19. Archaeology

Appendix 19.1

ARCHAEOLOGICAL DESK-BASED ASSESSMENT

BRAMLEY-MOORE DOCK, LIVERPOOL

Archaeological Desk-based Assessment

Oxford Archaeology North

October 2019 with an addendum August 2020

Everton Stadium Development Ltd

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Prepared by:	Helen Evans	
Position:	Project Officer	
Date:	August 2020	
Approved by:	Alan Lupton	Signed
Position:	Operations Manager	
Date:	August 2020	

Oxford Archaeology North
Mill 3, Moor Lane Mills
Moor Lane
Lancaster
LA1 1QD
t: (0044) 01524 541000
f: (0044) 01524 848606

w: www.oxfordarch.co.uk
e: info@oxfordarch.co.uk

Janus House
Osney Mead
Oxford
OX2 0ES
t: (0044) 01865 263800
f: (0044) 01865 793496

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ADDENDUM AUGUST 2020

A planning application for the proposed stadium at Bramley-Moore Dock was submitted to Liverpool City Council ('LCC') in December 2019 (LPA reference 20F/0001) and subject to statutory consultation. Following the receipt of wider consultation feedback, the stadium design has been updated, requiring a revised application submission to be prepared.

The originally submitted Archaeological Desk-based Assessment (DBA) recommended that archaeological building survey, photogrammetric recording and trial/sample excavation be undertaken prior to the onset of construction works on the site. Merseyside Environmental Advisory Service (MEAS) accepted the programme of archaeological works proposed (together with a heritage assets survey and dock artefacts appraisal undertaken by KM Heritage) as appropriate mitigation strategies in May 2020. Oxford Archaeology (OA) North then submitted a Written Scheme of Investigation (WSI) to MEAS and archaeological investigations were undertaken in May/June 2020. This work established that the footings of former warehouses, railway lines and crane bases survive beneath modern surfaces on BMD's northern, western and eastern quays. The results are reported upon in *Appendix 19.2*.

This DBA retains its original assessment and recommendations in order to reflect the background to the current position. There have been no revisions to the associated legislation in the interim period and changes to the proposed scheme do not alter the earlier archaeological assessment presented in the DBA.

SUMMARY

Oxford Archaeology North (OA North) was instructed by Everton Stadium Development Limited (hereafter 'Everton') to prepare an Archaeological Desk-based Assessment of Bramley-Moore Dock ('BMD') and the north quay of Nelson Dock to inform a full planning application for the development of a new stadium with associated facilities and infrastructure.

The BMD site forms part of the Liverpool Waters development which was granted outline planning permission (LPA ref. 10O/2424) in 2013. The BMD site, along with Nelson Dock, forms part of the 'northern neighbourhood' area and is proposed for a primarily-residential led development on the available quaysides along with substantial under-croft parking facilities. A number of archaeology-based conditions were attached to the Liverpool Waters outline planning permission including, amongst others, a requirement for a Written Scheme of Investigation ('WSI').

The assessment is intended to establish, as far as possible, the nature and significance of surface and sub-surface undesignated archaeological heritage assets within the application site and to establish the impact of the proposed development upon them. The following report refers to designated sites within the application area, as these define its historical and archaeological significance. However, listed sites/buildings are not included in the impact assessment and no mitigation measures are proposed; such issues are within the purview of the cultural heritage chapter.

Bramley-Moore Dock (centred on NGR SJ 3345292491) is constructed on land reclaimed from the River Mersey, to the north of the Stanley Dock system. The site is within the Liverpool Maritime Mercantile City World Heritage Site ('WHS') and within the Stanley Dock Conservation Area. Bramley-Moore Dock forms the northern extent of Jesse Hartley's central dock system of 1848; the dock retaining walls, the dock wall and gated entrances off Regent Road are constructed of Hartley's characteristic 'Cyclopean granite' stonework and represent the height of his dock-building career in Liverpool.

The application site contains five heritage assets that are Grade II listed and afforded statutory protection; these are Bramley-Moore and Nelson Dock dock walls (the northern dock wall of the latter forming the application redline boundary), a hydraulic accumulator tower/engine house, the Regent Road dock wall and two sets of gated entrances. In addition to the listed structures, 17 areas of potential archaeological interest within the application site have been identified by this desk-based assessment.

Bramley-Moore Dock provided bunker coal for steamships transported from the Lancashire coalfields. In the 1850s, the High-Level Coal Railway on the east quay was constructed by the Lancashire and Yorkshire Railway Company, which allowed coal wagons to access Bramley-Moore and Wellington Docks and dump coal directly into the holds of waiting ships. An extension was added in 1884, on Bramley-Moore Dock north quay; elements of this structure survive, connected to the hydraulic accumulator tower/engine house at the north-eastern corner of the dock.

In 1893, The Liverpool Overhead Railway was constructed; this was an electric railway which ran along the whole length of the Liverpool docks. The electricity generating station for the railway was at Bramley-Moore Dock and comprised engines powered by coal, which was dropped into them from the High Level Coal Railway which passed directly above. Archaeological remains pertaining to the generating station may well survive within the accumulator tower/engine house complex.

The development of the application site can be traced with reference to historic maps. In addition to the main dock structures, built 1848, the maps illustrate the presence of the accumulator tower/engine house on the north quay, a chimney and pumphouse on the east quay, warehouses/transit sheds, ground-level dock railways, the High-Level Coal Railway and the Liverpool Overhead Railway. Ancillary structures, such as cranes and mooring posts/bollards, are also marked.

The significance of the heritage assets identified rests largely on the period and group value of Jesse Hartley's 1848 central docks development, and the important part played by the subsequent development of railway infrastructure in the later nineteenth century. The remains of the High Level Coal Railway and its connections to the Liverpool Overhead Railway are significant in terms of their rarity, survival, vulnerability and potential to provide significant archaeological evidence pertaining to the importance of Bramley-Moore Dock to the railway infrastructure of the Liverpool Docks.

Whilst most of the High Level Coal Railway and Overhead Railway-related infrastructure has been demolished, it is anticipated that the footings of these elevated structures will survive below the present surface, as will ancillary features. These include a pumphouse on the east quay of Bramley-Moore Dock, and crane bases on the northern and eastern quays, several of which are still visibly identifiable on the ground. Several ground-level dockside railways and areas of granite setts also remain extant.

It is recommended that archaeological survey and excavation be undertaken prior to the onset of construction works on the site. This should make use of photogrammetric (aerial) survey of the site which has already been undertaken, to record and accurately locate extant surface remains. Sub-surface archaeological evaluations should also be undertaken in advance of the proposed development, to assess the survival and condition of former transit sheds/warehouses, and on the north and east quays, the structure of the High Level Coal Railway and associated stores beneath the railway arches. Two extant buildings, one of which is the warehouse/transit shed on Bramley-Moore Dock's south quay, should be subject to archaeological survey prior to demolition. Several former buildings, including a pumphouse on Bramley-Moore Dock's eastern quay, a building possibly associated with the Overhead Railway and Nelson Dock Customs depot should be subject to archaeological evaluation.

It is also recommended that any sub-surface interventions during the construction phase of the development, such as geotechnical trenching, drainage runs and site stripping (including of historic surfacing), should be carried out under archaeological supervision.

The requirement for any recording of archaeological remains within the application site will be decided by the Local Planning Authority acting on the advice of Merseyside Environment Advisory Service. However, at the outset, it is proposed that similar planning conditions to those imposed on the Liverpool Waters outline planning permission (LPA ref. 10O/2424 – particularly condition no. 14 in relation a Written Scheme of Investigation) are attached to the proposed Everton stadium scheme should full planning permission be granted.

1 INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 Everton Stadium Development Limited (hereafter 'Everton') commissioned Oxford Archaeology North (OA North) in May 2017 and again in July 2019 to carry out an archaeological desk-based assessment of Bramley-Moore Dock, Liverpool (hereafter the application site; Fig 1). The assessment is to inform a full planning application for a proposed stadium development with associated facilities and infrastructure. The report seeks to establish, as far as possible, the nature and significance of undesignated surface and sub-surface archaeological heritage assets within the application site. The data generated from the assessment is intended to provide an informed basis regarding the significance of any below-ground archaeological remains within the application site and the impact the proposed development would have upon them.

1.2 LOCATION AND TOPOGRAPHY

1.2.1 Bramley-Moore Dock (NGR SJ3345292491) is constructed on land reclaimed from the River Mersey (Fig 1). It is part of Liverpool's central dock system, being part of the Stanley Dock system.

2 METHODOLOGY

2.1 DESK-BASED ASSESSMENT

2.1.1 The archaeological assessment has focused on the site of the proposed development, although information for the immediate environs has been considered, to provide an essential contextual background. Whilst having taken account of all of the heritage assets within the application site to understand the history and development of Bramley-Moore Dock, this Desk-based Assessment is designed specifically to identify non-designated archaeological heritage assets within the application site. Listed buildings and extant dock furniture, which are within the purview of the cultural heritage chapter, are not included in the assessment.

2.1.2 The assessment was carried out in accordance with the relevant Chartered Institute for Archaeologists (2014a, 2014b) and Historic England guidelines (2015). The principal sources of information consulted were historic and modern maps, although published and unpublished secondary sources were also reviewed. The following repositories were consulted during the data-gathering process:

- ***Merseyside Historic Environment Record (MHER):*** the MHER holds data on the historic environment for Merseyside, including Listed Buildings, all known archaeological sites, along with the location and results of previous archaeological interventions in a linked GIS and database format. The HER was consulted to establish the extent of sites of archaeological and historic interest within the study area;
- ***Merseyside Maritime Museum:*** the digital archives of the Merseyside Maritime Museum were searched for information relating to the study area;
- ***Oxford Archaeology North:*** OA North has an extensive archive of historic maps and secondary sources relevant to the study area, as well as numerous unpublished client reports on work carried out both as OA North (including the Liverpool Waters Environmental Statement (2010)) and in its former guise of Lancaster University Archaeological Unit (LUAU).

2.1.3 Information regarding designated buildings, parks and gardens and non-statutory sites within 500m of the application site has been collected. Information regarding sites within the Site Area are included in the gazetteer (*Section 4*) and the remainder are summarised in Appendices 1 and 2.

2.1.4 An initial site visit was undertaken on 18th July 2017 (*Section 5*). This served to assess the survival and condition of sites identified on historic mapping (*Section 3.2*), and to identify any additional previously unknown heritage assets. An aerial survey and a topographic/photo survey of extant dock furniture across the application site (*e.g.* bollards, capstons, inspection shafts) has more recently been undertaken by Planit-IE (2019); the results, which confirm the initial assessment, have been taken into account by the following assessment.

2.2 STATUTORY SITES

2.2.1 The historic waterfront of the port city of Liverpool contains extant docks, warehouses, ancillary buildings and also several of Liverpool's iconic

commercial buildings and monuments. The most significant of these forming the Liverpool Maritime Mercantile City World Heritage Site (WHS), the status of which was confirmed in 2004 (UNESCO 2014). The application site is within the core area of the WHS (Fig 1) and is therefore considered to be of potential Outstanding Universal Value (OUV).

2.2.2 The application site contains five heritage assets that are Grade II listed and afforded statutory protection; these are the dock walls of Bramley-Moore and Nelson docks (NHLE 1072980 and NHLE 1209519), a hydraulic engine house and accumulator tower (NHLE 1072981), the dock retaining wall along Regent Road and two gateways with stone piers (NHLE 1072979) onto Regent Road. The hydraulic engine house and accumulator tower formerly had two listing entries (NHLE 1072981 and 1360217), the latter having been de-listed in rectification of an error recording the building as being on Wellington Dock. There are a further eight listed buildings within a 500m radius (Fig 2; *Appendix 1*). Impacts on the listed buildings and their settings affected by the proposed development are not assessed by this report, which is focussed on the identification and assessment of undesignated archaeological heritage assets.

2.3 NON-STATUTORY SITES

2.3.1 Merseyside Historic Environment Record (MHER) holds records for 26 monuments or former historic buildings within 500m of the application site (Fig 2; *Appendix 2*). These predominately refer to former structures which are anticipated to have associated sub-surface archaeological remains. Four of these, all pertaining to railways, lie partly within the application site. A further 13 areas of potential archaeological interest within the application site have been identified by this desk-based assessment (*Section 4*; Fig 2).

2.4 ASSESSMENT METHODOLOGY

2.4.1 The results of the assessment have identified the significance of the archaeological resource of the application site. In order to assess the potential impact of any future development, consideration has been afforded to:

- assessing the significance of the archaeological sites identified, and the impact upon them arising from development of the application site; and
- reviewing the evidence for past impacts that may have affected the archaeological sites of interest identified during the desk-based assessment.

2.4.2 Key impacts have been identified as those that would potentially lead to a change to the archaeological site/heritage asset. Table 1 shows the criteria used to determine the significance of heritage assets. The criteria are industry-standard, derived from *Design Manual for Roads and Bridges* (Highways England 2019; LA104, Revision 1; Table 3.2N) and in line with those suggested by ICOMOS (2011).

Importance	Examples of Site Type
Very High (International)	UNESCO World Heritage Sites and sites on the list of sites proposed for World Heritage Status.

Importance	Examples of Site Type
High (National)	National importance: Designated scheduled monuments, grade I, II* and II listed buildings, and undesignated sites of potential national importance
Medium (Regional)	Regional importance: designated Conservation Areas, registered parks and gardens Undesignated sites recorded on Historic Environment Record and/or that contribute to regional research objectives
Low (Local)	Sites with a local or borough archaeological value or interest Sites that are so badly damaged that too little remains to justify inclusion into a higher grade
Negligible	Sites or features with no significant archaeological value or interest

Table 1: Criteria used to determine the significance of heritage assets, and guideline mitigation strategies

2.5 PLANNING AND LEGISLATIVE FRAMEWORK

2.5.1 Section 38(6) of the Planning and Compulsory Purchase Act 2004 and Section 70(2) of the Town & Country Planning Act 1990 requires planning applications should be determined in accordance with the statutory development plan, unless material considerations indicate otherwise. The statutory development plan for the City of Liverpool currently comprises the Unitary Development Plan (adopted 2002).

2.5.2 A summary of the statutory development plan policies relevant in the assessment of the application proposal are summarised below. The following policies and guidance are material considerations which inform the assessment:

- Liverpool Local Plan (Submission Draft, May 2018);
- National Planning Policy Framework (February 2019);
- Planning Practice Guidance (March 2014); and
- Supplementary Planning Documents.

2.5.3 A summary of the relevant policies and guidance is therefore summarised below.

2.5.4 ***Local planning policy:*** The Unitary Development Plan (UDP; Liverpool City Council 2002) remains the statutory development plan until the new Local Plan is adopted. UDP policy HD17, *Protection of Archaeological Remains*, states that the council will seek to protect sites of archaeological importance and where development is proposed in areas of known or suspected archaeological importance, significant archaeological remains and their settings are permanently preserved *in situ*. However:

"Where in situ preservation is not just justified and disturbance by development is acceptable in principle, the applicants undertake an agreed programme of mitigation including investigation, excavation and recording before development begins, or as specified in the agreed programme."

2.5.5 In terms of the emerging Local Plan which awaits formal examination, the following policies are relevant:

- ***Draft Policy HD1 (Heritage Assets: Listed Buildings; Conservation Areas; Registered Parks and Gardens; Scheduled Ancient Monuments)*** states that proposals affecting a designated heritage asset (or an archaeological site of national importance) should conserve those elements which contribute to its significance. Harm to such elements will be permitted only where this is clearly justified and outweighed by the public benefits of the proposal. Substantial harm or total loss to the significance of a designated heritage asset (or an archaeological site of national importance) will be permitted only in exceptional circumstances. Proposals affecting archaeological sites of less than national importance should conserve those elements which contribute to their significance in line with the importance of the remains. In those cases where development affecting such sites is acceptable in principle mitigation of damage will be ensured through preservation of the remains in situ as a preferred solution. When in situ preservation is not justified, the developer will be required to make adequate provision for excavation and recording before or during development. Subsequent analysis, publication and dissemination of the findings will be required to be submitted to the local planning authority and deposited with the Historic Environment Record.

- ***Draft Policy HD2 (Liverpool Maritime Mercantile City World Heritage Site)*** states that proposals which conserve or enhance the Outstanding Universal Value of the Liverpool Maritime Mercantile City World Heritage Site will be supported. Applications within the Liverpool Maritime Mercantile City World Heritage Site (or within its buffer Zone) which are likely to impact upon an element which contributes to its Outstanding Universal Value (including its archaeology) will not be granted unless they are accompanied by an appropriate Heritage Impact Assessment or archaeological assessment, as appropriate, which evaluates the likely effect of the proposals upon the attributes that contribute to the Outstanding Universal Value

2.5.6 ***Liverpool Maritime Mercantile World Heritage Site (WHS):*** and its Buffer Zone (Fig 1) are subject to a supplementary planning document ('SPD') providing guidance for the protection and enhancement of the city's historic waterfront (Liverpool City Council 2009). This states that 'The surviving areas of docks in the WHS and Buffer Zone, including historic dock retaining walls, quaysides, artefacts and their water spaces should be conserved, retained and enhanced' (section 4.7.6). The document refers back to the approach specified in UDP policy HD17 (Liverpool City Council 2002) stating further that:

"The WHS is an area of undoubted historical importance and is of international value. Archaeological remains associated with the site, whether below-ground or upstanding features e.g. buildings/structures, are an important non-renewable and finite resource, some of which are potentially of national importance. The archaeological remains of historic docks and other port related structures are potentially of outstanding universal value. The City Council considers that the entirety of the WHS is an area of suspected archaeological importance under the terms of UDP policy HD17" (Liverpool City Council 2009, Section 5.7.2).

