Three fragments of leather were found in context [1001], dated c 1550-1700 by ceramics (above). The largest is a roughly rectangular piece of leather (L 132mm, max W 25mm) with cut edges (partially torn) and one irregularly spatulate end, angled at one side to form a point. The section is V-shaped, the underside surfaces of the leather shaved to leave a central ridge with traces of an original surface. There are two main areas with grain/flesh stitch holes, one (seven stitch holes) at the spatulate end, the other a neat double row of offset stitch holes about 25mm from the other; there are also eight more alternating holes along the

object's length. The other two small torn fragments also have the remains of a double row of offset stitch holes and probably originate from the same object. It is possible that these fragments originally came from a shoe sole or soles with stitching for clump soles and heels (typical of soles of this date), the larger piece cut down for re-use, or simply a by-product of waste. Although the rectangular piece's end is shaped, the V-shaped section and stitch holes would suggest that it is probably not part of a strap.

Slag

One small fragment of slag was found in context [1001].

Bibliography

Atkinson, D R and Oswald, A, 1969 London clay tobacco pipes, *J British Archaeol Assoc* 32, 171-227

DKS16 Pottery

Ctxt	TPQ	TAQ	Period	Size	Fabric	?	Form	?	Dec	SC	ENV	Wt	Cond	Comments
1001	1550	1700	PM	S	BORDY		DISH FLNG			I	I	44		Base
2006	1550	1700	PM	S	BORDG		MISC		GLIE	I	I	6		
4000	1580	1630	PM	S	BORDG		TPIP	?		I	I	8		
4000	1580	1630	PM	S	BORDY		TPIP2			I	I	31		Rim
4000	1580	1630	PM	S	PMR		JAR		GLIE	I	I	85		
4000	1580	1630	PM	S	RBOR		PORR			I	I	11		Handle
4000	1580	1630	PM	S	TGW A		DISH		POLY	I	I	9		
2007	1630	1700	PM	S	BORDY		TPIP1			I	I	49		Rim
2007	1630	1700	PM	S	BORDY		TPIP	?		I	I	9	S	Rim
2007	1630	1700	PM	S	FREC		JUG			I	I	41		
2007	1630	1700	PM	S	METS		BOWL RND			I	I	48		
2007	1630	1700	PM	S	PMR		MISC		GLI	I	I	24		
2007	1630	1700	PM	S	PMR		BOWL HAND		GLI	I	I	49		Rim
1002	1660	1700	PM	S	BORDG		DISH FLNG		COMW	I	I	14		Rim
1002	1660	1700	PM	S	STSL		DISH		PIE	I	I	32		Rim
1002	1660	1700	PM	S	TGW	?	BOT	?	UNGL	I	I	23		
2001	1800	1900	PM	S	ENGS		BOT			I	I	17		Rim
2001	1800	1900	PM	S	PMR		JAR	?	GLIE	I	I	43		
2001	1800	1900	PM	S	PMR		SUGM			I	I	44		
2001	1800	1900	PM	S	PMR		JAR COLJ			I	I	367		Base
1000	1807	1860	PM	S	RBOR		CHP2		GLIE	I	I	40		Rim
1000	1807	1860	PM	S	TPW2		PLATE		WILL	I	I	6		
1000	1807	1860	PM	S	TPW2		PLATE		LAND	I	I	6		

DKS16 Glass

Ctxt	TPQ	TAQ	Per	Col	Tech	Form	?	Dec	FC	ENV	Wt	Comments
2001	1800	1900	PM	NG	MB	BOT SQU			I	I	10	

DKS16 Slag

Ctxt	Material	No.	Wt
I001	SLAG	1	6

BUILDING MATERIAL

APPENDIX 3

Dock Street, E1

Site code DKS16

Post-excavation assessment of Building material

Ian M. Betts

24 March 2016

Quantification and assessment

Quantification

Two small crates of ceramic building material 1.49kg

The building material

Introduction/methodology

All the building material has been recorded using the standard recording forms used by the Museum of London. This has involved fabric analysis undertaken with a x10 binocular microscope. The information on the recording forms has been added to an Excel spreadsheet.

Post-medieval stone building material

Paving?

Recovered from context [1001] was a small piece of cream coloured, partly laminated, fine grained sandstone with a cut upper and lower face. It measures 37mm in thickness.

This could be part of a stone paving slab, although there are no signs of wear. The cream colour suggests it may have been brought into London from a quarry situated in the Midlands or northern England during the 18th-19th century.

Post-medieval ceramic building material

Brick

Fabric type 3032

The finds from Coal Store 1 included a small fragment of brick from the disturbed charnel pit (context [1001]). This is probably later contamination. A larger brick fragment was recovered from a makeup/levelling layer (context [1000]). This measures 105mm in breadth by 60-63mm thick. The brick is fairly sharp edged indicating a probable mid-18th-19th century date.

Small fragments of what appears to be similar bricks were recovered from the disturbed charnel pit in Coal Store 2 (context [2003]). Again these may represent later contamination.

Post-medieval plaster

What appears to be laminated post-medieval white plaster was recovered from context [1003]. This measures 13-14mm thick and has mortar attached to the top and bottom surface. This formed part of a plaster screed/flooring sealing the charnel pit in Coal Store 1. Similar flooring was used to seal the charnel pit in Coal Store 2.

Potential and significance

The building material was recovered from contexts [1000], [1001], [1003] and [2003]. Context [1001] is a charnel pit (in Coal Store 1) but the finds suggest it is contaminated with material from surrounding deposits. This probably includes the small fragment of brick and what may be cream coloured paving found in context [1001]. Similar probable contaminated material was recovered from disturbed charnel deposits in Coal Store 2 (context [2003]).

Most of the building material probably relates to the Victorian Coal stores constructed in 1863-1865. Unfortunately, most is of small size, which limits its potential to help with the interpretation of the site.

Most of the building material comprises small fragments of London-made dark red brick of little significance. The possible stone paving slab is of some interest as it may have been brought in from a Midlands or a northern England quarry source.

The use of thin plaster layer to seal the charnel pits is an unusual construction technique. It would be useful if further research could determine whether it was a floor surface or lain as damp proofing in the basement stores.

DKS16 Finds data (cleaned)

context	fabric	form	corners	weight	length	breadth	thickness	mortar	number	context date	comments
1000	3032	brick	2	1050		105	60-63	yes	1	1700/1750-1900	fairly sharp edged
1001	3032	brick	0	50				yes	5	1666-1900	very small fragments, x1 part cream plaster surface
1001	3121	paving?	0	50			37	yes	1	1700/1750-1900	cream part laminated sandstone, cut top & base, reused?
1003	3100?	?	0	250			13-14	yes	1	?	laminated white (plaster?) deposit, mortar attached to top & base
2003	3032	brick	0	40				yes	1	1666-1900	dark red, white speckled fabric variant, cream mortar attached
2003	3032?	brick	0	50				no	1	1666-1900	poss' top surface, yellow fireskin, yellow & reddish-brown mottled fabric

OSTEOLOGICAL REPORT

APPENDIX 4

Specialist Report – Osteological Findings

7 DOCK STREET
LONDON E1

For JMS Estates Ltd.

Thomas Swannick MSc

L~P:ARCHÆOLOGY

Specialist Report – Osteological Findings

7 DOCK STREET LONDON E1

Client: JMS Estates Ltd.

Local Authority: London Borough of Tower Hamlets

NGR: 534155, 180815

Planning App: N/A

Author: Swannick T

Doc Ref: LP2072L-Osteo PXA-v1.0

Date: May 16

Site Code: DKS 16

L-P:ARCHAEOLOGY

A trading name of L - P : Heritage LLP

The Truman Brewery | 91 Brick Lane | London, E1 6QL | +44 [0]20 7 770 6045 | www.lparchaeology.com

www.lparchaeology.com

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2. Site Background
3. Methodology
4. Results
5. Conclusions
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Abstract

This osteological specialist report is in response to the human remains excavated at 7 Dock Street, Borough of Tower Hamlets, E1 8JN. This report has been prepared by Thomas Swannick of L - P : Archaeology on behalf of JMS Estates Ltd.

Two sets of human remains were excavated in two different coal stores. The first set having been heavily disturbed by pre-archaeological excavation were unable to be accurately identified within the stratigraphic sequence. The second set of remains were located within a discreet pit cut, that was stratigraphically later than the coal store buildings. It is possible that this charnel was disturbed during 19th Century construction and placed within the coal stores.

The assemblage comprises 42 individuals and represents a predominately adult population with near even sex ratio. The skew toward adults is likely caused by the initial disturbance of inhumations and the selective collection of large full formed bones.

The assemblage shows few to no signs of macroscopic injury or disease.

Further work would recommend C14 dating in order to establish date of death.

1. Introduction

- 1.1. The results of this osteological report have been prepared by Thomas Swannick of L - P : Archaeology for JMS Estates Ltd.
- 1.2. This Specialist Osteological Report considers skeletal remains at 7 Dock Street, Borough of Tower Hamlets, E1 8JN (hereafter “the site”). The site is centred on National Grid Reference (NGR) 534155,180815.
- 1.3. The site lies on the east side of Dock Street and is currently in use as a hostel. The site is bounded to the north by adjacent property 3-5 Dock Street and to the south by 11 Dock Street.
- 1.4. The post excavation assessment on the skeletal remains was carried out by Thomas Swannick of L - P : Archaeology in February of 2016.
- 1.5. The site code allocated from the Museum of London is DKS16.
- 1.6. The Local Planning Authority is the London Borough of Tower Hamlets (LBTH) who take archaeological advice from the Greater London Archaeology Advisory Service of Historic England.
- 1.7. The post excavation work was carried out in accordance with the Written Scheme of Investigation (WSI) prepared by Thomas Swannick and Guy Hunt of L - P : Archaeology (SWANNICK & HUNT 2015)

2. Site Background

2.1. CIRCUMSTANCES FOR ASSESSMENT WORK

- 2.1.1. Full account of circumstances for archaeological work can be seen in the WSI (SWANNICK & HUNT 2015)
- 2.1.2. The circumstances of the archaeological work and the actual archaeological work itself is important to assessing the provenance of the bone groups, as well as informing on condition, preservation and quantities of co-mingled remains (BRICKLEY & MCKINLEY 2004: 14).
- 2.1.3. In brief, basement level 19th century coal stores were being refurbished at the hostel. There were no archaeological planning conditions placed on the site refurbishment works. During floor lowering, human remains were uncovered by labourers in the first coal store. These were co-mingled remains, likely charnel. Excavation ceased, the area was sealed off and L - P : Archaeology and the Metropolitan Police were contacted.
- 2.1.4. After initial on-site assessment, it was determined that the remains were more than 100 years old and thus would be treated as archaeological remains. The police reference code generated on 15/12/15 was CAD5302.
- 2.1.5. The WSI and an excavation of human remains licence were sought in order to commence the recording and excavation of the remains. Excavation and Watching Brief commenced on 11/01/2016 and was completed on 17/02/2016.
- 2.1.6. Two charnel pits were identified during the excavation. The first of which had been heavily disturbed prior to archaeological work by labourers, and the skeletal remains were *ex situ* of the charnel pit cut, which itself had been destroyed.
- 2.1.7. The second charnel pit had been very slightly disturbed by the labourers, but they had halted work before destroying too much of the charnel pit.
- 2.1.8. Osteological assemblage analysis began on 22/02/16 and was completed on

the 26/02/2016.

2.2.SITE CONDITIONS

- 2.2.1. The site is an operating hostel, with work been undertaken at basement level at the front of the building.
- 2.2.2. Excavation and removal of skeletal remains were screened from the public.
- 2.2.3. It is anticipated that previous building work may have impacted on buried archaeological remains in some areas.

3. Methodology

- 3.1. The methodology will outline the key areas of the osteological recording for the charnel remains. The charnel deposits will continue to use their ascribed excavation context numbers, thus giving the deposits the identifiers of 1001, 2003 & 2006.
- 3.2. An inventory of all the skeletal elements was taken in order to ascertain the amount of each element, which would aid the calculations of the MNI later, as well as showing what skeletal elements had survived in the greatest numbers. An inventory of the most highly fragmented and unidentified elements was also taken from the collection. The inventory by element and fragmented element would be totalled together to give the total number of elements in the entire collection. Finally an inventory was taken by context, as this was necessary in order to work out completeness of elements as well as providing evidence of potential groupings of remains after they had been disturbed, as well as minimum number of individuals (MNI) per charnel collection.
- 3.3. Preservation and completeness of the remains was taken in order to assess the conditional preservation and to assess whether there was any taphonomic or anthropomorphic damage to the remains. This was done using the BABAO guidelines (BRICKLEY & MCKINLEY 2004: 16), and as such the bones were given a score from 0, being excellent preservation, to 5+ being extensively poor preservation.
- 3.4. MNI was calculated from the most common element that could be sided. The standard equation of $\text{Max} (L, R)$ would be used in order to calculate the MNI. This method factors in the maximum number of lefts and rights to give an MNI. This is because due to the fact that the remains were co-mingled and therefore exact pairs belonging to the same individual could not be worked out. It may be possible to work out the Lincoln index for the site which 'does account for random data loss' (ADAMS & KONIGSBERG 2004: 140) better than MNI. Again the calculations are limited to those that do not factor in pairs which mean that the calculation would be $N = (L+1) (R+1)$. However, this would likely overestimate the MNI, so just the $\text{Max} (L,R)$ will be used.
- 3.5. Ageing was undertaken on the pubic symphysis (BROOKS & SUCHEY 1990), auricular

surface (BUCKBERRY & CHAMBERLAIN 2002; LOVEJOY ET AL. 1985), immature long bone growth (HOPPA 1992) and ossification centers (SCHEUER & BLACK 2000; SCHEUER & BLACK 2004). The effectiveness of ageing is dependent on necessary features being present as well as appropriate use of ageing methods. The age categories were split into broad maturity stages which included adult, adult/adolescent and immature.

3.6. Sexing was undertaken using pelvis and skull morphology. For the pelvis morphological characteristic from (SCHWARTZ 1995), (FEREMBACH ET AL. 1980), (KROGMAN & ISCAN 1986) and (PHENICE 1969) were used. Sex diagnostic morphological characteristics of the skull were taken from (SCHWARTZ 1995), (FEREMBACH ET AL. 1980), (HENNEBURG & LOTH 1969) and (KROGMAN & ISCAN 1986) were used. The results are broken down as follows; Definitely male, 'MALE', probably male, '?MALE?', uncertain '?', probably female '?FEMALE?' and definitely female 'FEMALE'.