2.5.7 ***National Policy Framework:*** in considering any planning application for development, local planning authorities are bound by the policy framework set by government guidance. This guidance is a material consideration that, where relevant, must be taken into account in planning decisions. In accordance with central and local government policy, this assessment has been prepared in order to clarify the heritage potential of the application site and to assess the need for any measures required to mitigate the impact of the proposed development.

2.5.8 The National Planning Policy Framework (NPPF) sets out national planning policies relating to historic environment conservation (MHCLG 2019). Valued sites of archaeological or cultural heritage that merit consideration in planning decisions are grouped as 'heritage assets' and are an 'irreplaceable resource', the conservation of which can bring wider social, cultural, economic and environmental benefits (MHCLG 2019, section 16.184-5). The policy framework states that the 'significance of any heritage assets affected, including any contribution made by their setting' should be understood in order to assess the potential impact of any development (MHCLG 2019, section 16.189). In addition to standing features, heritage assets of archaeological interest can comprise sub-surface remains and, therefore, assessments should be undertaken for a site that 'includes or has the potential to include heritage assets with archaeological interest' (MHCLG 2019, section 16.189).

2.5.9 The NPPF draws a distinction between designated heritage assets and other remains considered to be of lesser significance; 'great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be)' (MHCLG 2019 section 16.193). 'Substantial harm to or loss of a grade II listed buildings or grade II registered parks or gardens should be exceptional; assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional' (MHCLG 2019, section 16.194b). Therefore, preservation *in situ* is the preferred course in relation to such sites, unless exceptional circumstances exist.

2.5.10 It is normally accepted that non-designated sites will be preserved by record, in accordance with their significance and the magnitude of the harm to/loss of the site, to minimise or avoid conflict between conservation and development proposals (MHCLG 2019, section 16.189). Non-designated heritage assets of archaeological interest will also be subject to the policies reserved for designated heritage assets if they are of equivalent significance to scheduled monuments (MHCLG 2019, section 16.194b, footnote 63).

2.6 LIVERPOOL WATERS

2.6.1 Peel Land & Property secured outline planning permission in 2013 for a mixed-use development comprising a maximum of 1,690,000m² of mixed-use development including 9,000 dwellings and 310,000m² of office space (figures rounded). The site stretches from Princes Dock in the south to Bramley-Moore Dock to the north. The timeframe for full delivery of the scheme at the time of planning application was 2041.

2.6.2 Since planning permission was granted, Peel Land & Property has submitted a series of discharge of conditions applications, reserved matters and non-material amendment applications. A neighbourhood masterplan for the Central Docks has recently been submitted (ref:19DIS/1315) in accordance with the requirements of the planning conditions attached to the outline planning permission. At time of writing this application is still to be determined.

2.6.3 The proposed stadium site is located within the Northern Docks (comprising Nelson Dock and Bramley-Moore Dock) proposed in the Liverpool Waters planning application for development to take place between 2036 and 2041 for the following uses:

- C3 Dwellings- 219,500m^2.
- A1 Retail- 5,000m^2.
- A2 Financial & Professional services- 300m^2.
- A3 Food & drink- 2,200m^2.
- A4 Drinking establishments- 1,200 m^2.
- B1 Business- 1,800m^2
- D1 Non-Residential Institutions- 6,600m^2.
- D2 Assembly and Leisure-1,000m^2.

2.6.4 The amount of the development listed above which relates to Bramley-Moore Dock (excluding Nelson Dock) is not specified in the permission, which details the amount of development per Neighbourhood only.

2.6.5 As part of the outline planning permission, several baseline archaeology and cultural heritage studies were undertaken. A baseline study providing a summary of existing information about the archaeology and cultural heritage of the area was completed in 2009 (De Figueiredo and Egerton Lea 2009). The initial baseline study did not include features considered, in later reports, to be of potential archaeological significance, which were added during work to the ES chapter (OA North 2010). Following this, at the request of English Heritage, an archaeological deposit model was produced. Based on historic and geological mapping, this indicated areas where sub-surface archaeological features were considered likely to survive. Analysis of this resource resulted in the removal of some of the previously proposed underground parking from the Liverpool Waters outline planning permission (de Figueiredo 2011). The two levels of underground parking proposed in the Liverpool Waters development at BMD, were set back from the line of the dock walls to avoid intervention into the below ground structures (*ibid*),

2.6.5 The basis of the archaeology and cultural heritage chapter of the Liverpool Waters EIA (OA North 2010) and the subsequent Heritage Impact Assessment (de Figueiredo 2011) was the Liverpool Waters development as shown on submitted parameter plans. Whilst outline mitigation measures, largely in the form of safeguarding policies, were put forward, full archaeological impact assessment was to be undertaken at the reserved matters stage for each development phase, when detailed masterplans had been approved. Arrangements for mitigation measures (including the production of an

archaeological WSI) would then be agreed in detail with Liverpool City Council (*ibid*).

3 HISTORICAL BACKGROUND

3.1 INTRODUCTION

3.1.1 The following section presents a summary of the local historical and archaeological background. This has been compiled in order to place the study area into a wider archaeological context. Key sites are summarised in the Gazetteer of Sites (*Section 4*), and are mapped on Fig 2.

3.2 BACKGROUND

3.2.1 ***Prehistoric period:*** current understandings of prehistoric activity in the Merseyside region are poor, although the area may have been conducive for late prehistoric settlement on account of the natural topography and proximity to the Mersey estuary (Cowell and Philpott 2000). There are no known prehistoric remains within 500m of the application site.

3.2.2 ***Roman period:*** Roman occupation is poorly represented in the archaeological record of the region. There appears to be a concentration of finds and activity along the route of the modern A59 between Chester and York, which passes through Maghull and Vauxhall, following the higher land along the edge of the former coastal mosses. There are no known Roman remains within 500m of the application site.

3.2.3 ***Early Medieval period:*** the period between the end of the Roman occupation *c* AD 410 and the Norman Conquest is also poorly represented in Liverpool's archaeological record and there are no known Early Medieval finds within 500m of the application site. However, at Meols, on the Wirral, sand dune erosion in the nineteenth century revealed thousands of finds, many dating to the Early Medieval period (Griffiths 1992). The proportion of exotica there, together with the site's location, suggest a trading centre, or beach market, similar to others found along the shores of the Irish Sea (*ibid*; Newman 2006). Inland of the application site place names indicate an Early Medieval presence, including a probably early church at Walton-on-the Hill (Greaney nd). Situated along the route of the A59, the settlement's place-name is derived from the Old English *walla* (Briton) and *tun* (settlement).

3.2.4 ***Medieval and Post-medieval periods:*** Liverpool's history as a settlement extends back at least into the Medieval period, and its location on the eastern bank of the Mersey played a significant role in its development from a small fishing village to an international port. In 1207, King John founded the Royal Borough of Liverpool on a greenfield site, seemingly as a speculative investment based on the potential of Liverpool being a convenient point to embark on trade and military ventures within the Irish Sea basin (Kermode *et al* 2006). The foundation of a new town provided an environment for commercial and economic growth; it was laid out along the Mersey foreshore, which was then some 280m back from the present waterfront. By the thirteenth century, the town had a castle, three mills, the Chapel of St Mary de Key and had weekly markets and an annual fair (Higham 2004; Kermode *et al* 2006). The Pool served as a proto-port but was difficult to access; it was probably shallow and silt-laden and the tidal range of the Mersey meant that ships had to be beached on the foreshore in order to load and discharge cargo (Bird 1963).

3.2.5 In the sixteenth and early seventeenth centuries, Liverpool remained a small, but growing regional town and supported an increasingly prosperous community of merchants, traders, craftsmen and farmers (Kermode *et al* 2006). By the mid-sixteenth century, the effectiveness of the port had been increased through the establishment of a breakwater at the mouth of The Pool, and by the mid-seventeenth century, sluice-gates had been installed on the stream which fed it (Ritchie-Noakes 1984).

3.2.6 Liverpool expanded exponentially during the eighteenth century, during which time a number of new docks and waterfront features were constructed in response to rapid increases in maritime trade (Gregory *et al* 2014). The sequence of land reclamation and dock building following the construction of the Old Dock, began with the establishment of what is now Canning Dock in 1739, South Dock in 1753 and Salthouse Dock in 1754 (Farrer and Brownbill 1907; Ritchie-Noakes 1984). In the 1770s, further dock systems were added to the north and the south of the Old Dock; including Georges Dock and Dukes Dock (*ibid*).

3.2.7 The Liverpool and Wigan section of the Leeds to Liverpool Canal was opened in the 1770s and the sections to Leeds in 1816 (Rees 1984). Its most important cargo was coal; traders in Liverpool wanted cheap supplies for shipping and manufacturing and by the 1860s, over a million tonnes a year were being delivered (Towpath Treks 2015). Cargo would have to be transported from canal boat to wagon and then taken to the docks. The original Liverpool terminus at Clarke's Basin, on present-day Old Hall Street, was built in 1792 and closed in 1886, following the canal being cut off by the railway system (*Section 3.1.14*). There was no direct link between the canal and the Mersey until the Stanley Dock branch was built in 1846 (Rees 1984).

3.2.8 ***Industrial Period:*** the rapid economic growth and expansion of Liverpool during the early to mid-nineteenth century resulted from a number of interlinked factors. Traders exploited the full potential of local and global trading links, in large part brought about by major technological innovations including the growth of canals and railways, the rise of textile manufacturing and significant advances in naval technology (Gregory *et al* 2014). Between 1825 and 1857, 21 new docks were opened, and many older docks modified, increasing the water area by over 82 acres (33.2ha) to *c* 192 acres (77.7ha); by 1857, Liverpool had a lineal quayage of 15 miles and a river wall extending just over 5 miles (Farrer and Brownbill 1907).

3.2.9 The Liverpool and Manchester Railway (LMR) heralded a dramatic transformation in the transportation of both goods and people into and out of Liverpool. The first line was opened to the public in 1830 and the expansion of the network to include goods depots and branch lines in the 1840s and 50s, had a significant impact on the port and dock systems (Gregory *et al* 2014). The Lancashire and Yorkshire Railway was extended into Liverpool in 1848, with Exchange station opening in 1850, replacing an earlier temporary station to the north at Great Howard Street (Disused Stations 2011).

3.2.10 Further development in the central docks area between 1824 and 1860 was engineered by Jesse Hartley and would help to facilitate the expansion and diversification of Liverpool's global trading network (Milne 2006). Hartley effectively expanded the dock estate from 45 (18.2ha) to *c* 210 acres (85 ha),

developing the world's first enclosed dock system (Ritchie-Noakes 1984). He began with Clarence Dock (1830) (designed specifically for paddle steamships), followed by Victoria, Trafalgar and Waterloo Docks (1834-36), the latter designed to accommodate the largest sailing ships then in service (Jarvis 1991). Whilst sailing vessels continued in widespread use until the end of the nineteenth century, all later docks were built specifically for the accommodation of increasingly large steamships (*ibid*).

3.2.11 ***Bramley-Moore Dock:*** the Dock Act of 1844 generated a new dock development. The Act stated that 'the increasing commerce of the Town and Port of Liverpool requires that additional Docks, Basins and other works should be forthwith provided for the further accommodation of vessels trading to and from the said Town and Port' (Section 83, 1844 Dock Act; Liverpool City Council 2005). Five of these new docks, planned and built by Hartley, formed a coherent development in the central dock area. Salisbury, Collingwood, Stanley, Nelson and Bramley-Moore Docks were completed and working by 1848 (*ibid*). This group of docks incorporate all of the features which now define and typify Hartley's dock-building career (Jarvis 1991).

3.2.12 A major river wall contained the docks; this was constructed using Hartley's 'Cyclopean' granite technique, as was the Bramley Dock boundary wall (Site **03**), into which granite plaques were set, with the name of each dock and the date of construction, 1848 (Liverpool City Council 2005). Hartley's 'Cyclopean Granite' masonry style was both economical and structurally effective. The dock walls were 12 feet (*c* 3.65m) thick at the base, 6 feet (*c* 1.8m) thick at the capping and 36 feet high (*c* 11m) with a batter of only 1 inch (*c* 0.15m) to the vertical (Hynes 1996), which made possible the deeper docks required for the large square-hulled ships of the time. The cores of the walls were of sandstone, the outer faces formed of irregular pieces of granite which locked together, creating a strong and very durable retaining structure (OA North 2012).

3.2.13 The system of five interlinked docks, constructed on land reclaimed in the 1840s and near the old fort, North Battery, was accessed from the river by a double half-tide entrance at Salisbury Dock (Jarvis 1991). Bramley-Moore Dock, named after the then chairman of the Dock Committee and mayor of Liverpool, was the largest of the five docks, at a little under 10 acres (4ha) (*ibid*). Initially, the system was served by canal boats which could access from the Leeds and Liverpool Canal via Stanley Dock, a system which was soon superseded by the railways.

3.2.14 When it was first constructed, Bramley-Moore Dock was the most northerly part of the dock system. It originally handled the larger steamers but these later moved to Sandon and Huskisson Docks (opened in 1851 and 1852 respectively) (McCarron and Jarvis 1992). Following this, Bramley-Moore became the centre of Liverpool docks' coal export and provided bunker coal transported from the Lancashire coalfields for steamships (*ibid*).

3.2.15 In the 1840s Jesse Hartley resolved to lay a railway line along the whole length of the docks as far north as Salthouse Dock; the dock railway (Site **30**) was originally intended to move spoil and materials for the construction of the new docks and the first edition map (1851) shows sidings in the areas of the docks

then under construction. By 1852, rails for merchandise traffic had been laid along the dock road with branches to docks, sheds and warehouses. The wagons were pulled by horses as the dock authorities would not permit the use of steam owing to the risk of fire (Gahan 1982). The dock railway (Site **30**) was extended to join the Lancashire and Yorkshire Railway's (LYR) North Docks station in 1855 (Hughes 1987).

3.2.16 In 1856, LYR constructed the High-Level Coal Railway (Site **14**), which allowed coal wagons to access the east quays of Bramley-Moore and Nelson Docks and dump coal directly into the holds of waiting ships (OA North 2012). The railway lines, which entered through Wellington Dock's dock wall (Plate 1), were elevated above the level of Bramley-Moore Dock's' east quayside on a brick and iron viaduct (*ibid*).

Plate 1: Remains of the High-Level Coal Railway entering Wellington Dock to the north of Bramley-Moore Dock

3.2.17 In *Liverpool in 1859*, Thomas Baines recorded that the length of the High Level Coal Railway was "*1000 lineal feet, and the height is eighteen feet above the level of the dock quay. The High Level railway is supported on wrought-iron girder beams of sixty feet span, twenty-five feet apart. The sides have arches to form openings across the quays, under the railway."* (Baines 1859, 76). The hydraulic accumulator tower and engine house (Site **06**), the former having a datestone of 1883, were built to power capstons and cranes for an extension of the High Level Coal Railway, on Bramley-Moore Dock's north quay (Site 15), which opened in 1884 (MME 16662).

3.2.18 In 1893, the High Level Coal railway (Sites **14** and **15**) was added to by the construction of the Liverpool Overhead Railway (Site **17**), also known as the 'Docker's Umbrella', which ran along the length of the whole of the Liverpool Docks (Gahan 1982). Constructed initially to ameliorate congestion problems caused by the heavy commercial traffic using the dock road, this was the first elevated electric railway in the United Kingdom (*ibid*).

3.2.19 An electricity generating station which powered the Overhead Railway (Site **17**) was sited at the Bramley-Moore Dock Depot (Plate 2) (Gahan 1982; Parker nd). This contained four horizontal compound engines, capable of jointly working up to 2,000 horse power, powered by coal dropped into them from the High Level Coal Railway which passed directly above (Manchester Weekly Times, 1893, cited. Parker nd).

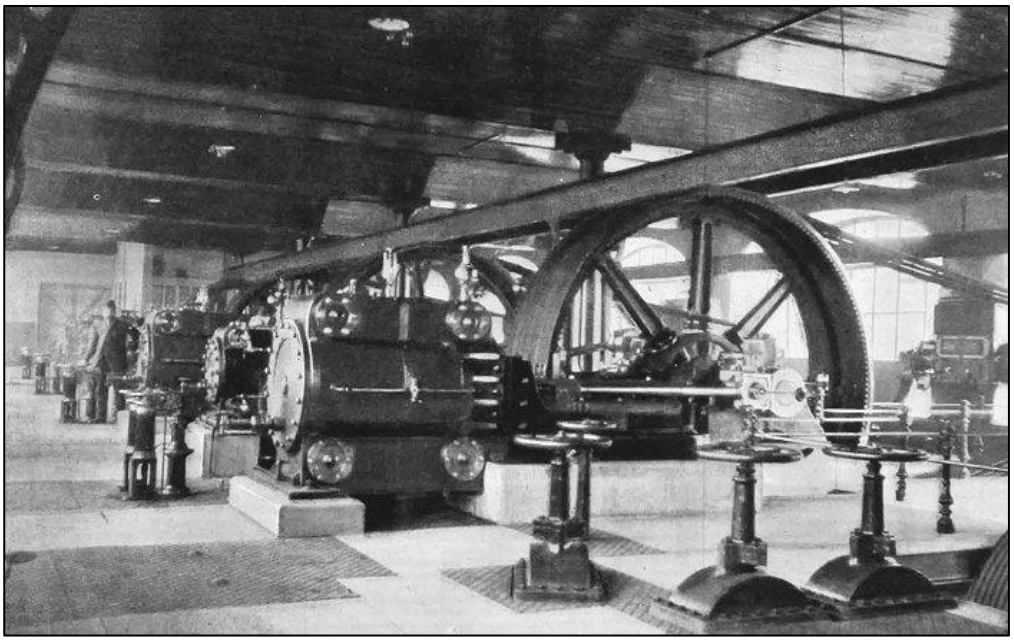

Plate 2: Bramley-Moore Dock electricity generating station. From The Engineer *(1893), reproduced from Parker (nd).*

3.2.20 At Bramley-Moore Dock, the Liverpool Overhead Railway (Site **17**) dropped to road level to pass under the High-Level Coal Railway; as the gradient was one in 40, this was known as the switchback, after a popular fairground attraction of the time (Gahan 1982; Plate 3). As this was the only point at which the railway was at ground level, it was here that the rolling stock was loaded onto the rails (*ibid*). Nelson Dock Station opened in 1896 and closed in 1956 (MME 18114), was situated immediately to the south of the application site close to the tracks opposite the Nelson Dock Customs Depot (Site **18**).