3.7. Non-metric traits are anomalies in the normal anatomy of the skeleton. They are not measurable and are simply recorded on a present or absent basis. In most cases they are thought to have a genetic origin, and for this reason a reasonable amount of attention has been devoted to them in the hope that relationships both within and between groups might be postulated. Skeletal non-metric traits were taken from both the cranial and post cranial skeleton. For the cranial non-metric traits, (BERRY & BERRY 1967) identification of traits were used and for the post cranial skeleton (FINNEGAN 1978) identification were used. The observation of non-metric traits will be given a true prevalence rate (TPR) within the population. The TPR within their own context and within the entire assemblage. This is done to accurately identify the frequency with the assemblage.

3.8. Skeletal and dental pathologies were recorded in order to assess the ante-mortem health of the charnel population at Dock Street. Macroscopic skeletal pathologies looked at were ante-mortem fractures, cribia orbitalia, porotic hyperstosis, periostitis, osteomyelitis, developmental defects, schmorls nodes, osteophytes, eburnation, ossification, osteoarthritis and porosity (ROBERTS & COX 2003; ROBERTS & MANCHESTER 1997; WALDRON 2008; AUFDEHEIDE & RODRIGUEZ-MARTIN 1998). Dental pathologies looked at were calculus, caries, periodontal disease, abscesses, ante-

mortem tooth loss and enamel hypoplasia (HILLSON 1996). Any further diagnostic pathologies or diseases related to certain pathologies were noted. Prevalence rates were worked out to assess the overall health of the population.

3.9. Any samples needed from the assemblage for dating would refer to biomolecular guidelines within (BROWN & BROWN 2011).

3.10. Finally, any faunal remains that were found at the site were placed into the inventory by element in order to assess their percentage of the remains. The remains were given species and any butchery or taphonomic marks were noted. It is likely that these faunal remains will tell little else than what species were present, however quantity and amount of butchery may be of importance.

4. Results

4.1. INVENTORY

- 4.1.1. There were a total of 1493 human remains that were analysed, of which rib fragments were the most common making up 14.%. Ribs were over-represented due to fragmentation. The inventory by element graph (Table 1) shows the break down of elements. The most commonly sided element was the femur (8.64%), with the 4 other most numerous elements being the tibia (8.24%), humerus (6.23%), pelvis (5.56%) and the fibula (4.89%).
- 4.1.2. The totals generally show a trend that larger and more robust bones survive in greater quantities, except for the fibula which is likely over-represented due to fragmentation.
- 4.1.3. Context 1001 contained the largest number of elements, making up 71.20% of the entire collection, followed by context 2006 (27.66%), and finally 2003 (1.14%).
- 4.1.4. A total of 87 faunal fragments were inventoried from all contexts. This will be covered further in the faunal section below.

4.2. COMPLETENESS

- 4.2.1. Completeness has been assessed by extent of post-mortem fracture to the skeletal elements.
- 4.2.2. The completeness has been graded from elements with less than 25% of the original element remaining up to no post-mortem damage at all, thus equalling 100%. The results can be seen Table 2.
- 4.2.3. Of the 1493 elements, 963 (65%) of the assemblage was highly fragmented, with less than 25% of the element remaining.
- 4.2.4. A total of 96% of the assemblage was fragmented to some extent.
- 4.2.5. Only long bones and cranium represented in the 100% category.
- 4.2.6. It can be seen that the level of fragmentation was consistent within all the

contexts, with no one context significantly more or less fragmented (Table 3).

4.3.PRESERVATION

- 4.3.1. Overall the preservation of the assemblage was average, with over 50% of the elements scoring in the average preservation categories. The results can be seen in Table 4.
- 4.3.2. There was no taphonomic damage noted on any of the bones from animal contact or human agency, and it is evident that the preservation condition related to soil/ground conditions and possibly exposure/weathering when the remains were moved from their original location.

4.4.MINIMUM NUMBER OF INDIVIDUALS (MNI)

- 4.4.1. In order to determine the MNI the femur was used as it was the most recurring bone in the collection that could be sided.
- 4.4.2. Each femur that could have been used was assigned a point on the shaft of the diaphysis in order to make sure that no one femur was counted more than once.
- 4.4.3. The results (Table 5), show an overall MNI of 30, with 19 (63.33%) of those coming from 1001, 10 (33.33%) from 2006 and 1 (3.33%) from 2003.
- 4.4.4. A further calculation of the MNI was done from the sided frontal bones within the contexts (Table 6). It can be seen that the MNI increases when this method is used to 42.

4.5.AGEING

- 4.5.1. Of the 1493 elements in the assemblage, a total of 1039 (69.59%) could be assigned a broad age bracket of adult, adolescent/adult or immature. The results can be seen in Table 7.
- 4.5.2. There is a clear prevalence of adults making up 68.31% of the assemblage that could be assigned a broad age. This is likely because of loss of evidence due to movement and fragmentation of the more delicate and less developed bones. It

may also be suggested that there is a predication for selecting out the longer and more developed bones.

4.5.3. A total of 67 (6.45%) of the elements within the entire assemblage could be given a more specific age range (Table 8). Of the elements assigned an age, the largest amount (31.34%) were between the age of 30-40. Individuals under the age of 20, made up 12 (17.92%) of the specifically aged elements.

4.6.SEXING

4.6.1. There were a total of 97 sexable elements, the results of which can be seen in Table 9.

4.6.2. There were only 7 elements that could not be specifically sexed, due to ambiguity of sexable features.

4.6.3. The results indicate a relatively even sex split between males and females, with a ratio of 1.35:1.

4.6.4. There is also an even split of sex within the contexts, suggesting no prior knowledge of sex or no bias to separating sexes in the charnel deposits.

4.7.NON METRIC TRAITS

4.7.1. There was a total of 6 separate non-metric traits within the assemblage, which can be seen in Table 10.

4.7.2. There was an even split of cranial and post-cranial non-metric traits.

4.7.3. The most prevalent non-metric trait was a double anterior calcaneal facet with a TPR of 16.67%. This may however be biased by the relatively few calcanea (12) within the assemblage.

4.7.4. Overall, there was a relatively low rate of non-metric traits, with only 0.67% of the elements showing evidence of them.

4.8.SKELETAL PATHOLOGIES

4.8.1. Overall there were 12 separate pathologies affecting 104 elements within the assemblage (Table 11).

- 4.8.2. Overall only 6.97% of the elements were affected by pathologies, with no observable pathology being particularly severe or direct cause of death.
- 4.8.3. The most common skeletal pathology were osteophytes (TPR 9.80%), which predominately affected the vertebrae, presenting as calcified lipping over the anterior vertebral bodies. Osteophytes affected the lumbar and thoracic vertebrae an equal amount (TPR 3.49%), which is common for older individuals, due to the natural degeneration of the spine over time (AUFDEHEIDE & RODRIGUEZ-MARTIN 1998).
- 4.8.4. The second most common pathology were Schmorl's nodes (TPR 8.24%), which are caused by protrusions of vertebral disk material into the soft vertebral body ante-mortem, causing necrosis of bone tissue. These were only present in the thoracic and lumbar vertebrae, and all incidences of Schmorl's nodes were conducive with porosity. The combination of Schmorl's, porosity and osteophytes are indicative with degenerative disk disease. Despite this, all cases were relatively mild as no kyphosis or scoliosis was detected, indicating that the disease was likely in its very early stages.
- 4.8.5. There were a number of cases of metabolic disorders, including cribra orbitalia (TPR 1.02%) and porotic hyperostosis (TPR 1.02%), both of which are linked to over production of red blood cells, or megaloblastic anaemia (WALKER ET AL. 2009). Other metabolic conditions included 3 cases of osteomalacia/rickets (TPR 0.20%), which affected two femurs (1001 & 2006) and one tibia (1001). Rickets is commonly linked to a deficiency in vitamin D, calcium or phosphate, and is commonly caused by a lack of exposure to sunlight and dietary stress (WALDRON 2008).
- 4.8.6. Developmental defects (TPR 0.33%) included a case of lambdoid synostosis, which affected a single parietal in context 1001. Lambdoid synostosis is caused by early closure of the lambdoid suture. It creates a flattening of the back of the head called 'posterior plagiocephaly' (back skull flattening). The ear and forehead on that side may be displaced backwards. This is a genetic condition and is not associated with an environmental factors (AUFDEHEIDE & RODRIGUEZ-MARTIN 1998). Other developmental defects included an undiagnosed flattening of the frontal bone from a cranium in context 1001, and lateral bowing of a

femur which may be related to rickets.

- 4.8.7.** Osteoarthritis affected 4 elements (TPR 0.27%), all of which were long bones from the leg. Osteoarthritis can be caused by many factors, although the most common are usually age, joint abnormalities or joint injuries (WALDRON 2008). No abnormalities or injuries were observed on the joint surfaces and it is most probable that age was the main contributing factor.
- 4.8.8.** Periostitis was recorded in 4 elements (TPR 0.27%), 2 of which were recorded in clavicles. Periostitis is the inflammation of the periosteum, which is the layer of connective tissue that surrounds the bone (COX & MAYS 2000). The condition is caused by infection or injury to the connective tissue. The acromial process of a clavicle from context 2006 was affected, possibly indicating that there may have been a rotator cuff injury. The sternal end of another clavicle from 2006 showed evidence of periostitis, this was likely from an injury also.
- 4.8.9.** Ossification affected two elements (TPR 0.13%), a femur and a clavicle. Ossification is when cartilage is converted into new bone by osteoblasts and is the result of injury in the pathological sense. The ossification of the femur was located at the distal end of the greater trochanter to lesser trochanter both anteriorly and posteriorly, likely related to osteoarthritis. The ossification of the clavicle was at the sternal end, likely as a result of a sternoclavicular dislocation. This clavicle also showed evidence of an ante-mortem fracture to the medial end, further indicating that the fracture likely caused dislocation of the clavicle from the sternum which was not reset, thus leading to ossification at the sternal end of the clavicle. Ante-mortem fracture was also detected in a rib, which had healed with a 10 degree bend caudally.
- 4.8.10.** Osteomyelitis was detected in one femur (TPR 0.07%) from context 1001. Osteomyelitis is the inflammation of cortical and/or trabecular bone, often due to infection. Infection by bacteria reaches the medullary cavity usually through exposure of the bone or via the bloodstream (COX & MAYS 2000). The infection of this element is in the chronic stage, which would have been very painful and would have directly affected the day to day life of the individual with the infection. The chronic infection is characterised by cloacae forming, so that pus can drain from the bone, necrosis of the bone and then new bone growth that

significantly disfigures the surface of the bone.

4.9.DENTAL PATHOLOGIES

- 4.9.1. There were a total of 6 dental pathologies that were observed as can be seen in Table 12.
- 4.9.2. There were a total of 47 permanent teeth and 304 permanent sockets which gave a TPR of 15.46% of teeth remaining within the assemblage. There were no deciduous teeth or deciduous sockets present, perhaps an indication of preservation and selection bias within the charnel.
- 4.9.3. Overall there was a low yield of teeth, which is surprising as they normally preserve well, further suggesting that many were lost when the burials were disturbed.
- 4.9.4. Calculus was the most common dental pathology (TPR 53.19%), although the small number of teeth may have artificially increased the TPR of the pathology. Calculus is the build up of dental plaque, that solidifies and eventually leads to gum damage or gingivitis (WHITE ET AL. 2011). Calculus is noted where mineralized plaque can be seen adhering to the tooth surface (HILLSON 1996: 255). The calculus was generally very slight, with no abnormal amount of calculus recorded. The calculus was most predominant on the buccal molars and lingual lower incisors.
- 4.9.5. Caries were the second most common (TPR 44.68%) dental pathology and were moderate to severe. Dental caries are the destruction of the enamel, dentine and cement by acid produced by bacteria in the dental plaque (HILLSON 1996: 269). Where caries occur in the assemblage, they are most common on the occlusal surface of the molars and have often destroyed the dentine without exposure of pulp chambers. There are two incidences (Element numbers 1412 & 1413), of where caries have severely destroyed the enamel and dentine, with total cross destruction of the crown surface leaving exposed root surface. These kinds of caries are relatively uncommon however in the entire collection making up a TPR of 14.89%.
- 4.9.6. Periodontal disease affected 21 elements (TPR 10.20%). Gingivitis

(inflammation of the gum) will, if left untreated, develop into periodontitis causing loss of alveolar bone (REGEZI ET AL. 2000: 144). Periodontal disease is recorded on an individual tooth level, visually estimating the distance between the cemento-enamel junction (CEJ) on the buccal and labial surfaces and the alveolar bone and only when there was no damage to the latter. This method is not considered to be flawless owing to the nature of dental eruption, attrition and development during life and these factors should be taken into consideration prior to analysis (HILLSON 1996). Periodontal disease was judged to be very minor overall, with the upper and lower buccal incisors suffering the most pathology.

- 4.9.7. Ante-Mortem tooth loss (AMTL) affected 27 elements (TPR 8.88%). Ante-mortem tooth loss is the complete loss of a tooth before death, with resorption of the bone over the socket to form a flat surface. Loss of the tooth usually occurs as a result of infection and subsequent artificial extraction of the tooth. This is most common in older adults whose teeth are often lost due to periodontal disease and abscesses, often caused by caries. Ante-mortem tooth loss predominately affected the molars, with the 1st molar the most commonly affected element. Element 1404 from context 1001, had severe loss of all the molars, with only incisors remaining. The AMTL from this element has significant remodelling of bone, which was likely the result of necrosis of the mandible following infection.
- 4.9.8. Enamel hypoplasia was recorded in 4 elements (TPR 8.51%). The pathology is linear and pit-shaped interruption in the enamel formation, which is linked to a deficiency of vitamin D when the permanent tooth is formed. The presence of enamel hypoplasia is linked to dietary stress in childhood (HILLSON 1996). Enamel hypoplasia is recorded on individual tooth level. The presence of 4 elements with the condition is perhaps expected due to the presence of skeletal metabolic deficiencies, although it is still of a relatively low number of elements.
- 4.9.9. Abscesses or periapical lesions affected 9 elements (TPR 2.96%). Most commonly developed from periapical granuloma by the accumulation of pus, an abscess is a drainage sinus through the maxilla or mandible. Lesions are

recorded at the parent tooth position according to the location of the largest sinus drainage. Abscesses were the lowest recorded dental pathology.

4.9.10. Element 1492 was recorded as having a dental anomaly of the upper right 3rd molar at 45 degree angle toward buccal rotation.

4.10. FAUNAL REMAINS

4.10.1. There was a total of 87 (5.83%) of faunal material in the commingled remains.

The species that made up this number included, cow (*Bos taurus*), sheep/goat (*Ovis aries* & *Capra hircus*) and deer (unrecorded species).

4.10.2. There were a number of remains that possibly showed butchery activity.

However this would need to be checked against a reference collection to ascertain certainty and is not in the remit of this report.