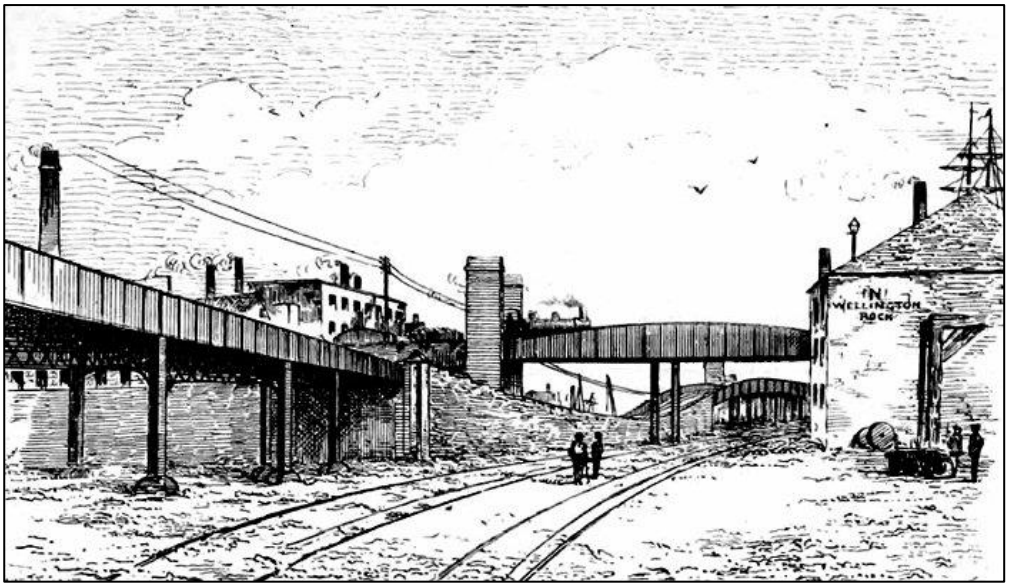

Plate 3: The Liverpool Overhead Railway 'switchback', under the High Level Coal Railway, looking south from Wellington Dock. From The Engineer (1893), reproduced from Parker (nd).

3.2.21 On 4th February 1893, the Liverpool Overhead Railway (Site **17**) was formally opened by the Marquis of Salisbury, who switched on the power at Bramley-Moore. This was recorded in the following Monday's edition of the Liverpool Mercury:

> "The party arrived at Bramley-Moore Dock and entered the generating station, which is built in the arches that support the Lancashire and Yorkshire Railway.....The party ascended a platform, speeches were made and the presentation of a small silver inkstand was made to Lord Salisbury, who started the electric current of 2,000 horse power which magically draws the trains over the lines. When the ceremony was over the party accompanied Lord Salisbury to Sandon Station where a specially decorated train was waiting to convey them on the first official trip on the line" (from Liverpool Mercury, Monday 6th Feb 1893).

3.2.22 ***Modern Period:*** it is estimated that between 1830 and 1930, over nine million emigrants sailed from Liverpool to the USA, Canada and Australia (National Museums Liverpool 2008). For most of this period, Liverpool was by far the most important point of departure due to its long-established transatlantic trade links. The ensuing commercial success greatly influenced the form of Liverpool, which was granted city status in 1888 (Liverpool City Council 2005). Either side of the turn of the twentieth century, large numbers of warehouses were built close to the waterfront, as were factories, many specialising in the processing of grain, tobacco and sugar (Milne 2006).

3.2.23 The twentieth century history of Liverpool docks is dominated by economic transformations and significant global events; notably the two World Wars, the inter-war depression and changes in the nature of transport links, local and global trade (Milne 2006). The two World Wars disrupted trade links and posed serious risks to seamen and ships. Liverpool and its docks suffered intense bombing during the Second World War. Although the docks were repaired, and trade links re-established, Britain's economic focus began to the shift to the

south-east and the trend towards containerisation in the 1950s marked the beginning of a sharp economic decline (Liverpool City Council 2009).

3.2.24 The Liverpool Overhead Railway (Site **17**) was closed in 1956 following bomb damage and the potential costs of £2 million for long-term repairs to the structure (Gahan 1982). Despite significant local opposition and attempts to save the railway, the financial resources could not be found, and it was dismantled in the following year (*ibid*).

3.2.25 The High-Level Coal Railway on the east quay (Site **14**) was closed by 1946 (*Section 3.3.13*) and that on the north quay (Site **15**) was operational until 1966 and dismantled by 1977. The export market for coal dissolved in the 1970s and 80s, with Bramley-Moore Dock ceasing coal exports in 1988. Since then, the dock has remained open, the transit shed on the southern wharf used by Svitzer tugs. The eastern and northern wharfs until recently have operated as an aggregate unloading dock (*Section 5).*

3.2.26 The economic decline has undergone a sustained reversal since the early 1980s however and following the confirmation of WHS status for its historic docklands in 2004, Liverpool is still undergoing a process of physical and economic regeneration (Liverpool City Council 2005).

3.3 DEVELOPMENT OF THE APPLICATION SITE

3.3.1 The development of the application site may be traced from the sequence of available historic mapping. There have been many maps and plans created of the Liverpool Docks area, with some very detailed mapping from the beginning of the nineteenth century. Prior to this, Charles Eyes' map of 1785 (Plate 4) shows Clarence Dock being the northernmost of the dock system, with land to the north shown as undeveloped waste. Similarly, Bennison's Map of 1835 showed how the area north of Clarence Dock and the Battery was undeveloped and largely un-reclaimed.

Plate 4: Excerpt from Charles Eyes' map of 1785, showing land to the north (left) of Clarence Dock being undeveloped

3.3.2 Nelson Gate North was labelled as connecting Bramley-Moore Dock and Nelson Dock and to the north, an un-named bridge connecting Bramley-Moore Dock with Wellington Half-tide basin (Site **07**).

3.3.3 ***First Edition 1:10,560 Ordnance Survey, surveyed 1845, published 1851 and revised 1864 (Fig 3):*** Bramley-Moore Dock is clearly marked on the first edition 6" map, which, although first published in 1851, was updated in 1864 to include new railways and docks. This means that the first edition post-dates Dower's map of 1863, which shows much the same layout. The OS Town Plan of 1864 (Plate 5) shows the detail of the layout. On the east quay, the High Level Coal Railway is illustrated, terminating at the south-eastern corner of the dock (Site **14**) and extending northwards to Wellington Dock, from where there is an arm to the north-east which joins it with the main LYR line, and North Docks Station, to the east of Nelson Dock. The Dock railway (Site **30**) is shown running along the inside (west) of the Regent Road dock Wall (Site **03**).

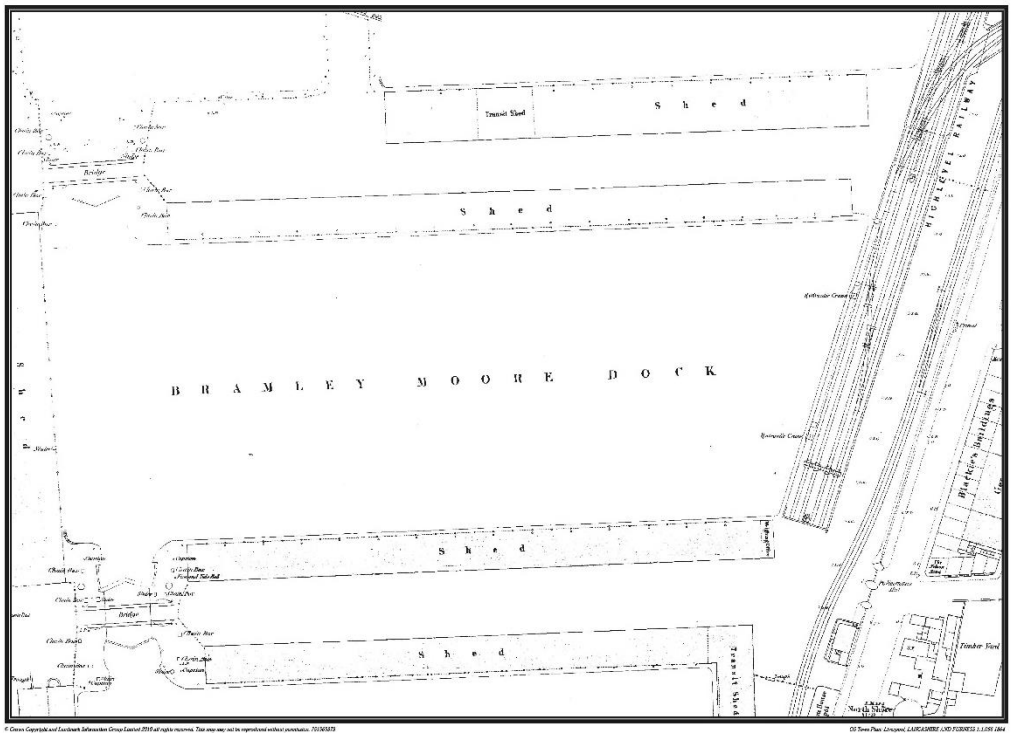

Plate 5: Bramley-Moore Dock and the north quay of Nelson Dock as depicted on the OS Town Plan of 1864

3.3.4 To the south of Bramley-Moore Dock, there is access, via a swing bridge through Nelson Gate North to Nelson Dock and Salisbury Dock Gates, the main river entrance to the Stanley Dock complex. To the north, Bramley-Moore Dock is connected to Wellington Half Tide Dock by a swing-bridge (Site **07**), and Sandon Basin. Long transit sheds (Sites **08**, **10** and **11**) were sited along the dock quays.

3.3.5 ***Ordnance Survey Town Plan of 1882 (Fig 4):*** relatively little had changed between 1864 and 1882 within the application site of Bramley-Moore and Nelson Docks. To the east of the application site, the railway infrastructure around the North Docks goods station had expanded.

3.3.6 ***Ordnance Survey 1: 10,560, surveyed 1890, published 1894 (Fig 5):*** the 1894 map adds much to the picture of the development of transport infrastructure. It shows that the High Level Coal Railway has been extended onto the north quay of Bramley-Moore Dock (Site **15**) where there are two tracks entering and exiting the dock, expanding to four on the quayside. The accumulator tower and engine house are shown on the north-eastern corner of the quay (Site **06**). With a datestone of 1883, this was built to power capstons and cranes for the extension to the High Level Coal Railway, which opened in 1884 (MME 16662). There is a ground-level single track railway to the north of the High Level Coal Railway (Site **16**).

3.3.7 There are two sheds present on the west (Site **08**) and south quays (Site **11**) of Bramley-Moore Dock, that on the north quay on earlier maps (Site **10**) having made way for the High Level Coal Railway (Site **15**). To the south, within a linear shed on the northern quay of Nelson Dock, there are six sheds, labelled as No's 9 to 12, with Shed 18, at the north-eastern corner of the dock, possibly connecting to a north/south arrangement of sheds on its eastern quay (Site **12**). There is a building labelled 'Customs Depot' (Site **18**) adjacent to Shed 18 and the ground-level dock railway (Site **30**) has a single-track arm extending to the north of Nelson Dock Shed No. 11.

3.3.8 Goad's Insurance Map of 1890 (Plate 6; British Museum nd a) illustrates constructional details of the sheds on Bramley-Moore and Nelson's docks, pink denoting brick or stone and yellow, timber. Circles illustrate cast iron columns and are sometimes also used to denote capstons. The shed (Site **08**) on the west quay of Bramley-Moore Dock was entirely of brick/stone construction, open-fronted and with cast iron columns. That on the south side of Bramley-Moore Dock (Site **11**) is shown to have been built of brick/stone to its rear and northern ends, the dock-facing frontage being of timber, supported by cast iron columns. To its south, the shed (Site **12**) fronting onto the northern quay of Nelson Dock was brick/stone-built but with a timber frontage, again supported by cast iron columns. Goad's Insurance Map also illustrates the presence of the High Level coal railways (Sites **14** and **15**). Sheets 30-2 (British Museum nd b) illustrate the warehouses beneath the High Level Coal Railway on the north and east quays; On the north quay the warehousing is split into five bays; all brick-built with brick-arch and column openings onto the quayside. On the north quay the warehouse bays are separated by crane pits (of which there are five; Site **23**). Nos 1 and 2 bays house Papayanni and Co; No 3 is labelled Cold Air Stores; No 4 is T Nelson and sons and No 5 at the west end is S.G Sensinea and Co Cold Air stores. Beneath the High Level Coal Railway at the north end of Bramley-Moore's east quay are two non-coal-related businesses; Allan's No 72 store (wine and spirits) and a millright. Two crane pits are also shown.

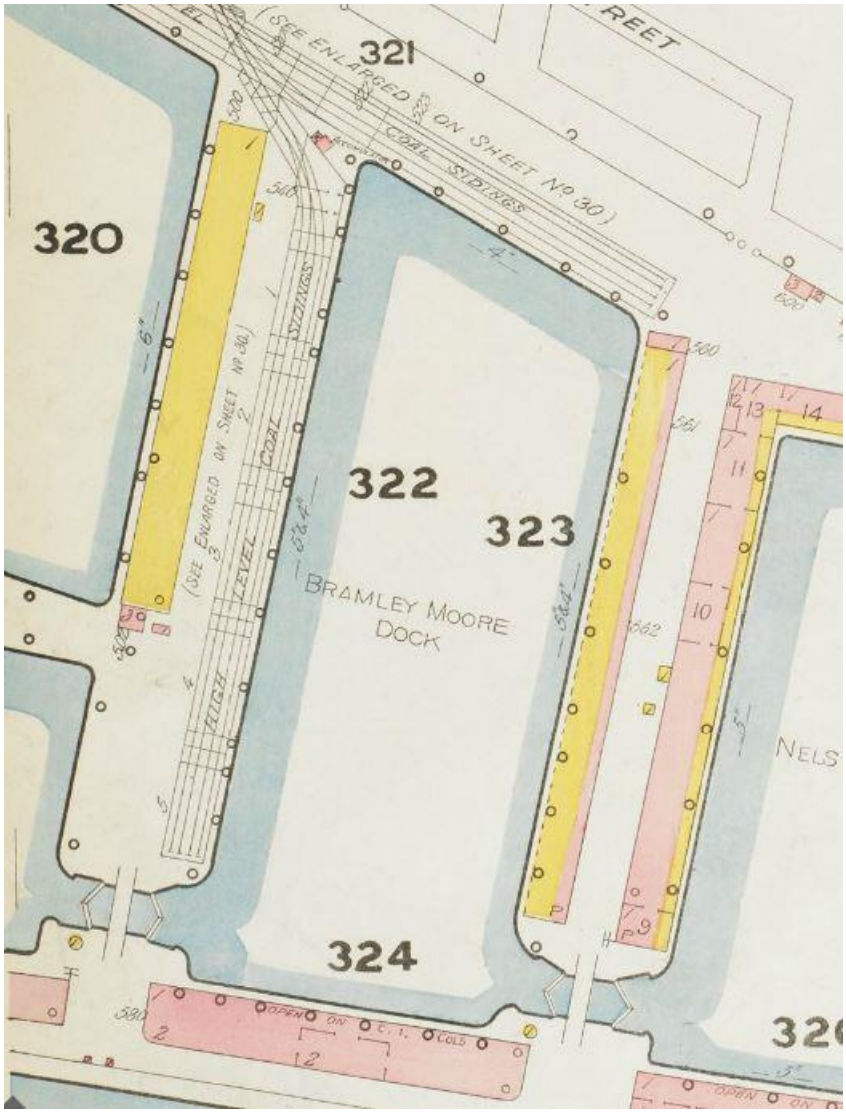

Plate 6: Bramley-Moore Dock and north part of Nelson Dock on Goad's Insurance Plan of Liverpool (1890) vol I sheet 26

3.3.9 ***Ordnance Survey 1:2,500, 1908 (Fig 6):*** Bramley-Moore Dock and the High Level Coal Railway appear relatively unchanged since the map of 1894, although the series of five cranes (Site **23**) are marked on the north quay. At the south end of the east quay, at the eastern end of the south quay shed (Site **11**) the railway has been shortened and a chimney added; this appears to be a pumping station (Site **29**; *Section 3.3.12*). The Liverpool Overhead Railway of 1893 (Site **17**) is clearly marked for the first time, running parallel and to the west of Regent Road (within the dock walls (Site **03**)) and shown going beneath the High Level Coal Railway with buildings to the east of the Nelson Dock Customs Depot (Site **18**) now marked as Nelson Dock Station. Whilst this is not clearly illustrated on the map, the overhead railway (Site **17**) was constructed above the ground-level dock railway (Site **30**; Gahan 1982; Plate 3). There are several narrow buildings alongside the railway adjacent to the dock wall and Regent Road.