4.10.3. The low yield of faunal remains indicates that animals were not intentionally deposited with humans, and their presence within the remains was probably circumstantial, as their bones may have been in fill that was placed back into the disturbed remains, especially from context 1001 that was heavily disturbed by the labourers.

5. Conclusions

- 5.1.1. The charnel assemblages indicate a total of 1493 elements, of which 96% were fragmented to some extent and the average preservation was 3.
- 5.1.2. The high level of fragmentation was due to the remains being disturbed once in the case of context 2006 and twice in the case of contexts 1001 and 2003. The preservation conditions are likely due to the soil conditions, which, when excavated were well drained and mainly gravelly sand. It is unlikely that the charnel remains were moved a significant distance, thus soil conditions were likely similar to the inhumation conditions. Preservation damage may have been increased by weathering if the remains were left exposed from the time they were initially removed from inhumation until redeposited into the charnel pit.
- 5.1.3. It can however be seen that the completeness and preservation of all the contexts is very similar, likely indicating that the majority of damage to the remains was done during their the removal and subsequent deposition into the charnel pits.
- 5.1.4. The population is made up of a minimum of 42 individuals, with a relatively even gender distribution of 1.35 males to every 1 female.
- 5.1.5. Context 1001 contains slightly more individuals, at 23, to 2006's 17 and 2003's 2. There is no specific selection bias towards gender within the pits, suggesting that the remains of individuals were of unknown sex and/or that these were not important factors in the reburial of the remains.
- 5.1.6. Age distribution was heavily skewed toward adults, which is indicative of a loss of evidence due to the collection, movement and fragmentation of smaller and less developed bones from sub-adults. It may however indicate a bias in the original inhumation population, possibly indicating that only an area containing adults was disturbed and thus were reburied in the charnel pits. It is unlikely that a population with a broad gender split would have intentionally selected against the deposition of sub-adults.

- 5.1.7. The specific age range within the adult population showed that those between 20 – 40 were the most represented. This could be indicative of a population that suffering from a disease event or hazardous work environment. An age profile like this may also be related to demographic trends in the initial burial area or potentially remain damage/loss of remains during the historic burial disturbance.
- 5.1.8. Skeletal and dental pathologies within the assemblage showed a relatively healthy group of individuals. It is probable that some level of manual work was being performed within the population due to pathologies of the spine related to this work. The vertebral pathologies, culminating in degenerative joint disease, are likely be linked to old age, which may be further supported when osteoarthritis, dental caries and AMTL data are observed.
- 5.1.9. Pathological data also indicates that the population did, to a small extent, suffer from disorders linked to poor diet and poor environmental conditions, such as rickets, enamel hypoplasia and cranial porosity. The loss of teeth in older adults indicate that this may not have always been the case, although it is also possible that food stuffs may have been high in compounds which may have proved damaging to the teeth, such as poorly milled grain containing grit.
- 5.1.10. The relatively low frequency of fracture, Osteomyelitis and Periostitis likely indicate that environmental conditions were relatively safe and interpersonal violence was low.

6. Further Work

- 6.1.1. Osteological analysis of the assemblage is complete and it is deemed that no further work on the assemblage. It has been deemed desirable to take two bone samples for C14 radiocarbon dating. This will give a timeframe for the date of death.
- 6.1.2. The dates generated will be representative for the entire assemblage, rather than for known individuals.
- 6.1.3. C14 is deemed desirable due to the lack of accurate dating material within the charnel.

7. Archive – Skeletal Remains

- 7.1. The skeletal archive is currently being held securely at L - P Archaeology's storage facility in appropriate and decent conditions.
- 7.2. The remains will be reinterred at a suitable location when results of C14 AMS radiocarbon dating are returned.
- 7.3. More information on this will be found in the final write up of the Dock Street site.

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APPENDIX

TABLES OF RESULTS

APPENDIX I

DKS I 6 Dental Quantification

Pathology	CONTEXT						TOTAL PREVALENCE/FREQUENCY	TPR%
	1001		2003		2006			
	Prevalence/Frequency	%	Prevalence/Frequency	%	Prevalence/Frequency	%		
No. of perm teeth	36/154	23.38%	0	0.00%	11/150	7.33%	<u>47/304</u>	<u>15.46%</u>
No. of decid teeth	0/0	0.00%	0	0.00%	0/0	0.00%	<u>0/0</u>	<u>0.00%</u>
Caries	15/36	41.67%	0	0.00%	6/11	54.55%	<u>21/47</u>	<u>44.68%</u>
Calculus	20/36	55.56%	0	0.00%	5/11	45.45%	<u>25/47</u>	<u>53.19%</u>
Periodontal disease	20/154	12.99%	0	0.00%	1/150	0.67%	<u>21/304</u>	<u>10.20%</u>
Abscess	6/154	3.90%	0	0.00%	3/150	2.00%	<u>9/304</u>	<u>2.96%</u>
AMTL	9/154	5.84%	0	0.00%	18/150	12.00%	<u>27/304</u>	<u>8.88%</u>
Enamel Hypoplasia	1/36	2.78%	0	0.00%	3/11	27.27%	<u>4/47</u>	<u>8.51%</u>

DKSI6 Pathology Quantification

Pathology	CONTEXT						TOTAL PREVALENCE/FREQUENCY	TPR%
	1001		2003		2006			
	Prevalence/Frequency	%	Prevalence/Frequency	%	Prevalence/Frequency	%		
Ante-mortem Fracture	2/1063	0.19%	0	0.00%	0	0.00%	<u>2/1493</u>	<u>0.13%</u>
Cribra Orbitalia	2/26	7.69%	0	0.00%	0	0.00%	<u>2/46</u>	<u>4.35%</u>
Porotic Hyperstosis	1/75	1.33%	0	0.00%	0	0.00%	<u>1/98</u>	<u>1.02%</u>
Periostitis	2/1063	0.19%	0	0.00%	2/413	0.48%	<u>4/1493</u>	<u>0.27%</u>
Osteomyelitis	1/1063	0.09%	0	0.00%	0	0.00%	<u>1/1493</u>	<u>0.07%</u>
Developmental Defects	3/1063	0.28%	0	0.00%	2/413	0.48%	<u>5/1493</u>	<u>0.33%</u>
Schmorl's nodes	7/67	10.45%	0	0.00%	0	0.00%	<u>7/85</u>	<u>8.24%</u>
Osteophytes	39/348	11.21%	1/12	8.33%	5/99	5.05%	<u>45/459</u>	<u>9.80%</u>
Eburnation	0	0.00%	0	0.00%	2/99	2.02%	<u>2/1493</u>	<u>0.13%</u>
Porosity	26/1063	2.45%	0	0.00%	3/413	0.73%	<u>29/1493</u>	<u>1.94%</u>
Ossification	2/1063	0.19%	0	0.00%	0	0.00%	<u>2/1493</u>	<u>0.13%</u>
Osteoarthritis	3/1063	0.28%	1/1063	0.09%	0	0.00%	<u>4/1493</u>	<u>0.27%</u>
Rickets	2/1063	0.19%	0	0.00%	1/413	0.24%	<u>3/1493</u>	<u>0.20%</u>
							<u>104/1493</u>	<u>6.97%</u>

Human Skeletal Element by Context

Element	Context			TOTAL
	1001	2003	2006	
1st molar	1	0	0	1
1st rib	2	0	0	2
2nd Molar	1	0	1	2
3rd cervical vertebrae	1	0	0	1
4th cervical vertebrae	1	0	0	1
auricular surface	2	0	0	2
calcaneus	7	0	5	12
cervicle vertebrae	16	0	1	17
clavicle	11	0	11	22
corpus sterni	3	0	0	3
cranium	15	2	10	27
femur	101	6	22	129
femur head	8	0	0	8
fibula	60	0	13	73
frontal	11	0	8	19
humerus	76	2	15	93
humerus head	1	0	0	1
ilium	2	0	2	4
lumbar vertebrae	15	0	6	21
mandible	18	0	15	33
maxilla	9	0	3	12
maxilla + sphenoid	1	0	0	1
Metatarsal 1	2	0	1	3
Metatarsal 3	1	0	1	2
Metatarsal 4	1	0	0	1
navicular	0	0	1	1
occipital	50	1	13	64
orbit	1	0	1	2
parietal	60	0	11	71
patella	0	0	1	1
pelvis	62	1	19	83
pubic symphysis	1	0	0	1
radius	27	0	16	43
rib	174	1	34	209
sacrum	17	0	6	23
scapula	24	0	17	41
sphenoid	5	0	1	6
talus	2	0	0	2
temporal	23	0	6	29
thoracic vertebrae	31	0	9	40
tibia	84	4	35	123
ulna	49	0	6	55
unidentified	80	0	123	203
vertebrae	3	0	0	3
zygomatic	4	0	0	4
SUB TOTAL	1063	17	413	1493
% of Assemblage	71.20%	1.14%	27.66%	100.00%

DKS16 MNI

Element	Siding				TOTAL
	left	right	left + right	unsided	
1st molar	1	0	0	0	1
1st rib	2	0	0	0	2
2nd Molar	0	2	0	0	2
auricular surface	2	0	0	0	2
calcaneus	4	8	0	0	12
clavicle	7	15	0	0	22
femur	59	67	0	3	129
femur head	4	4	0	0	8
fibula	37	31	0	5	73
frontal	4	8	7	0	19
humerus	50	43	0	0	93
humerus head	1	0	0	0	1
ilium	1	2	0	1	4
mandible	14	14	5	0	33
maxilla	5	5	2	0	12
maxilla + sphenoid	0	0	1	0	1
Metatarsal 1	3	0	0	0	3
Metatarsal 3	1	1	0	0	2
Metatarsal 4	0	1	0	0	1
navicular	1	0	0	0	1
patella	1	0	0	0	1
pelvis	41	41	0	1	83
pubic symphysis	0	1	0	0	1
radius	20	21	0	2	43
rib	39	52	0	118	209
scapula	12	26	0	3	41
talus	1	1	0	0	2
tibia	62	61	0	0	123
ulna	28	27	0	0	55
unidentified	0	0	0	203	203
SUB TOTAL	400	431	15	336	1182
	33.84%	36.46%	1.27%	28.43%	100.00%

Femur	1001	2003	2006	
left	18	1	10	
right	19	1	7	
MNI	19	1	10	30

Frontal	1001	2003	2006	
MNI	23	2	17	42

Preservation Condition	1001	2003	2006	TOTAL
0	0	0	0	0
1	33	1	2	39
2	373	11	71	455
3	426	5	208	639
4	198	0	122	320
5	33	0	10	43
5+	0	0	0	0
				<u>1493</u>

Completeness	1001	2003	2006	TOTAL
100%	32	0	29	61
>50%	182	5	92	279
>25%	145	2	43	190
<25%	704	10	249	963
	1063	17	413	<u>1493</u>

DKSI6 Ageing

Broad Age	Context			TOTAL	%
	1001	2003	2006		
Adult	758	11	251	1020	68.31%
Immature	7	0	6	13	0.87%
Adult/Adolescent	2	0	4	6	0.40%
Not Aged	296	6	152	454	30.41%
				1493	100.00%

Age Brackets	CONTEXT			TOTAL
	1001	2003	2006	
<5	0	0	0	0
5-10	1	0	5	6
10-20	2	0	4	6
20-30	8	0	8	16
30-40	13	0	8	21
40-50	3	1	3	7
50-60	7	0	2	9
>60	1	0	1	2
				67 (6.45%)

Sex	Context			TOTAL
	1001	2003	2006	
MALE	17	1	9	27
?MALE?	16	0	8	24
?	6	0	1	7
?FEMALE?	14	0	5	19
FEMALE	12	0	8	20
				<u>97</u>

DKSI6 NMT

NON-METRIC TRAIT	CONTEXT			TOTAL	TPR (%)
	1001	2003	2006		
Septal Aperture	3	0	0	3	3/93 (3.23%)
Double Anterior Calcaneal Facet	1	0	0	1	2/12 (16.67%)
Allen's Fossa	2	0	1	3	3/129 (2.33%)
Unfused Metopic Suture	1	0	0	1	1/46 (2.17%)
Parietal Foramen	0	0	1	1	1/98 (1.02%)
Inca Bone	0	0	1	1	1/91 (1.09%)
				<u>10</u>	<u>10/1493 (0.67%)</u>

Faunal Remains	Context			
	1001	2003	2006	
TOTAL	65	0	22	<u>87</u>

SUERC SUBMISSION

APPENDIX 2

SUERC C14 REPORT

APPENDIX 5



RADIOCARBON DATING CERTIFICATE

20 April 2016

Laboratory Code SUERC-66751 (GU40490)