3.3.10 To the north of the application site, the Wellington Half-Tide Dock had been extended northwards to form the larger Sandon Half-Tide Dock, with a system

of a lock and sluices to the north-west corner of Bramley-Moore Dock. The north end of the shed on the west quay of Bramley-Moore Dock (Site **08**), has been truncated, and the swing bridge previously situated between the dock gates replaced with a smaller foot bridge (Site **07**). The swing bridge between Bramley-Moore Dock and Nelson Dock remains extant, as does the shed on the south quay. Mooring posts are marked on the western and southern quaysides (Sites **21** and **22**).

3.3.11 ***Ordnance Survey 1: 2,500, 1927 (Fig 7):*** by 1927 few obvious changes had taken place at Bramley-Moore Dock, or in its immediate environs, since 1908. An aerial photograph focussed on the northern quay of the dock, from 1920 (Historic England 2019a; Plate 7) illustrates the site in three-dimensional form. It shows the extant High Level Coal Railway crossing Regent Road, the switchback (Plate 2) and passing the hydraulic/accumulator tower (Site **06**). On Bramley-Moore Dock north quay are the chutes and cranes used to tip the coal into waiting ships and below the railway lines, warehouse openings supported by the cast iron structure which also supported the railway (Site **15**).

Plate 7: Excerpt from an aerial photograph of 1920 showing the High Level Coal Railway on the north quay of Bramley-Moore Dock (Historic England 2019a EPW003063)

3.3.12 An aerial photograph of 1927 showing the southern end of Bramley-Moore Dock's eastern quayside (Historic England 2019b) illustrates the presence of a similar setup to that on the north quay, but with the addition of a tall chimney (Site **29**). This is not on the OS map of 1890, but it is shown on those of 1908 and 1927. It is not present on an aerial photograph of 1946 (Historic England 2019c). The chimney appears to be related to a pumphouse probably used to power cranes, hoists and lifts on the eastern quayside High Level Coal Railway (Site **14**). No associated buildings are shown on the 1908 OS map (Fig 6), but

the 1927 aerial photograph shows a small building with a roof flush with the height of the high-level railway lines, which have been cut short in comparison with the map of 1890. Likewise, no building is shown on the 1927 map (Fig 7).

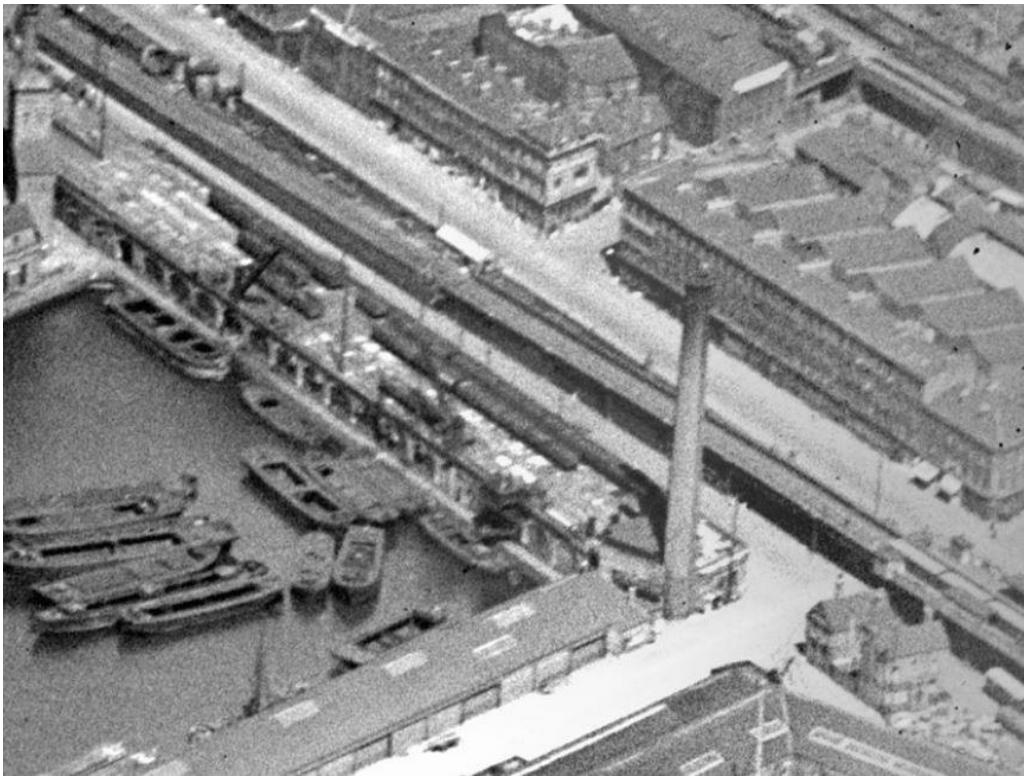

Plate 8: Excerpt from an aerial photograph of 1927 (Historic England 2019b EPW018890)

3.3.13 ***Ordnance Survey 1: 10,560, 1956:*** the OS map of 1956 (Fig 8) and an aerial photograph of 1946 (Historic England 2019c) illustrate that the High Level Coal Railway on the eastern quay (Site **14**) has been demolished; instead, the ground-level railway beneath is in use, with staithes to its east and a line extending from the south-east corner of the dock to Nelson Dock station. On the northern quay of Bramley-Moore Dock, the western end of the High Level Coal Railway (Site **15**), has been shortened and a small building added (Site **24**).

Plate 9: Aerial photograph of Bramley-Moore Dock, 1946 (Historic England 2019c; EAW001703)

3.3.14 ***Modern maps:*** the Ordnance Survey 1:1,250 Plan of 1959-1972 marks the Nelson Dock customs depot (Site **18**) as a police station, and shows that the sheds on the northern quay of Nelson Dock (Site **12**) to have been partly demolished. A crane is marked halfway along the quay. The map no longer indicates the Liverpool Overhead Railway (Site **17**; demolished in 1957) passing through the Bramley-Moore Dock site. On the eastern quayside are a series of small buildings between the two minor railway lines (staithes). There are no buildings on the northern quay of Nelson Dock. Whilst the High Level Coal Railway (Site **15**) is shown on the Ordnance Survey 1:2500 of 1970, it is no longer present on the Ordnance Survey 1:10,000 of 1977, which shows the former viaduct terminating to the east of Fulton Street. The 1983 Ordnance Survey 1:10,000 shows small buildings on the northern quay of Bramley-Moore Dock, two to the west (Site **24**), and one to the east, which is the extant accumulator tower/engine house (Site **06**). These are also illustrated on the Ordnance Survey 1:10,000 maps of 1990 and 2008.

4 SITE GAZETTEER

Site Number **01**
Site Name Bramley-Moore Dock retaining walls (internal)
HER Number MME 9572, 12363
Site Type Dock retaining walls
Period 1848-present
NGR 333604 392492
Source OS 1851 onwards; site visit
Designation Grade II listed (NHLE 1072980)
Description Retaining walls. 1848. J. Hartley. Granite rubble brought to a fair face, of large and small blocks. Entrances to Wellington Dock (Site **07**) and Nelson Dock (Site **29**)
Assessment High/national significance

Site Number **02**
Site Name Nelson Dock retaining walls: entrances to Bramley-Moore and Salisbury Docks
HER Number MME 12363
Site Type Dock retaining walls
Period 1848-present
NGR 333307 392576
Source OS 1851 onwards
Designation Grade II listed (NHLE 1209519)
Description Retaining wall, 1848, by J. Hartley. Granite rubble brought to a fair face, of large and small blocks. Entrances to Bramley-Moore and Salisbury Docks.
Assessment High/national significance

Site Number **03**
Site Name Bramley-Moore Dock walls (on Regent Road)
HER Number 11071, 15575, 15576
Site Type Dock Walls
Period 1848-present
NGR 333659 392496
Source OS 1851 onwards; site visit
Designation Grade II listed (NHLE 1072979)
Description Jesse Hartley granite Dock Walls from opposite Sandhills Lane to Collingwood, Nelson, Bramley-Moore, Wellington and Sandon Dock
Assessment High/national significance

Site Number **04**
Site Name Bramley-Moore Dock south entrance gates, with Nelson Dock (off Regent Road)
HER Number MME 15575
Site Type Dock gateway and piers

Period	1848-present
NGR	333686 392590
Source	OS 1851 onwards; site visit
Designation	Grade II listed (NHLE 1072979)
Description	Dock wall gate to Bramley-Moore and Nelson Docks, opposite Fulton Street, Regent Road
Assessment	High/national significance

Site Number	**05**
Site Name	Bramley-Moore Dock north entrance gates, with Wellington Dock (off Regent Road)
HER Number	MME 15576
Site Type	Dock gateway and piers
Period	1848-present
NGR	333626 392407
Source	OS 1851 onwards; site visit
Designation	Grade II listed (NHLE 1072979)
Description	Dock wall gate piers and gateman's hut, entrance to Wellington and Bramley-Moore Docks, Regent Road
Assessment	High/national significance

Site Number	**06**
Site Name	Bramley-Moore Dock hydraulic/accumulator tower/engine house
HER Number	MME 11074
Site Type	Accumulator tower/engine house/railway arches
Period	1856; 1883; 1893 to present
NGR	333617 392573
Source	OS 1894 onwards; site visit
Designation	Grade II listed (NHLE 1072981)
Description	The listing description for this site describes it as a hydraulic engine house and hydraulic tower at Bramley-Moore Dock. Visual inspection shows the western and southern elements of the building to be connected to the former High Level Coal Railway (Site **15**), constructed *c* 1856. The date stone on the hydraulic tower is 1883; it was built to power capstons and cranes for an extension of the High Level Coal Railway (Site **15**) which opened in 1884 (MME 16662). Documentary sources also connect this structure to the electricity generating station for the Liverpool Overhead Railway (Site **17**), constructed 1893.
Assessment	High/national significance

Site Number	**07**
Site Name	Swing bridge, dock gates and footbridge between Wellington Dock and Bramley-Moore Dock
HER Number	MME 9572 (part of Site **01**)
Site Type	Dock gates and bridge
Period	1848-late 20th century

NGR	333309 392576
Source	OS 1851 onwards
Designation	Grade II listed (NHLE 1072980), part of Bramley-Moore Dock
Description	This site is designated as part of the retaining walls of Bramley-Moore Dock but was given an additional site number for the purpose of this assessment. In addition to the timber dock gates, a swing bridge is marked on the OS maps of 1851, 1882 and 1894. This was replaced by a footbridge by 1908, which remained extant until the late 20th century. The dock gates remain extant, but in poor condition.
Assessment	High/national significance

Site Number	**08**
Site Name	Bramley-Moore west quay shed
HER Number	N/A
Site Type	Transit shed/warehouse
Period	1851-
NGR	333275 392482
Source	OS 1851 onwards; Goad 1890; Historic England 2019c; site visit
Designation	None
Description	Transit shed/warehousing is marked on the west quay from OS 1851 onwards. Goad's plan of 1890 illustrates it was of brick/stone construction, open-fronted with apertures supported by cast iron columns. Aerial photographs of 1920 and 1947 (Historic England 2019a and 2019c) illustrate the shed although little detail is discernible. Google Earth imagery shows sheds present (but not roofed) in 2007.
Assessment	Medium/regional significance due to its long-term survival and the likelihood that the footings may remain largely intact. The area is now clear of sheds and covered with tarmac. It is likely that sub-surface remains pertaining to the structure exist below the modern surfacing.

Site Number **09**- not assigned

Site Number	**10**
Site Name	Bramley-Moore north quay shed
HER Number	N/A
Site Type	Transit shed/warehouse
Period	1848
NGR	333476 392566
Source	OS 1851/64
Designation	None
Description	Shed/warehouse depicted on OS 1851/64 and Dower's map of 1863. This was presumably demolished to make way for the High Level Coal Railway (Site **15**), *c* 1882, which is shown on OS 1894.
Assessment	Low/local significance as it was demolished and superseded by the arched accommodation beneath the High Level Coal Railway *c* 1883 (Site **15**). It is possible, however, that footings of the former building

remain beneath later surfaces.

Site Number	**11**
Site Name	Bramley-Moore Dock south quay shed
HER Number	N/A
Site Type	Transit shed/warehouse
Period	1848
NGR	333471 392416
Source	OS 1851/64 onwards
Designation	None
Description	There is an extant brick-built warehouse on this site. Goad's map (1890) illustrates that the rear (south) wall of the shed was of brick/stone and the dock-facing frontage was of timber, with openings supported by cast iron columns. Although it has a modern roof, the present building is brick-built to the south, which has blocked-in windows and may incorporate the original warehouse depicted on historic mapping.
Assessment	Medium/regional significance, largely as this building is presently extant.

Site Number	**12**
Site Name	Nelson Dock north quay shed
HER Number	N/A
Site Type	Transit shed/warehouse
Period	1848- mid-twentieth century
NGR	333464 392379
Source	OS 1851/64 onwards; British Museum nd a; Historic England 2019c
Designation	None
Description	Transit sheds/warehousing marked on the north quay of Nelson Dock from the first edition OS (1851/64). Goad's map of 1890 shows it was built of brick/stone with a timber frontage and openings supported by cast iron columns. It is shown on the aerial photograph of 1946 (Plate 9; Historic England 2019c; EAW001703) but not on the OS map of 1959-72. Google Earth imagery shows that the area is used for container storage.
Assessment	Medium/regional significance due to its long-term survival and the likelihood that the footings may remain largely intact beneath later surfacing.

Site Number	**13**
Site Name	Bramley-Moore Dock, east quay ground-level railway
HER Number	N/a
Site Type	Railway lines
Period	?mid-nineteenth century-present
NGR	333651 392529
Source	Site visit
Designation	None

Description Railway lines and areas of granite sets on the eastern quay of Bramley-Moore dock. The railway may have existed when the High Level Railway (Site **14**) was in use; unlike the north quay, which had warehouses, only coal sidings are marked on Goads (1890) insurance plan. Following the demolition of the High Level Coal Railway on the east quay by 1946, an aerial photograph (Plate 9) shows a ground-level railway in use on the eastern quayside; this extended from the south-east corner of the dock to Nelson Dock station. These railway lines remain extant on the eastern quay and some places these can be observed running beneath modern concrete surfaces.

Assessment Low/local significance as although their date is not known, these railway lines, which probably date to the nineteenth century, remain extant and are associated with extant granite setts.

Site Number **14**
Site Name High Level Coal Railway (east quay of Bramley-Moore Dock)
HER Number MME16662
Site Type Railway
Period 1856-1957
NGR 333630 392541
Source OS 1864 to 1952-61; Historic England 2019b
Designation None

Description The High Level Coal Railway on the east quay of Bramley-Moore Dock is recorded as being constructed in 1856 (Liverpool City Council 2005). It is first illustrated on the 6" and OS Town Plan of 1864. It continued northwards from Bramley-Moore Dock to serve the east quay of Wellington Dock. In *Liverpool in 1859*, Thomas Baines recorded that the length of the High-Level Coal Railway was "1000 lineal feet, and the height is eighteen feet above the level of the dock quay. The High-Level railway is supported on wrought-iron girder beams of sixty feet span, twenty-five feet apart. The sides have arches to form openings across the quays, under the railway."

The OS map of 1908 illustrates the presence of a chimney and pumping station (Site **29**) at the south-eastern corner of Bramley-Moore Dock, where the railway had been shortened; this is illustrated also by an aerial photograph of 1927 (Plate 8; Historic England 2019b EPW018890). The High Level Coal Railway on the east quay was demolished before an aerial photograph was taken in 1946 (Plate 9; Historic England 2019c; EAW001703) and it is not present on the OS map of 1952-61 (Fig 8).

Assessment Medium/regional significance as the High Level Coal Railway was important to the development of dock infrastructure and formed a significant local landmark (see below). The High Level Coal Railway on the east quay is considered to be of slightly less significance than that on the north quay as nothing survives on the surface and it is not obviously connected to the designated accumulator tower (Site **06**). Although it was demolished in the mid-twentieth century, sub-surface evidence of footings for the former structure may survive.