Submitter Tom Swannick
L-P Archaeology
Old Truman Brewery
91 Brick Lane
E1 6QL

Site Reference 7 Dock Street

Context Reference 1001

Sample Reference Sample A

Material Bone : Human

$\delta^{13}\text{C}$ relative to VPDB -19.7 ‰

$\delta^{15}\text{N}$ relative to air 10.5 ‰

C/N ratio (Molar) 3.2

Radiocarbon Age BP 182 ± 31

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

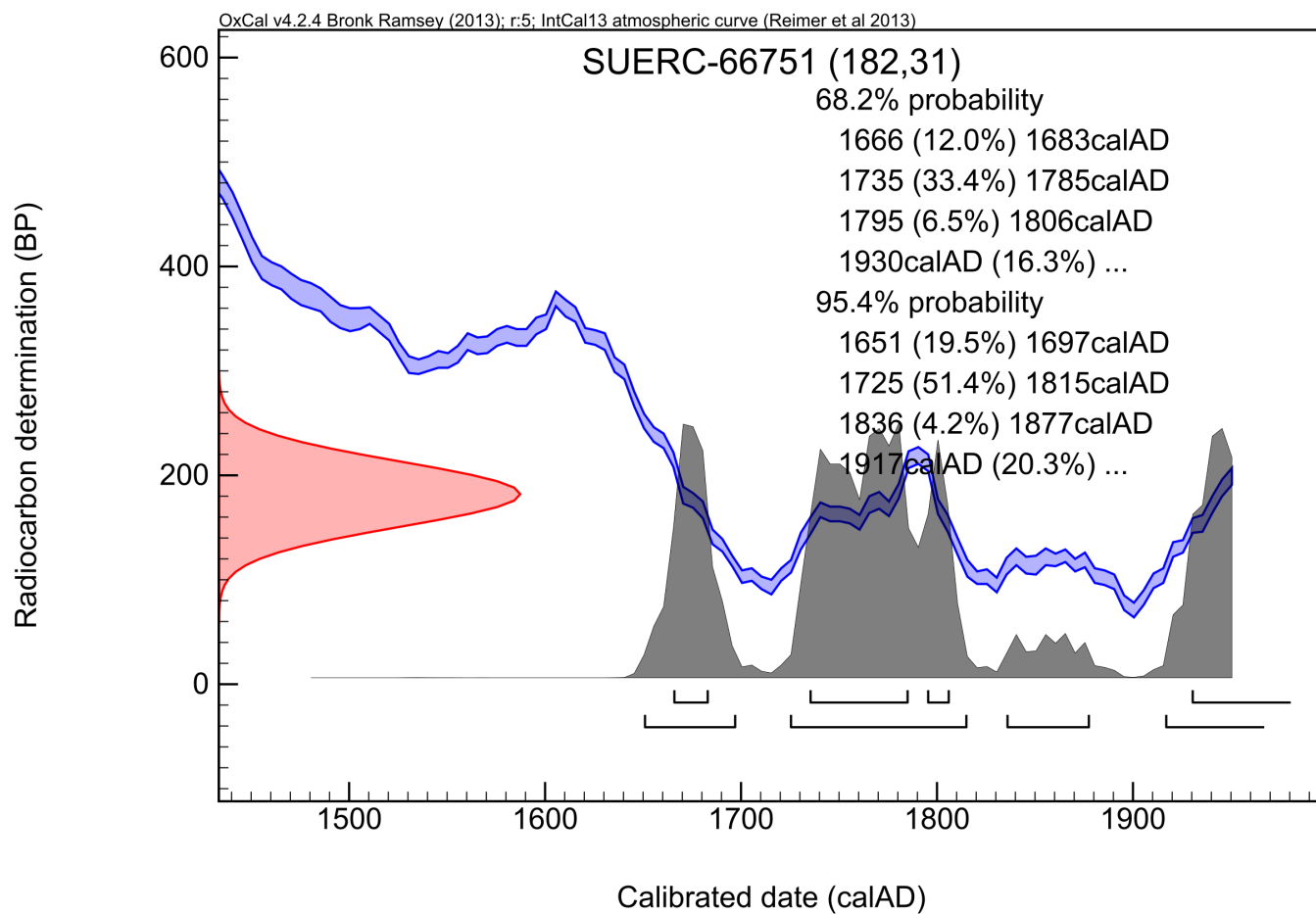
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/04/2016

Checked and signed off by :- *B. Tuzney*

Date :- 20/04/2016

Calibration Plot





RADIOCARBON DATING CERTIFICATE

20 April 2016

Laboratory Code SUERC-66755 (GU40491)

Submitter Tom Swannick
L-P Archaeology
Old Truman Brewery
91 Brick Lane
E1 6QL

Site Reference 7 Dock Street
Context Reference 2006
Sample Reference Sample B

Material Bone : Human

$\delta^{13}\text{C}$ relative to VPDB -19.7 ‰
 $\delta^{15}\text{N}$ relative to air 11.6 ‰
C/N ratio (Molar) 3.2

Radiocarbon Age BP 188 ± 27

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

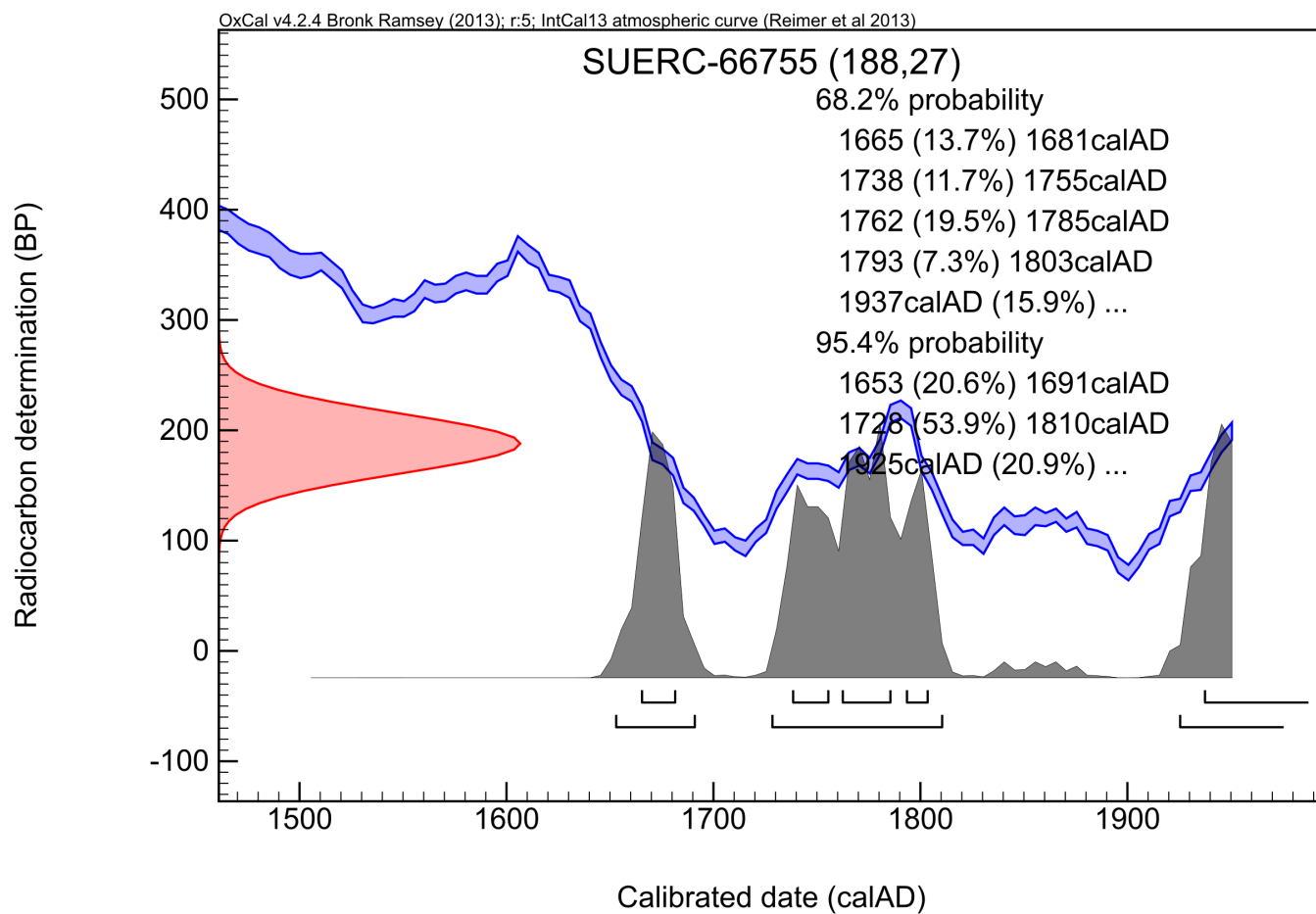
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 20/04/2016

Checked and signed off by :- *B. Tuzney*

Date :- 20/04/2016

Calibration Plot



MINISTRY OF JUSTICE LICENSE

APPENDIX 6



Ministry
of Justice

Coroners and Burials Policy Team
Area 3.38
102 Petty France
London
SW1H 9AJ

T 0203 334 5637
F 0203 334 2233
E rekha.gohil@justice.gsi.gov.uk

www.justice.gov.uk

Mr Guy Hunt
L-P Archaeology
Old Truman Brewery
Brick Lane
London
E1 6QL

Our ref: OPR/072/136

21 December 2015

Dear Mr Hunt,

7 DOCK STREET, LONDON, E1 8JN

LICENCE: 15-0340

Further to your recent application, please find enclosed a licence authorising the exhumation of remains at 7 Dock Street, London.