Site Number	**15**
Site Name	High Level Coal Railway (north quay of Bramley-Moore Dock)
HER Number	MME16662
Site Type	Railway
Period	1856-1970's
NGR	333568 392568
Source	OS 1894 onwards; Historic England 2019a, b and c
Designation	Part of this structure remains extant and is covered by the hydraulic/accumulator tower (Site **06**) designation (NHLE 1072981)
Description	The High Level Coal Railway on the north quay of Bramley-Moore Dock, an extension to that on the east quay (Site **14**) was opened in 1883. The Bramley-Moore Dock accumulator tower/engine house (Site **06**) is recorded as having been built to power capstons and cranes required for the extension (MME 16662). It is shown on the OS map of 1894 and continues to be depicted on OS mapping until the 1970s when it was demolished. Accommodation beneath the railway housed the Overhead Railway electricity substation (*Section 3.2.18-20*; Plate 2). Goad's insurance map of 1890 illustrates the presence of cold stores in two of five warehouse bays beneath the railway (British Library nd a); the bays are also shown on a 1920 aerial photograph (Plate 7; Historic England 2019a) with openings supported by the columns which presumably formed the structure of the railway. Aerial photographs from 1920, 1927 and 1946 (Plates 7 and 9; Historic England 2019a, b and c) illustrate the layout of the High Level Coal Railway and associated features such as cranes (which Goad's 1890s map shows the bases of (Site **23**)), coal chutes, and the warehousing below the railway. The aerial photographs also illustrate that the High Level Coal Railway on the north quay was shortened between 1920 and 1946. The site visit established that the eastern extent of the railway, and the arches below, remain extant (*Section 5.3*; Plates 2, 13 and 14), along with a building and brick-built access steps to the railway deck level. This lies within the present structure of the accumulator tower/engine house (Site **06**) which is Grade II listed and was built to power the 1883 extension to the High Level Coal railway. As the remains of the engine house built to power it are designated, the remains of the High Level Coal Railway are considered to be of national significance.
Assessment	High/national significance; site visit and analysis of aerial photographs established that the brick-built decked structure attached to the hydraulic/accumulator tower (Site **06**) is part of the High Level Coal Railway (Site **15**) and is therefore considered to be of national importance. Although the remainder of the structure has been demolished, sub-surface evidence of its footings and associated/ancillary structures such as the crane bases (Site **23**) appear to survive.

Site Number	**16**
Site Name	Ground-level railway to north of High Level Coal Railway on north quay of Bramley-Moore Dock
HER Number	N/A
Site Type	Railway
Period	1894-present
NGR	333518 392580
Source	OS 1894 onwards; site visit
Designation	None
Description	Ground level dock railway lines to the north of the High Level Coal Railway, marked on OS mapping of 1894. Two lines are visible on aerial photographs of 1946 (Plates 7 and 9; Historic England 2019a and c).
Assessment	Medium/regional significance due to their longevity and association with the High Level Coal Railway and stores/warehousing beneath. Extant railway lines were identified during the site visit.

Site Number	**17**
Site Name	Liverpool Overhead Railway of 1893
HER Number	MME18105
Site Type	Railway
Period	1893-1957
NGR	333671 392581
Source	OS 1908 onwards
Designation	None
Description	Liverpool Overhead Railway was opened in 1893 and ran within Bramley-Moore dock walls, parallel to Regent Road. Documentary sources state that the electricity generating station for the line was at Bramley-Moore, where it was fuelled by coal dumped from overhead, from the High Level Coal Railway (*Section 3.1.20*). The overhead railway, which sat on a cast iron superstructure, was closed in 1956 following bomb damage and the potential costs of £2 million for long-term repairs to the structure (Gahan 1982). It was demolished the following year.
Assessment	Medium/regional significance due to the railway being suspended and having been completely demolished in the mid-twentieth century. Whilst no obvious archaeological evidence was identified on the site visit, this may exist in the form of sub-surface foundations or stanchion supports. The ground adjacent to the dock wall includes many infilled holes, patches of concrete and is much disturbed. It is possible that a brick structure abutting the dock wall (Site **28**) may have been associated with it.

Site Number	**18**
Site Name	Nelson Dock Customs Depot (later police station)
HER Number	N/A
Site Type	Customs building
Period	1890-

NGR	333602 392384
Source	OS 1890 onwards
Designation	None
Description	Small building at the north-east of Nelson Dock, just inside the dock gates (Site **04**), between the main dock railway (Site **30**) and the Nelson Dock dock railway (Site **19**). It is shown on an aerial photograph of 1946 (Plate 9: Historic England 2019c) as a brick-built structure on a H-shaped plan, of two storeys with pitched roofs and chimneys. The OS map of 1959-1972 labels it as a police station.
Assessment	Low/local significance as the depot/police station was demolished in the mid-twentieth century. The building is not marked on modern maps and the area is now used for dock storage. Sub-surface remains of the building may survive beneath modern surfacing.

Site Number	**19**
Site Name	Single track railway, northern quay of Nelson Dock
HER Number	N/A
Site Type	Railway
Period	1890-
NGR	333548 392398
Source	OS 1890 onwards
Designation	None
Description	Single line railway extending from the dock railway (Site **30**) on the east quay of Bramley-Moore Dock, past the Customs House (Site **18**) to the warehouse on the northern quay of Nelson Dock (Site **12**).
Assessment	Medium/regional significance as this railway is extant and was identified during the site visit. It appeared to terminate close to the former Customs Depot (Site **18**).

Site Number	**20**
Site Name	Red brick sheds, western quay of Bramley-Moore Dock
HER Number	N/a
Site Type	Small sheds
Period	1908-present
NGR	333288 392560
Source	OS 1908, 1927; Historic England 2019c
Designation	None
Description	Three small brick-built sheds identified during the site visit. These are shown on the OS maps of 1908 and 1927. Four are visible on an aerial photograph of 1946 (Plate 9; Historic England 2019c) and appear to have been small shelters for dock-workers working the Bramley-Moore Dock gates (Site **07**) and the Sandon Dock locks (Plate 6).
Assessment	Low/local significance; the three identified during the site visit remain extant on Google Earth imagery, and are in poor condition. A further example, visible on aerial photographs *c* 1946 has been demolished. Surface/sub-surface remains may survive beneath later surfacing.

Site Number	**21**
Site Name	Mooring posts/bollards western quay of Bramley-Moore Dock
HER Number	N/a
Site Type	Mooring posts/bollards
Period	1864-
NGR	333287 392516
Source	OS 1908 onwards
Designation	Those which are attached to the dock wall coping stones are Grade II listed (NHLE 1072980)
Description	Mooring posts/bollards along the western quay of Bramley-Moore Dock. Many of these were identified during the site visit; these appear to be of mixed type, and some are no longer present.
Assessment	As some (but not all) of these bollards are attached to the coping stones of the dock wall, they are part of the listed dock structure. From an archaeological perspective however, they are of low/local significance due to their condition and number and that they are virtually undetectable archaeologically. They are, however, important aspects of the cultural landscape of dock furniture; numerous bollards remain extant. These are detailed in the historic artefacts survey and cultural heritage chapter (Planit-IE 2019; KM Heritage 2019).

Site Number	**22**
Site Name	Mooring posts/bollards southern quay of Bramley-Moore Dock
HER Number	N/a
Site Type	Mooring posts/bollards
Period	1864-
NGR	333459 392428
Source	OS 1890 onwards
Designation	Those which are attached to the dock wall coping stones are Grade II listed (NHLE 1072980)
Description	Mooring posts/bollards along the southern quay of Bramley-Moore Dock.
Assessment	As most of these bollards are attached to the coping stones of the dock wall, they are part of the listed dock structure. From an archaeological perspective however, they are of low/local significance due to their condition and number and that they are virtually undetectable archaeologically. They are, however, important aspects of the cultural landscape of dock furniture; numerous bollards remain extant. These are detailed in the historic artefacts Survey and cultural heritage chapter (Planit-IE 2019; KM Heritage 2019).

Site Number	**23**
Site Name	Cranes (5 of), northern quay of Bramley-Moore Dock
HER Number	N/a
Site Type	Cranes
Period	1883/4
NGR	333406 392558
Source	OS 1890; Goad 1890

Designation None
Description Cranes marked on the OS map of 1890; five crane pits, between warehouse bays, are marked on Goad's map of 1890 (British Museum nd b) beneath the High Level Coal Railway. These were built 1883/4 when the accumulator tower/engine house (Site **06**) and the High Level Coal Railway on the north quay (Site **15**) were constructed.
Assessment Low/local significance due to the large number of examples and that they have been demolished; infilled crane-bases are likely, however, to survive as sub-surface remains; several large infilled holes in the approximate positions of those marked on Goad's map are identifiable on the ground amongst patches of stone setts.

Site Number **24**
Site Name Western building, north quay of Bramley-Moore Dock
HER Number N/a
Site Type Building
Period 20th Century
NGR 333359 392562
Source 1957 OS map; Historic England 2019c
Designation None
Description A single red brick wall of probably 19th century date which may have been part of the north quay warehouse (Site **10**) forms the eastern boundary (currently used for boat storage and not accessible) of an early-to-mid-20th century brick building. To the east it is of a single storey and an additional storey has been added to the west. The building has crittel type windows (dating to the 1920s or 30s) at ground floor level, and a flat roof. A single storey building with a pitched roof, smaller than the presently extant structure is shown on a 1946 aerial photograph (Plate 9; Historic England 2019c). The presently extant building (Plate 17), which seems to incorporate parts of several earlier brick-built structures, must therefore post-date 1946.
Assessment Low/local significance due to its late date; it is presently extant but in poor condition.

Site Number **25**
Site Name Cranes (2 of) east quay of Bramley-Moore Dock
HER Number N/a
Site Type Cranes
Period 1864-
NGR 333615 392466
Source 1908 OS
Designation None
Description Two cranes marked on the OS Town Plan of 1864 associated with the High Level Coal Railway (Site **14**) on the east quay of Bramley-Moore Dock.
Assessment Low/local significance due to the large number of examples and that they have been demolished; infilled crane-bases are likely, however, to survive as sub-surface remains. The site visit identified the presence of

a crane-base on the site of the southern example shown on the historic mapping. This was formed of a series of large granite slabs with apertures infilled with red brick (Plate 11).

Site Number **26**
Site Name Mooring posts/bollards east quay of Bramley-Moore Dock
HER Number N/a
Site Type Mooring posts/bollards
Period 19th-20th Century
NGR 333625 392544
Source Site visit
Designation Those which are attached to the dock wall coping stones are Grade II listed (NHLE 1072980)
Description Series of mooring posts/bollards (Plate 9), not identified on historic mapping due to proximity of High Level Coal railway to the edge of the quay. Several types present, probably of mixed date.
Assessment As most of these bollards are attached to the coping stones of the dock wall, they are part of the listed dock structure. From an archaeological perspective however, they are of low/local significance due to their condition and number and that they are virtually undetectable archaeologically. They are, however, important aspects of the cultural landscape of dock furniture; numerous bollards remain extant. These are detailed in the historic artefacts survey and cultural heritage chapter (Planit-IE 2019; KM Heritage 2019).

Site Number **27**
Site Name Mooring posts/bollards north quay of Bramley-Moore Dock
HER Number N/a
Site Type Mooring posts/bollards
Period 1864-
NGR 333625 392544
Source Site visit
Designation Those which are attached to the dock wall coping stones are Grade II listed (NHLE 1072980)
Description Series of mooring posts/bollards (Plate 10), identified on the 1864 Town Plan but later obscured due to proximity of High Level Coal railway to the edge of the quay. Several types present, probably of mixed date.
Assessment As most of these bollards are attached to the coping stones of the dock wall, they are part of the listed dock structure. From an archaeological perspective however, they are of low/local significance due to their condition and number and that they are virtually undetectable archaeologically. They are, however, important aspects of the cultural landscape of dock furniture; numerous bollards remain extant. These are detailed in the historic artefacts survey and cultural heritage chapter (Planit-IE 2019; KM Heritage 2019).

Site Number **28**
Site Name Red brick structure abutting Regent Road dock wall
HER Number N/a
Site Type Structure
Period 19th Century
NGR 333661 392514
Source Site visit
Designation None
Description A brick-built buttress and a stretch of brick wall of probably nineteenth century date which runs for several metres abutting the dock wall adjacent to Regent Road (Site **03**), opposite its junction with Blackstone Street. The structure is not shown on the historic mapping, but is visible at deck-level of the Liverpool Overhead Railway on aerial photographs of 1927 and 1946 (Plates 7 and 9; Historic England 2019a and c). It seems likely that the structure formed part of Liverpool Overhead Railway (Site **17**), which ran within Bramley-Moore Dock walls.

Assessment Medium/regional significance due to its probable association with the Overhead Railway of 1893 (Site **17**) and the Regent Road dock wall (Site **03**). The structure survives as a brick-built buttress and a stretch of brick wall abutting the Regent Road dock wall (Site **03**) which remains extant and is Grade II listed.

Site Number **29**
Site Name Chimney southern end of the eastern quay of Bramley-Moore Dock
HER Number N/a
Site Type Chimney/pumphouse
Period Between 1894 and 1908-1940s
NGR 333600 392435
Source Aerial Photograph (Historic England 2019a)
Designation None
Description A brick-built chimney almost the same height as the accumulator tower (Site **06**) which lies 140m to the north. It is not shown on the OS map of 1894 but is present on that of 1908. It was probably a pumphouse, used to power cranes on the High Level Coal Railway on the eastern quay of Bramley-Moore Dock (Site **14**). It is visible on an aerial photograph of 1927 (Historic England 2019b) and does not appear to have been as ostentatious as other well-known examples on the docks, like the accumulator tower (Site **06**) and the pumphouses at Stanley dock and Hartley Quay. The chimney seems to be attached to a building (not illustrated on the historic mapping) with a roof just slightly higher than the deck of the High Level Coal Railway (Site **14**), the rails of which stop just short of it, truncated from their former length on the 1894 map. The pumphouse is not shown on the OS map of 1946 or an aerial photograph of 1947 (Plate 9).

Assessment Medium/regional significance due to its association with the High Level Coal Railway (Site **14**); the site of the pumphouse presently lies

	beneath a tarmac car park and sub-surface remains of the structure may survive.

Site Number	**30**
Site Name	Dock railway
HER Number	MME 16873
Site Type	Railway
Period	1840's-late 20th century
NGR	334270 391393 (1865m by 7436m)
Source	OS first edition onwards
Designation	None
Description	Jesse Hartley resolved to lay a line along the whole length of the docks in the 1840s as far north as Salthouse Dock. The line was originally intended to move spoil and materials for the construction of new docks. It was extended to join LYR's North Docks station in 1855 (Hughes 1987). All movement was by horse with a maximum of six wagons per train.
Assessment	Medium/regional significance due to its association with Hartley's original dock layout and its survival; although much of the dock railway was removed in the late 20th century, elements survive within the eastern part of the application site.

5 SITE VISIT

5.1 INTRODUCTION

5.1.1 An initial site visit was undertaken on 18th July 2017. The conditions were dry and bright. More recent topographic and aerial photo surveys of the dock and dock furniture across the application site has been undertaken to inform the cultural heritage recommendations for the proposed development (KM Heritage 2019). The surveys have confirmed the assessment presented below; that some of the sub-surface heritage assets identified from the map regression are sealed beneath modern surfacing, and others appear to have been infilled, the infill being visible between areas of granite setts and beneath degraded modern surfacing. Some sites described in *Section 4* of this report (*e.g.* bollards/mooring posts) are also detailed in the historic artefacts survey (Planit IE 2019).

5.2 THE WEST AND SOUTH QUAYS

5.2.1 The western quay was photographed from the northern quay close to the Bramley-Moore/Wellington Dock gate (Site **07**; Plate 6) and has been subject to more recent aerial survey. The footprints of two modern warehouses/transit sheds are surfaced with tarmac. There are three small twentieth-century brick sheds, possibly used as shelters (Site **20**) on the eastern quayside, and the row of mooring posts (Site **21**). The river wall and several sets of steps up to it appear to be in relatively good condition. The dock gates remain present (Site **07**), albeit in relatively poor condition, with additions and alterations to the original bridge structure as recorded on historic OS mapping; the footbridge marked on mapping until the 1990s is no longer present.

*Plate 10: North end of west quay, showing remains of the dock structure (Site **01**), dock gates (Site **07**), the river wall (Site **02**) and brick sheds (Site **20**)*

5.2.2 The southern quay of Bramley-Moore Dock was occupied by Svitzer in 2017 and the warehouse running the whole length of the quayside (Site **11**) remains extant as of October 2019. Both Bramley-Moore Dock's southern quay and the

northern quay of Nelson Dock are covered with concrete/tarmac surfaces, although the railway to the west of the former Nelson Dock warehouse (Site **12**) remains extant.

5.3 THE EAST AND NORTH QUAYS

5.3.1 The north and east quays of Bramley-Moore Dock have until recently been used to dock, store and distribute aggregate. Although there are large patches covered with modern surfacing, where the ground is visible, significant areas of granite sets and railway lines are apparent, as are the potential sites of infilled sub-surface features such as crane-bases.

5.3.2 Accessed from the southern gates of the dock (Site **04**), the eastern quayside, until recently, housed a range of aggregate staithes, a weigh-bridge and modern Portakabins, arranged along the inner length of the dock wall onto Regents Road (Site **03**). Directly inside the dock gates, the ground is formed of granite setts, amongst which, lies the dock railway between Bramley-Moore and Nelson Docks (Site **30**). The layout is the same as that shown on historic mapping, with a set of rails turning to the west, to the north of the former Nelson Dock Station (a fenced-off storage area). These rails terminate just to the west of the gate into the former Svitzer site. Two other sets of rails run south towards the main line (Plate 11).

*Plate 11: Dock railway lines (Site **30**) and granite setts running south from Bramley-Moore Dock*

5.3.3 To the north of the main entrance into Bramley-Moore and Nelson Docks (Site **04**), the rails and granite setts continue northwards towards Wellington Dock. These are covered by a concrete hard-standing where they approach the Wellington/Bramley-Moore dock gates (Site **05**).

5.3.4 There is a single railway line running parallel with the eastern quay (Site **13**) and several bollards remain (Site **26**). The dock walls of the eastern and northern quay (Site **01**) are of Hartley's 'cyclopean' granite and survive well (Plates 13 and 14).

5.3.5 At the southern end of the eastern quayside, an infilled crane-base is visible. This is formed of large granite blocks, with the infill being of red brick (Plate 11). A crane is marked in this location on the OS map of 1908, alongside a second example further to the north (Site **25**) and five on the northern quay (Site **23**).

*Plate 12: Dock railway lines (Sites **13** and **30**) and granite setts to the west of the eastern quay of Bramley-Moore Dock*

*Plate 13: Eastern quay railway (Site **13**), dock wall (Site **01**) and bollards (Site **26**)*

*Plate 14: Northern quay dock wall (Site **01**), bollards (Site **27**) and ground floor of the engine house to the south of the hydraulic accumulator tower (Site **06**)*

*Plate 15: Infilled crane-base and areas of granite setts at the southern end of the eastern quay (Site **25**)*

5.3.6 Also on the eastern quay, on the inside of the dock wall that runs parallel Regent Road (Site **03**), is a brick-built buttress and stretch of brick wall which runs for several metres abutting the dock wall (Site **28**). The nature of the brickwork suggests a late Victorian date and it is possible this structure belongs to a former building in this location or formed part of the structure of the Liverpool Overhead Railway within Bramley-Moore Dock walls.

5.3.7 At the north-eastern corner of the dock is the hydraulic tower and engine house (Site **06**), and associated buildings. To the south and west of the tower, a building of two-storeys was present with a set of steps ascending its eastern face to an open first floor deck (Plate 16). Three privies are located at ground floor level, as is a large arched wagon-type door. There are several round-headed windows in the ground floor south-facing wall. The external stairwell is of high-quality decorative brickwork. There is a small roofed building at the south end of the open deck.

5.3.8 Aerial photographs (Plates 7 and 9) illustrate that the first-floor deck was once part of the High Level Coal Railway (Site **15**), with the building visible from the south and east being level with the rails, which were accessed via the external stairwell visible on the eastern elevation (Plates 9 and 16).

5.3.9 The northern elevation of the building (Site **06**) illustrates the presence of the former railway (Site **15**) in the form of steel girders on the first-floor deck, together with the brick-built columns with arches beneath, as described in contemporary accounts and visible in aerial photographs (*Section 3.2.17;* Plates 7 and 9). At the north-west corner of the surviving structure, the base of an arch-spring survives, illustrating that further arches once existed to the west of this point (Plate 17).

5.3.10 The date stone for the accumulator tower, 1883, relates to its construction to power cranes and capstons for the High Level Coal Railway on the north quay which opened the following year (MME 16662). The Liverpool Overhead Railway opened in 1893 and was also powered from buildings at Bramley-Moore Dock (*Section 3.2.20*).

*Plate 16: Remains of access to the High Level Coal Railway, and buildings below, facing west (Sites **06** and **15**)*

*Plate 17: East-facing elevation of partly demolished High Level Coal Railway structure (Sites **06** and **15**)*

*Plate 18: The remains of the High Level Coal Railway (Site **15**) on Bramley-Moore Dock, to the west of the accumulator tower/engine house (Site **06**)*

*Plate 19: The east-facing elevation of the hydraulic tower (Site **06**)*

5.3.11 To the east of the accumulator tower/engine house (Site **06**) and the remains of the High Level Coal Railway (Site **15**), surfacing is largely modern concrete. There is no surface-visible evidence of archaeological remains.

5.3.12 Large expanses of granite setts exist on the northern quayside, together with the footprints of infilled crane pits (Site **23**) and other possible machine bases and site divisions not marked on historic mapping. There are also areas of denuded concrete and tarmac surfacing overlying the granite setts.

5.3.13 At the far west of the northern quay is a red brick building of mid-twentieth century date (Site **24**), close to the dock gate (Site **07**). It is of a single storey to the east, and two storeys to the west, the second storey being an addition (Plate 20). It is flat-roofed and has metal crittall-type windows. At the east end of the building, defining an area used for boat storage, is a single red brick wall with a brick-infilled wagon entrance. This is earlier than the building to its west, and possibly the remains of a structure associated with the High Level Coal Railway (Site **15**). A single-line railway (Site **16**) is visible running west-east to the north of the building.

Plate 20: Red brick building on the western end of the northern quay

Plate 21: General south-facing view from the north quay adjacent to the dock gates

5.3.14 At the western extent of the northern quay, close to the dock gates between Bramley-Moore and Wellington Docks, there are several extant bollards and a capston-base from which the capston has been removed. The area is overgrown and has been used as a rubbish-dump, however, several patches of granite setts, mid-twentieth century concrete surfacing and possible machinery bases were evident.

6 SIGNIFICANCE OF THE REMAINS

6.1 INTRODUCTION

6.1.1 All of the sites on Bramley-Moore Dock are within the Liverpool Maritime Mercantile City World Heritage Site; according to the legislation set out in *Section 2.3*, these are therefore of Outstanding Universal Value and international importance. There are five Grade II listed structures within the application site (Fig 2) and these are specifically included in the list of nationally important structures which define the World Heritage Site (NHLE 1000104; MHER DME 3088).

6.1.2 Bramley-Moore Dock also lies within the Stanley Dock Conservation Area. According to the criteria set out in Table 1, heritage assets within Bramley-Moore Dock are therefore also potentially regionally significant.

6.1.3 Whilst having taken account of all of the heritage assets within the application site to understand the history and development of Bramley-Moore Dock, this Desk-based Assessment is designed specifically to identify non-designated archaeological heritage assets within the application site. That said, it is not possible to discuss what is no longer present without making reference to the listed elements of Bramley-Moore Dock, which define its archaeological and historical significance. Whilst designated structures appear in the assessment of significance below, they are not assessed in discussions of the impact of the proposed development, or anticipated mitigation measures (*Section 8*). Likewise, dock furniture including capstons and bollards are not included; mitigation measures for listed structures and extant dock furniture form the subject of a separate cultural heritage report and historic artefacts survey (KM Heritage 2019; Planit-IE 2019).

6.2 ASSESSMENT CRITERIA

6.2.1 The significance of the non-designated archaeological heritage assets identified has been determined with reference to the Secretary of State's criteria for assessing the national importance of monuments (DCMS 2013). Contained in Annexe 1 of the policy statement on scheduled monuments, these criteria relate to period, rarity, documentation, group value, survival/condition, fragility/vulnerability, diversity, and potential (*ibid*). All of the heritage assets within the application site (Table 3) have been considered using the criteria, with the results below and detailed individually in *Section 4*.

6.2.2 ***Period:*** many of the sites identified date from *c* 1848, when Bramley-Moore Dock (Sites **01**, **02**, **03**, **04**, **05**, **07**) was built by Jesse Hartley as part of the central docks development (*Sections 3.2.12-15*). The complex comprising Salisbury, Collingwood, Stanley, Nelson and Bramley-Moore docks represented the culmination of Hartley's development of dock design in Liverpool (Liverpool City Council 2005, 128).

6.2.3 By the time of the revised OS first edition and Town Plan of 1864 (Fig 3; Plate 5), alongside warehouses (Sites **08**, **10**, **11**, **12**), the High Level Coal Railway on the eastern quays of Bramley-Moore and Wellington Dock (Site **13**) and the dock railway (Site **30**) had been constructed; both joined with the Liverpool and

Manchester railway, which enabled goods to be transported far more efficiently and speedily than before. The High Level Coal Railway (Site **14**), constructed in 1856, allowed coal wagons to access Bramley-Moore and Nelson Docks and dump coal directly into the holds of waiting ships. The 1840s and 50s were a significant period in the development of the Liverpool waterfront, with docks and railways built at the height of the industrial revolution; the port came to depend upon the railways for maintaining its global trading position (Liverpool City Council 2005, 110).

6.2.4 On the north quay of Bramley-Moore Dock, an extension to The High Level Coal Railway was opened in 1884 (Site **15**); this included the hydraulic accumulator tower and engine house (Site **06**) which were built to power cranes and capstons associated with the railway. Completed in 1893, The Liverpool Overhead Railway (Site **17**), whose coal-fired generating station was also at Bramley-Moore Dock, was highly significant for its period. It was the first high-level electric railway constructed in the United Kingdom, and, providing fascinating views into the docks, became an important tourist attraction (Liverpool City Council 2005, 110).

6.2.5 ***Rarity:*** the High Level Coal Railway on the east quay (Site **14**) was closed before 1946; that on the north quay (Site **15**) was closed in 1966, and largely dismantled by 1977. The remains of the railway and associated structures are evidenced by the extant Grade II listed accumulator/engine house and remains of the railway structure on the north quay of Bramley-Moore Dock (Sites **06** and **10**) and have some rarity value. This is increased by the association of the structures with the Liverpool Overhead Railway (Site **17**) electricity generation plant. The presently extant structures are of national significance in that they have the potential to reveal significant details regarding the importance of Bramley-Moore Dock to the wider transport infrastructure of the region in the late nineteenth century.

6.2.6 ***Documentation:*** the historical development of the study area from the mid-nineteenth to the mid-twentieth century can be traced reasonably well from cartographic and documentary sources. Further documentary research may provide additional evidence, but this is unlikely to alter the outline presented in this assessment.

6.2.7 ***Group Value:*** As across much of the Stanley Dock Conservation Area, it is the combination, or group value, of structures, surfaces and water at which has created a distinctive cultural landscape (Liverpool City Council 2005, 34). The significant group value of heritage assets on the Bramley-Moore Dock application site derives from a mixture of listed structures (*eg* Sites **01**, **02, 03**, **04**, **05, 06, 07**), and undesignated remains including areas of extant granite setts and railway lines (*eg* Sites **13** and **30**). In addition to those features which are currently visible are the potential sub-surface remains of the High Level and railways (Sites **14** and **15**) associated warehousing and infrastructure (*eg* Sites **08**, **10**, **11**, **12)**.

6.2.8 Structures relating to the High Level Coal Railway (Sites **06**, **14** and **15**) and the Liverpool Overhead Railway (Site **17**), were closely linked (*Sections 3.1.16-21*) and are also of considerable significance in terms of their group value.

Understanding the railway infrastructure illustrated by surviving structures, sub-surface remains and evidence from historic maps is of national and regional significance in that the port of Liverpool depended on the railways for maintaining its global trading links (Liverpool City Council 2005, 110).

6.2.9 ***Survival/Condition:*** the site visit (*Section 5*) identified the presence and survival of a variety of heritage assets within the application site. The stone-built dock structures, where visible above the water line and above-ground (Sites **01**, **02**, **03**, **04**, **05**, **07**) survive in relatively good, if deteriorating, condition. Externally, the general condition of the accumulator/engine house buildings and High Level Coal Railway deck (Sites **06** and **15**) appears to be very poor but features visible on the external elevations appear to survive relatively well. A number of the quayside mooring posts/bollards Sites **21**, **22**, **26**, **27**) also survive, but many have been removed, or replaced with more modern examples.

6.2.10 Infilled crane bases are visible on the north and east quays, in addition to significant areas of granite sets and railway lines. In addition, it is anticipated, on the basis of previous surveys and excavations in similar contexts (*eg* Gregory *et al* 2014; OA North 2011, 2012) that structures such as the footings of buildings and machine bases will survive well below modern surfaces.

6.2.11 ***Fragility/Vulnerability:*** whilst some of the heritage assets within the Application site are designated structures and protected by legislation (Sites **01**, **02**, **03**, **04**, **05**, **06**), all of the heritage assets identified are considered to be fragile, and vulnerable to unsympathetic treatment. This includes both visibly extant remains such as the accumulator tower/engine house and the High Level Coal Railway deck (Sites **06** and **15**), the presently extant warehouse on Bramley-Moore Dock's southern quay (Site **11**), the ground-level railways and granite sets on the east quay (Sites **13** and **30**) and the bollards/mooring posts (Sites **21**, **22**, **26**, **27**). Less likely to be subject to conservation due to their lack of surface visibility (and therefore potentially more vulnerable) are potential sub-surface structures (*eg* the remains of the High Level and Overhead railways (Sites **14**, **15**, and **17**), east quay chimney and pumphouse (Site **29**), Nelson Dock customs depot (Site **18**), the remains of warehouses (Sites **08**, **10**, **11**, **12**) and crane-bases (Sites **23** and **25**)).

6.2.12 ***Diversity:*** none of the heritage assets identified are considered to be of significance in terms of their diversity.

6.2.13 ***Potential:*** the application site does not appear to have seen significant development since the 1970s when the High Level Coal Railway (Site **15**) on the northern quay of Bramley-Moore Dock was demolished. The potential for the survival of surface and sub-surface archaeological heritage assets below modern surfaces and the current covering of aggregates is also considered to be high.

6.2.14 The site visit (*Section 5*) confirmed the presence and survival of a number of heritage assets in addition to the listed structures recorded and protected by designation. The potential for extant and designated sites to provide significant archaeological evidence pertaining to the importance of Bramley-Moore and

Wellington Docks and associated railway infrastructure is considered to be high. There is also a high potential for sub-surface remains to provide important archaeological evidence pertaining to transport (*eg* structural remains of the Liverpool Overhead Railway (Sites **17** and **28**), the High Level Coal Railway (Sites **14** and **15**, ground level railway lines (Sites **13** and **30**) and the customs house (Site **18)**). There is also high potential for the archaeological identification of the east quay pumphouse and chimney (Site **29**) dockside machinery and associated warehousing (Sites **08**, **10**, **11**, **12**, **23**, **25**).

6.3 SIGNIFICANCE

6.3.1 The significance of the heritage assets identified on the Bramley-Moore Dock application site rests largely on the period and group value of Jesse Hartley's 1848 central docks development, and the important part played by the subsequent development of railway infrastructure. The remains of the High Level Coal Railway and its connections to the Liverpool Overhead Railway are significant in terms of their rarity, survival, vulnerability and potential to provide significant archaeological evidence pertaining to the importance of Bramley-Moore Dock to the railway infrastructure of the Liverpool Docks.

6.3.2 All of the heritage assets identified by this desk-based assessment are considered to be fragile, and vulnerable to unsympathetic treatment. This includes visibly extant remains and potential sub-surface structures sealed beneath modern surfaces. The potential for structures, such as the footings of buildings (including the Bramley-Moore Dock eastern quay pumphouse), dock structures (including ground-level railway lines) and machine bases, surviving as sub-surface remains is considered to be high.

6.3.3 The following summarises the significance of the surface and potential sub-surface heritage assets identified within the application site and described in the gazetteer (*Section 4*). The significance of undesignated archaeological sites has been ascribed with reference to Table 2 and the scheduling criteria outlined above.

Site number	***Description***	***Significance***
08	Bramley-Moore west quay shed	Medium
10	Bramley-Moore north quay shed	Low
11	Bramley-Moore south quay shed	Medium
12	Nelson Dock north quay shed	Medium
13	Bramley-Moore east quay ground-level railway	Low
14	High Level Coal Railway (east quay of Bramley-Moore Dock)	Medium
15	High Level Coal Railway (north quay of Bramley-Moore Dock)	High

16	Ground-level railway on north quay of Bramley-Moore Dock	Medium
17	Liverpool Overhead Railway of 1893	Medium
18	Nelson Dock Customs depot, later police station	Low
19	Single track railway, north quay of Nelson Dock	Medium
23	Cranes (5 of), north quay of Bramley-Moore Dock	Low
24	Western building, north quay of Bramley-Moore Dock	Low
25	Cranes (2 of), east quay of Bramley-Moore Dock	Low
28	Red brick structure abutting Regent Road dock walls (Site **03**)	Medium
29	Pumping house and chimney south end of east quay	Medium
30	Dock railway	Medium

Table 2: Significance of undesignated archaeological heritage assets within the application site

7 PREVIOUS WORK

7.1 ARCHAEOLOGICAL INVESTIGATION OF WELLINGTON DOCK

7.1.1 No specific work focussed on the sub-surface archaeology of Bramley-Moore Dock or Nelson Dock is recorded on the Merseyside HER. It has been established, however, that broad-scale consideration of cultural heritage and archaeology across the Liverpool Waters site took place as part its outline planning application (*Section 2.5*). Immediately to the north of Bramley-Moore Dock, Wellington Dock has been the subject of archaeological desk-based research, fabric survey and small-scale excavation (Table 3; Fig 2). These works took place in 2011 and 2012 in advance of the infilling of Wellington Dock for the construction of a waste water treatment plant (operated by United Utilities).

7.1.2 Wellington Dock (MME 15570), designed by Jesse Hartley and opened in 1851, like Bramley-Moore Dock, was served by the High Level Coal Railway (Plate 3) and the ground-level dock railway. Archaeological fabric survey indicated that the principal elements of the original dock construction remained *in situ* and that structural elements of the transit sheds survived, in the form of brick foundations, granite buffer stones and patches of granite setts (EME2594; OA North 2011). Lengths of railway line visible in amongst patches of granite setts were also recorded on the quaysides (*ibid*).

7.1.3 Subsequent trial-trenching and watching briefs at Wellington Dock identified makeup layers associated with the reclamation of the land prior to the construction of the dock, and evidence for the survival, makeup and structural detailing of Hartley's Cyclopean dock walls (EME2580; OA North 2012). Whilst some of the trenches excavated on the quaysides illustrated modern disturbance and the insertion of service trenches, there was significant evidence, beneath the modern tarmac, for the footings of nineteenth century transit sheds and a crane base, as well as large areas of granite sets and cobbling contemporary with the nineteenth and early twentieth century use of the dock (*ibid*).