Paragraph 2 of the licence must be brought to the attention of every person connected with the removal of remains. I should also warn you that failure to observe the precautions prescribed in the licence constitutes an offence under Section 25 of the Burial Act 1857.

The attached licence is an important document. You may find it helpful to keep it with the remains or the archive records relating to the excavation as evidence that authority has been granted for the remains to have been exhumed.

Should you need to amend or vary the validity or conditions of the licence in future, please contact this office straight away.

Yours sincerely

Rekha Gohil



LICENCE FOR THE REMOVAL OF HUMAN REMAINS

The Secretary of State, in exercise of the power vested in him by section 25 of the Burial Act 1857 (20 & 21 Vic., cap.81), grants a licence for the removal of the remains of **persons unknown** from or within the place in which they are now interred at **7 Dock Street, London, E1 8JN**

2. It is a condition of this licence that the following precautions shall be observed:
 - (a) Any removal or disturbance of the remains shall be effected with due care and attention to decency;
 - (b) The ground in which the remains are interred shall be screened from the public gaze while the work is in progress;
 - (c) The remains shall, no later than **31 December 2017**, be reinterred in a burial ground in which interments may legally take place. In the meantime shall be kept safely, privately and decently by L-P Archaeology under the control of a competent member of staff.
3. This licence merely exempts those from the penalties, which would be incurred if the removal took place without a licence. It does not in any way alter civil rights. It does not confer the right to bury the remains in any place where such right does not already exist.
4. This licence expires on **31 December 2017**.

Rekha Gohil
on behalf of the Secretary of State for Justice

Ministry of Justice

Licence Number: **15-0340**
File Number: **OPR/072/136**
Date: **21 December 2015**



LONDON
METROPOLITAN
ARCHIVE
PHOTOGRAPHS
APPENDIX 7

St. Paul's School.

By an indenture dated the 9th February 1869, the trustees of The Bishop of London's Fund conveyed, under the authority of the School Sites Acts, to the vicar and chapel-wardens of the Ecclesiastical District of St. Paul's, Dock Street, Whitechapel, and their successors, a piece of ground situate in the centre of Wellclose Square, in the parish of St. Mary, Whitechapel, containing in length from east to west 125 feet 3 inches, and in depth from south to north 75 feet, for the residue of the term of a lease which had been lost, but which is believed to have been dated the 1st October, 1693, whereby the said premises were granted for a term of 999 years from the 24th June 1693, at a yearly rental of £5., and subject to the covenants in the same indenture of lease contained upon trust for a school for the education of children and adults, or children only, of the labouring, manufacturing, and other poorer classes in the district of St. Paul, Dock Street, Whitechapel, and for no other purpose. The deed provided (inter alia) that the premises might be used for the purposes of a Sunday-school under the control of the principal officiating minister for the time being of the said district. The day-school to be managed by a committee appointed as therein directed.

The school is situated in the centre of an open space known as Wellclose Square, but is shut off from the adjoining ground by iron railings. The school has no income-producing endowment except the rent of a small cottage on the south side of the square. It also receives an annual grant from the Whitechapel Foundation (see page 781). No deeds relating to the site of the cottage were produced, and it does not appear that it is held upon any specific trust in favour of the school.

The cottage is let on a weekly tenancy of 5s. per week, i.e. £13 per annum. It is not known in whom the legal estate is vested. The average attendance for the ending the 28th February, 1895, was, boys 91; girls, 93; infants, 224.

work directed to be
done upon the Peer
Rate of the parish as for
any in reason.

I wish you would
let our House know
the affairs have been
settled and in course
settled with the church &
before the work is
closed in that I may
be able to open
the Privy Council
Counsel that the
propositions have been
completely adopted.
It will be best to

have
long
the
a
do
in

the
&
of

have a good thick
layer of soil above
the cypress. By about
a foot. We must
- avoid ~~enter~~ to being
danger
imagined

Believe me
Yours faithfully
P. P. Holmes

The Reverend
D. F. Johnson
Ch. Parls
White Chapel

Burial Acts Office

8 Richmond Terrace,

2nd April 1869.

Reverend Sir

I have carefully examined
the vault in which the remains
of the dead, formerly buried beneath
the old Danish Church, Wellclose
Square, have been enclosed, and
can confidently testify that the
precautions recommended by me
have been faithfully observed, and
will, I am sure, guard against
any possible escape of offensive or
injurious emanations from these

P93/PANZ

MALE 143

remains, and that no danger to
the children, attending the schools
proposed to be erected, is to be appre-
-hended.

I have the honour to be,

Reverend Sir,

Your obedient Servant,

P. A. HOLMES

Medical Inspector,

Home Office.

Whitehall
16th October 1868

Sir,

I am directed by Mr Secretary
Hardy, to acknowledge the receipt of
your letter of the 14th Instant, on the
subject of the Vaults under the late
Danish Chapel in Whitehall Square,
and I am to inform you that your
communication has been referred
to Mr Kelland, Inspector of
Burialgrounds.

I am Sir,
Your Obedient Servant

Wm. Acheson

OASIS RECORD

APPENDIX 8

OASIS ID: Iparchae1-251334

Project details

Project name	7 Dock Street - Archaeological Investigation
Short description of the project	Limited excavation and watching brief ahead of development.
Project dates	Start: 11-01-2016 End: 17-02-2016
Previous/future work	No / No
Any associated project reference codes	DKS16 - Sitecode
Any associated project reference codes	2072L - Sitecode
Type of project	Recording project
Site status	None
Current Land use	Residential 2 - Institutional and communal accommodation
Monument type	N/A None
Significant Finds	N/A None
Investigation type	"Part Excavation","Watching Brief"
Prompt	Planning condition
Prompt	Discovery of human remains

Project location

Country	England
Site location	GREATER LONDON TOWER HAMLETS TOWER HAMLETS 7 Dock Street
Postcode	E1 8JN
Study area	364 Square metres
Site coordinates	TQ 534155 180815 50.941162329872 0.183912206942 50 56 28 N 000 11 02 E Point

Project creators

Name of Organisation	L - P : Archaeology
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	L - P : Archaeology
Project director/manager	Guy Hunt
Project supervisor	Tom Swannick
Type of sponsor/funding body	Developer
Name of sponsor/funding body	JMS Estates Ltd.

Project archives

Physical Archive recipient	Museum of London
Physical Archive ID	DKS16

Physical Contents	"Animal Bones","Ceramics","Glass","Human Bones","Industrial","Leather","Worked stone/lithics"
Digital Archive recipient	Museum of London
Digital Archive ID	DKS16
Digital Contents	"Human Bones","Stratigraphic","Survey","Worked stone/lithics"
Digital Media available	"GIS","Images raster / digital photography","Spreadsheets","Survey","Text"
Paper Archive recipient	Museum of London
Paper Archive ID	DKS16
Paper Contents	"none"
Paper Media available	"Context sheet","Diary","Drawing","Matrices","Plan","Report","Survey","Unpublished Text"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Post Excavation Assessment and Updated Project Design -7 Dock Street Street
Author(s)/Editor(s)	Swannick, T
Other bibliographic details	LP2072L-PXA-1.10
Date	2016
Issuer or publisher	L-P Archaeology
Place of issue or publication	London
Description	A4 bound report/pdf file.

Entered by	Tom Swannick (t.swannick@lparchaeology.com)
Entered on	12 May 2016

OASIS:

Please e-mail [Historic England](#) for OASIS help and advice

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