HER ref	***Name***	***NGR***	***Description***
EME2247	Desk-based archaeological/ heritage impact assessment of canal link route	Centred SJ 33671 90742 (719m by 2088m)	Wardell Armstrong, 2003
EME2442	Desk-based archaeological impact assessment, wastewater treatment works outfall	SJ 33082 92629	Oxford Archaeology North 2011

EME2579	Watching brief on the sealing of Wellington Dock	SJ 33421 92664	Oxford Archaeology North 2012
EME2580	Trial trenching and watching brief, Sandon and Wellington Docks	SJ 33504 92791 (159m by 366m)	Oxford Archaeology North 2012
EME2594	Level 3 building survey of Wellington Dock	SJ 33668 92680	Oxford Archaeology North 2011

Table 3: MHER Event records for sites within 500m of Bramley-Moore Dock

8 IMPACT AND RECOMMENDATIONS

8.1 PLANNING POLICY

8.1.1 Local planning policy (Liverpool City Council 2002) and the supplementary planning document providing guidance for the protection of heritage assets within the World Heritage Site (Liverpool City Council 2009), state that if *in situ* preservation is not justified and the development is acceptable in principle, then the applicants undertake an agreed programme of mitigation including investigation, excavation and recording before development begins, or as specified in the agreed programme (Liverpool City Council 2002, HD 17).

8.1.2 Current planning policy guidance for the historic environment, embodied in NPPF (MHCLG 2019*; Section 2.3*), advises that recorded heritage assets and sub-surface archaeological remains are an irreplaceable resource. It has been the intention of this study to identify the significance and potential of surface and sub-surface heritage assets within the application site, and assess the impact of proposed development upon them, thus allowing the policies stated in NPPF (MHCLG 2019) and Liverpool City Council planning documents (2002, 2009) to be enacted.

8.1.3 With the exception of the bollards/mooring posts which are part of the listed dock structure (Sites **21**, **22**, **26** and **27**; detailed in the historic artefacts survey and cultural heritage chapter (Planit-IE 2019; KM Heritage 2019)), none of the extant, surface or sub-surface heritage assets identified within the application site are afforded statutory designation. The remains of the High Level Coal Railway (Site **15**) on the north quay of Bramley-Moore Dock are considered to be of national importance, but, with the exception of the extant remains of the railway deck attached to the listed accumulator tower/engine house (Site **06**), have been demolished to ground level. None of the surface or sub-surface archaeological heritage assets identified are thus considered, in the terms set out by the NPPF (MHCLG 2019), to be of national importance that would require preservation *in-situ*.

8.1.4 The NPPF (MHCLG 2019) states that where the loss of the whole or a part of a heritage asset's significance is justified by a development, the developer should be required first to record heritage assets and advance understanding of their significance, in a manner proportionate to their importance and the impact.

8.2 IMPACT OF THE DEVELOPMENT

8.2.1 As discussed above (*Section 2.5*), outline planning permission (LPA ref. 10O/2424) was granted for the Liverpool Waters scheme in 2013. Bramley-Moore Dock, along with Nelson Dock, forms the northern neighbourhood of the scheme and is proposed for a residential-led development with under-croft car parking on the existing dock quaysides.

8.2.2 The extant outline planning permission for the Liverpool Waters scheme constitutes an alternative future baseline to the present application. Based on the approved parameters plan for the northern neighbourhood and Bramley-Moore Dock specifically, all of the quaysides were to be developed, retaining granite sets, railway lines and dock furniture where possible, and the dock itself

was to be retained as an open water space albeit it with a floating pontoon and footbridge across it.

8.2.3 Plans of the proposed development (Fig 9) detail that the presently open water of Bramley-Moore Dock will be infilled. The proposed development will impact heritage assets associated with Bramley-Moore dock and the northern quay of Nelson dock. Development proposals show changes to the layout of Bramley-Moore Dock's historic open water space, the planned north-to-south-orientated layout of the stadium set within the infilled dock (and Nelson dock's northern quay), parking on the west quay and a 'fanzone plaza' on the east quay where several extant heritage assets will be retained.

8.2.4 The plan proposal (Fig 9) indicates that the hydraulic tower and engine house (Site **06**) are to be retained as an exhibition/cultural centre and that there will be a narrow zone of open water with an exposed section of dock wall (Site **01**) to the west of the stadium. To the east of the proposed stadium the 'fanzone plaza' will include the exposed footprint of the former dock wall (Site **01**), and that presently extant granite setts and railway lines will be removed and subsequently re-laid in or close to their former positions following the main construction phase.

8.2.5 With the exception of the dock wall (Site **01**), the hydraulic tower and engine house (Site **06**) and the Regent Road dock wall (Site **03**; itself to be punctured by several new entrances) plans for the proposed application scheme (Fig 9) suggest that the whole area will be a major construction site. Detailed development plans regarding sub-surface interventions for services and infrastructure indicate that a raised stadium level means that there will be no new intrusion for utilities. Substantial efforts have been made to avoid impact on surface and sub-surface heritage assets. That said, the evidently extensive scale of major construction works suggest that the proposed development will damage sub-surface archaeological remains across the whole of the application site. The removal of recorded historic quayside surfacing (to be re-laid at a later date) also has the potential to damage sub-surface heritage assets.

8.2.6 The significance of the heritage assets identified has been outlined in *Section 6*, in accordance with the criteria set out in Table 1. The sensitivity of heritage assets (or sensitive receptors to use Environmental Impact Assessment terminology) is defined by its *Very High*, *High*, *Medium*, *Low* or *Negligible* significance and statutory grading or non-statutory protection, according to the legislation set out in *Section 2*. Table 4 sets out the criteria for determining the magnitude or scale of impact the proposed development (*Section 8.1.1*; Fig 9) would have on heritage assets. The magnitude or scale of impact is rated as *Very Large* (substantial), *Large*, *Medium* (moderate) or *Small* (slight).

Impact Magnitude	***Description***
Very large	• Substantial change in environmental factors; • Complete destruction of the site or feature; • Change to the site, feature, its landscape or setting resulting in a fundamental change in ability to understand the resource and its cultural heritage or archaeological value/historical context.
Large	• Significant change in environmental factors;

	• Change to the site, feature, its landscape or setting resulting in a significant change in ability to understand the resource and its cultural heritage or archaeological value/historical context.
Medium	• Moderate change in environmental factors; • Change to the site or feature resulting in an appreciable change in ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting.
Small	• Slight change to the site or feature resulting in a small change in our ability to understand and appreciate the resource and its cultural heritage or archaeological value/historical context and setting.

Table 4: Criteria for determining the magnitude or scale of impact on heritage assets

Table 5 sets out a matrix demonstrating how the significance/sensitivity of heritage assets (Table 1) is affected by the scale/magnitude of impact (Table 4) of the proposed development. This demonstrates how the significance of the effect is calculated. Table 5 sets out the significance of the heritage assets affected and the impact of the proposed development upon them.

Impact Magnitude	***Significance/Sensitivity***				
	Very High (International)	***High (National)***	***Medium (Regional)***	***Low (Local)***	***Negligible***
Very Large	Major	Major	Major/ Moderate	Moderate	Moderate/ Negligible
Large	Major	Major/ Moderate	Moderate	Minor	Minor/ Negligible
Medium	Major/ Moderate	Moderate	Minor	Minor/ Negligible	Negligible
Small	Moderate	Minor	Minor/ Negligible	Negligible	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

Table 5: Criteria for assessing significance of the effects of the development on heritage assets

8.2.6 Table 6 summarises the significance of the sub-surface heritage assets identified within the application site, the magnitude or scale of impact the proposed development will have upon them, and the significance of the effects of the proposed development.

Site No	***Name***	***Significance/ Sensitivity***	***Magnitude of Impact***	***Significance of Effects***
08	Bramley-Moore West quay shed	Medium	Very Large	Major/ Moderate
10	Bramley-Moore North quay shed	Low	Very Large	Moderate
11	Bramley-Moore South quay shed	Medium	Very Large	Major/ Moderate
12	Nelson Dock North quay shed	Medium	Very Large	Major/ Moderate
13	Bramley-Moore Dock, east quay ground-level railway and associated surfaces	Low	Very Large	Moderate

Site No	***Name***	***Significance/ Sensitivity***	***Magnitude of Impact***	***Significance of Effects***
14	High Level Coal Railway (east quay of Bramley-Moore Dock)	Medium	Very Large	Major/ Moderate
15	High Level Coal Railway (north quay of Bramley-Moore Dock)	High	Very Large	Major
16	Ground-level railway and associated surfaces to north of High Level Coal Railway on north quay of Bramley-Moore Dock	Medium	Very Large	Major/ Moderate
17	Liverpool Overhead Railway of 1893	Medium	Very Large	Major/ Moderate
18	Nelson Dock Customs depot, later police station	Low	Very Large	Moderate
19	Single track railway, north quay of Nelson Dock and associated surfaces	Medium	Very Large	Major/ Moderate
23	Cranes (4 of), north quay of Bramley-Moore Dock	Low	Very Large	Moderate
24	Red brick building west end of BMD north quay	Low	Very Large	Moderate
25	Cranes (2 of), east quay of Bramley-Moore Dock	Low	Very Large	Moderate
28	Red brick structure abutting Regent Road dock walls (Site ***03***)	Medium	Very Large	Major/ Moderate
29	Chimney/pumphouse, southern end of BMD eastern quay	Medium	Very Large	Major/ Moderate
30	Dock railway and associated surfaces	Medium	Very Large	Major/ Moderate

Table 6: Significance of and impact upon heritage assets

8.3 RECOMMENDATIONS

8.3.1 Archaeological investigations are recommended both prior to the onset of construction works at the site, and during construction works where sub-surface interventions (including the stripping of historic surfacing) take place. Whilst the final programme of works will be decided upon by the Merseyside Environment Advisory Service, it is considered that the mitigation measures proposed should render the significance of effects of the development of the site (Table 6) *Neutral* (Table 7). Similar planning conditions attached to the Liverpool Waters outline planning permission (LPA ref. 10O/2424) could be attached to the proposed scheme should planning permission be ultimately granted.

Site No	***Effect prior to mitigation***	***Mitigation recommendations***	***Residual Effect***
08	Major/ Moderate	Sample/selective excavation	Neutral

10	Moderate	Sample/selective excavation	Neutral
11	Major/ Moderate	Level 2 survey prior to demolition	Neutral
12	Moderate	Sample/selective excavation	Neutral
13	Moderate	Photogrammetric survey, sample/selective excavation and archaeological watching brief	Neutral
14	Major/ Moderate	Sample/selective excavation of footings and ancillary features	Neutral
15	Major	Sample/selective excavation of footings and ancillary features	Neutral
16	Major/ Moderate	Photogrammetric survey, sample excavation and archaeological watching brief	Neutral
17	Major/ Moderate	Sample/selective excavation, of footings and ancillary features	Neutral
18	Moderate	Evaluation trenching followed by full excavation if appropriate	Neutral
19	Major/ Moderate	Photogrammetric survey, sample excavation and archaeological watching brief	Neutral
23	Moderate	Sample/selective excavation	Neutral
24	Moderate	Level 1 survey prior to demolition	Neutral
25	Moderate	Sample/selective excavation	Neutral
28	Major/ Moderate	Evaluation trenching followed by full excavation if appropriate	Neutral
29	Major/ Moderate	Evaluation trenching followed by full excavation if appropriate	Neutral
30	Major/ Moderate	Photogrammetric survey, sample excavation and archaeological watching brief	Neutral

Table 7: Mitigation and residual effects

8.3.2 Following the removal of the sand which had until recently prohibited visual access of the site an aerial survey of all exposed surfaces has taken place. This should be utilised to generate a digital geo-referenced photogrammetric model of surface-exposed heritage assets and those which may also survive as sub-surface remains. By overlying the photogrammetric model onto historic mapping data, it will be possible to accurately locate sub-surface features not presently identifiable on the ground.

8.3.3 There are two extant buildings on Bramley-Moore Dock which will be demolished to make way for the proposed development; the remains of the possibly 1848 transit shed/warehouse on the south quay (Site **11**), and a twentieth-century brick building at the west end of the north quay (Site **24**). Prior to their demolition, Site **11** should be subject to an Historic England (2016) level 2 survey and Site **24** should be subject to a level 1 survey. Following these mitigative works, the residual effects for Sites **11** and **24** are considered to be *Neutral*.

8.3.4 Sites **13**, **16**, **19**, **30** are railways with associated surfaces comprising some significant expanses of granite setts (detailed by Planit IE 2019). In addition to the photogrammetric survey, sample excavation and an archaeological watching

brief should take place during the removal of these features, to establish the character and sequence of their construction, and ensure that any unrecorded archaeological features are fully recorded. Following these mitigative works, the residual effects for Sites **13**, **16**, **19**, **30** are considered to be *Neutral*.

8.3.5 It is considered that archaeological remains pertaining to the former warehouses on the west quay of Bramley-Moore Dock (Site **08**) and the north quay of Nelson Dock (Site **12**), first documented in 1851/6 and extant until relatively recently, may well survive in better condition than that on the north quay (Site **10**), which was superseded *c* 1883 by the High Level Coal Railway. It is recommended that all three of these sub-surface heritage assets are subject to sample excavation in locations where evidence for their footings and quayside column-bases is most likely to survive. Following mitigation, the residual effects for Sites **08**, **10** and **12** are considered to be *Neutral*.

8.3.6 Remains of the High Level Coal Railway (Sites **14** and **15**) and the Liverpool Overhead Railway (Site **17**) were largely built of iron and brick and whilst these structures have largely been demolished, it is anticipated that evidence for their footings will survive along their lengths. In addition, the High Level Coal Railway had ancillary structures such as cranes, and warehouses within the arches, which are likely to have associated sub-surface remains. Sample excavation of such features, preferably on the basis of surface survey evidence, should take place. The national importance of Site **15**, the High Level Coal Railway on the north quay of Bramley-Moore Dock should be considered in some detail, in relation to the extant and brick-built remains of the structure, which is attached to the grade II-listed hydraulic tower/engine house, which it is planned to be retained as an exhibition/cultural centre (Site **06**). Following appropriate mitigation, the residual effects for Sites **14**, **15** and **17** are considered to be *Neutral*.

8.3.7 Three former buildings; the chimney/pumphouse (Site **29**) at the south end of Bramley-Moore Dock's eastern quay; the Nelson Dock Customs Depot (Site **18**) and the red brick structure abutting the Regent Road Dock Walls (Site **28**) should be fully characterised, initially through evaluation trenching, possibly leading to more detailed excavation depending on the survival of sub-surface deposits. Following appropriate mitigation, the residual effects for Sites **18**, **28** and **29** are considered to be *Neutral*.

8.3.8 Historic mapping illustrated the presence of several cranes associated with the north and the east quays of Bramley-Moore Dock (Sites **23** and **25**); a probable crane base was identified on the east quay during the site visit (*Section* 5.3; Plate 15). Sample excavation of one or more crane bases should take place. Following this, the residual effects for Sites **23** and **25** are considered to be *Neutral*.

8.3.9 Any interventions into the listed structures within the application site during the construction phase of the works will require listed building consent, which if granted, will entail archaeological recording. This includes recording during the creation of new openings through the Regent Road Dock Walls (Site **03**), and sub-surface interventions into the dock structure (Sites **01** and **02**). Any sub-surface interventions such as the removal of historic surfacing, the excavation of drainage runs, geo-technical trenches, or deep excavations take place, this should be carried out under archaeological supervision. These works may

provide important detail relating to the structural makeup and engineering of the dock structures and reveal previously un-recognised historic features.

8.3.10 The requirement for any recording of archaeological remains within the application site will be decided by the Local Planning Authority acting on the advice of Merseyside Environment Advisory Service.

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ILLUSTRATIONS

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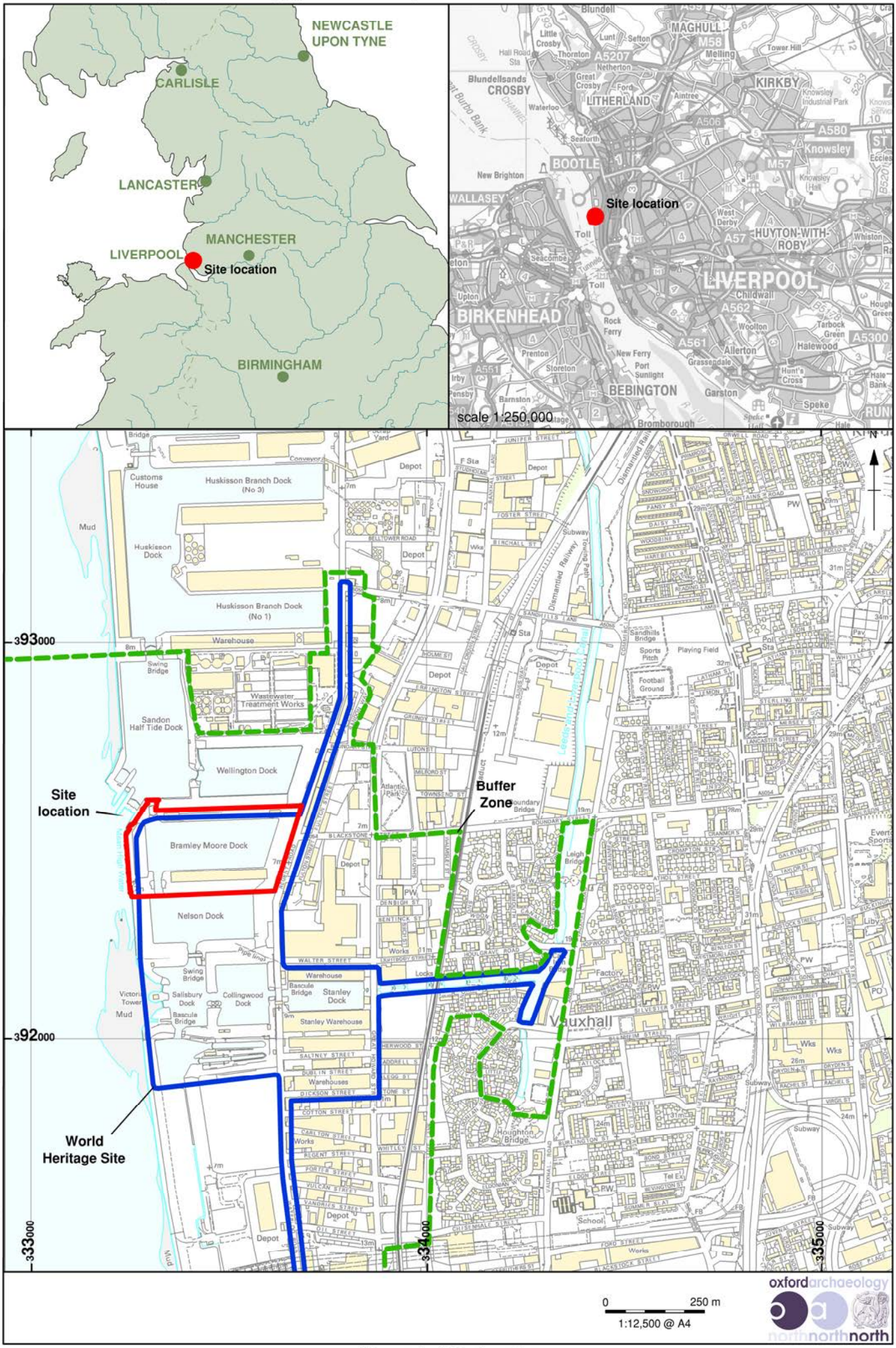

Figure 1: Site location

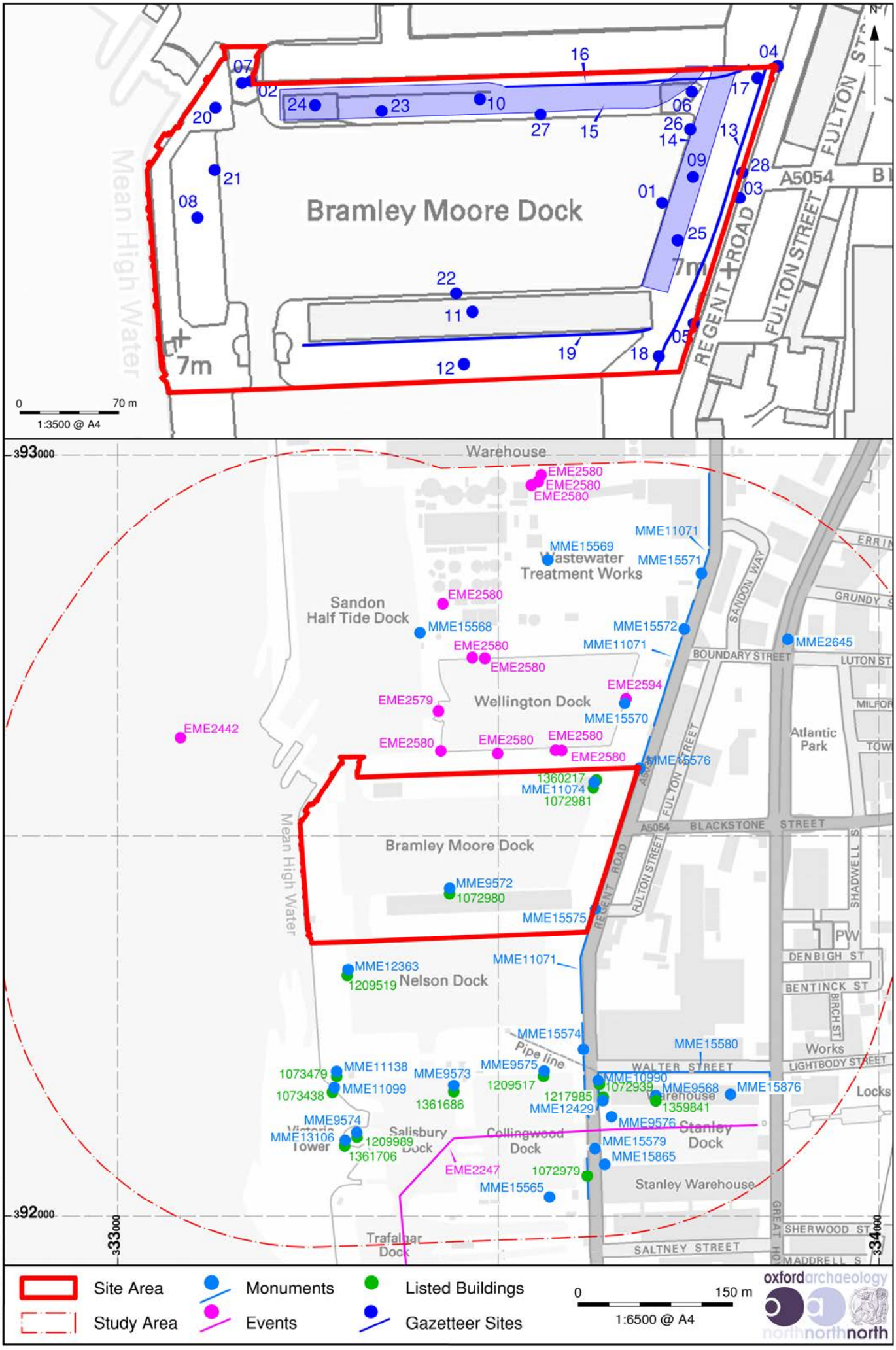

Figure 2: Plan of Gazetteer Sites and Heritage Assets

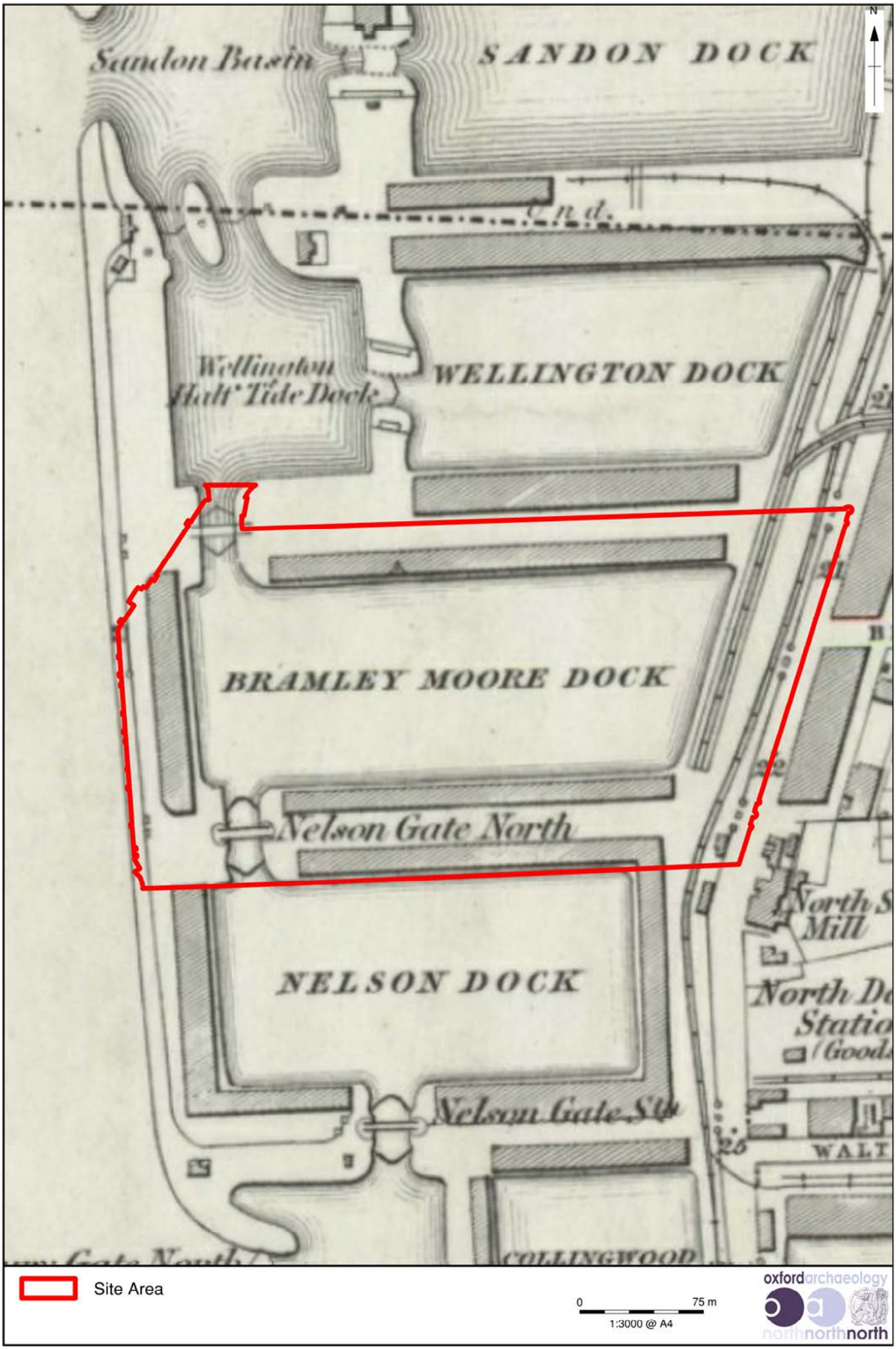

Figure 3: Site area superimposed on the Ordnance Survey 6":1 mile map, surveyed 1845 (pub.1851)

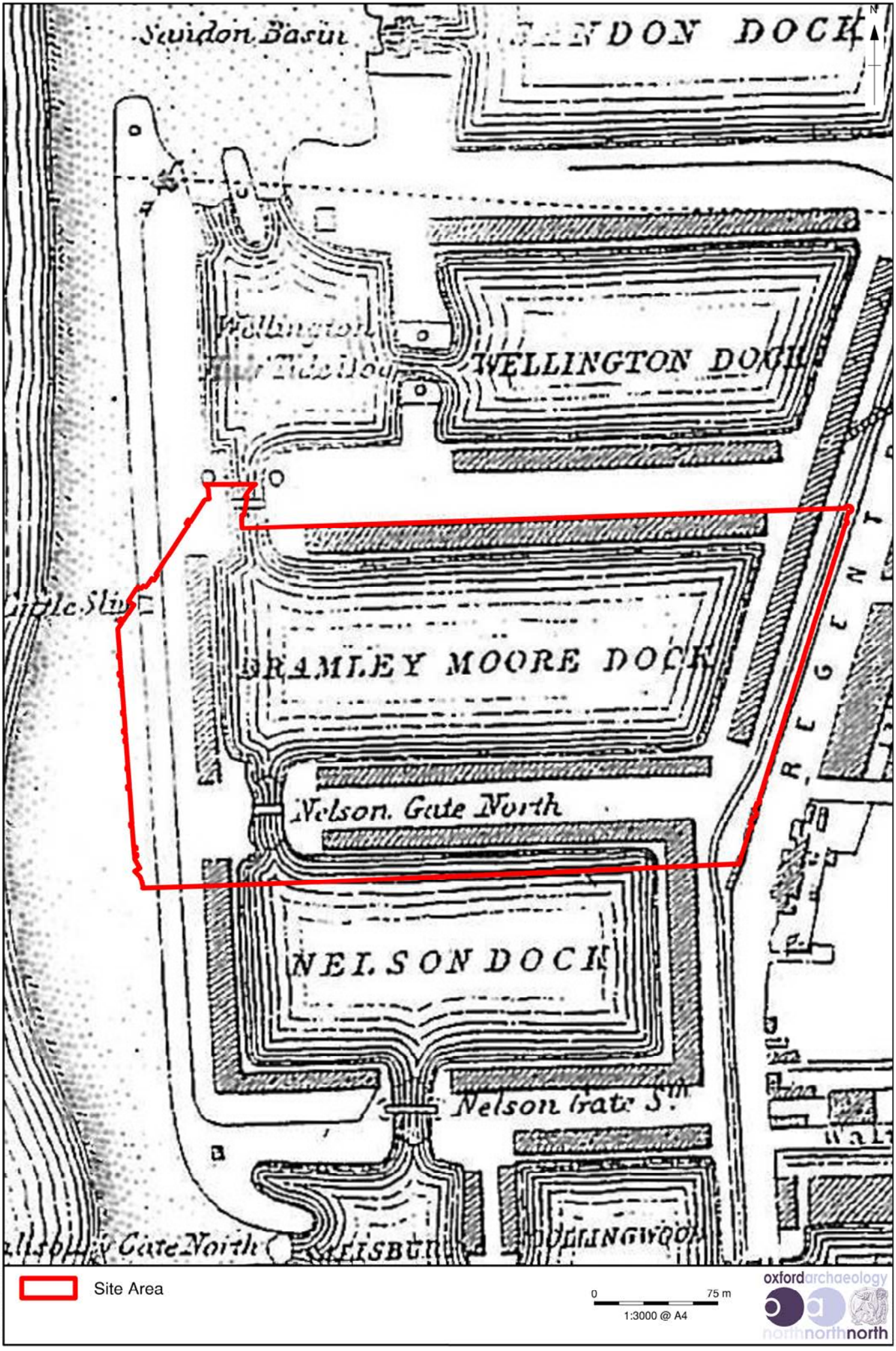

Figure 4: Site area superimposed on Dowers map of 1863

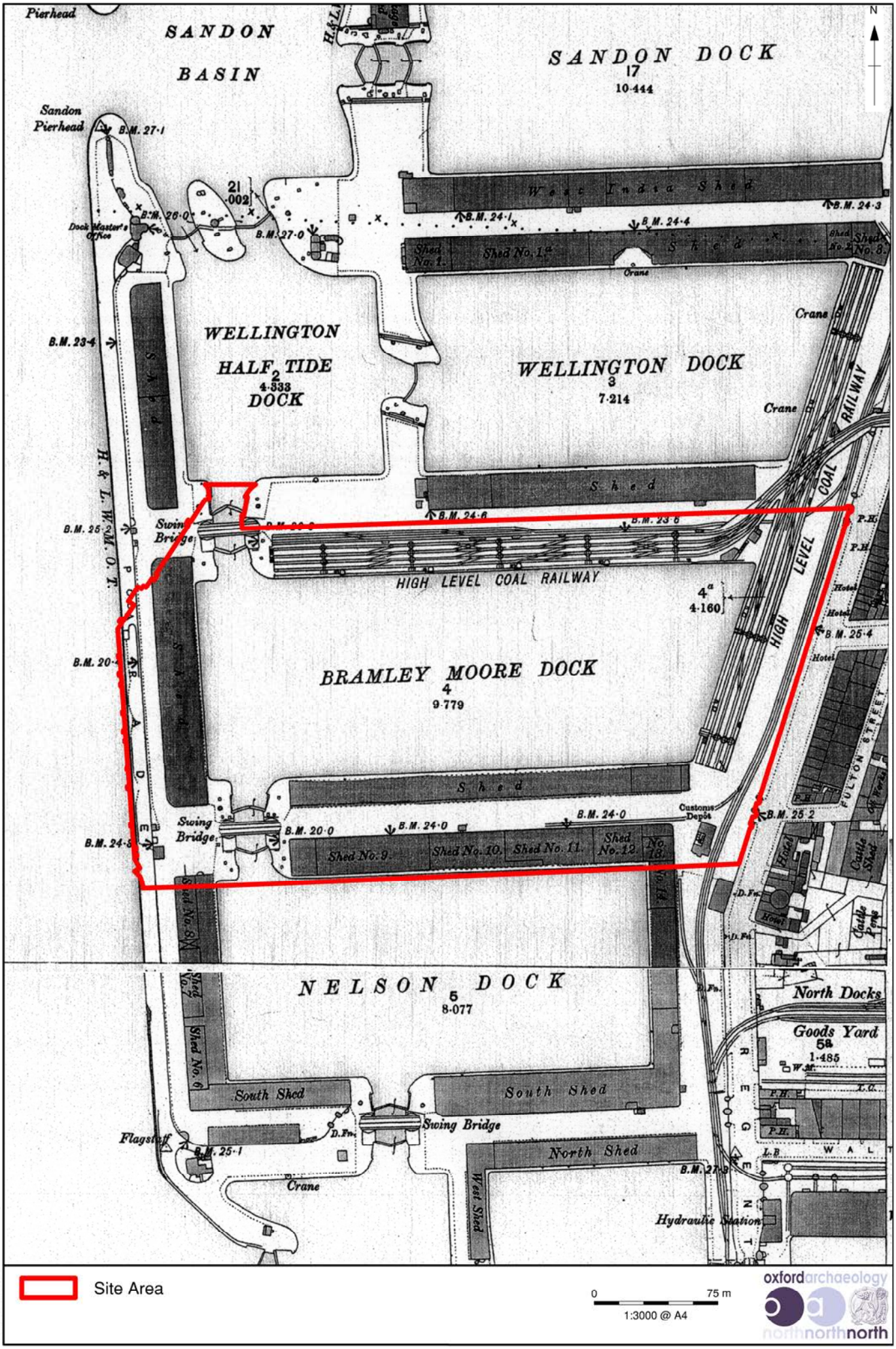

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Figure 5: Site area superimposed on the Ordnance Survey 25":1 mile map, surveyed 1890 (pub.1894)

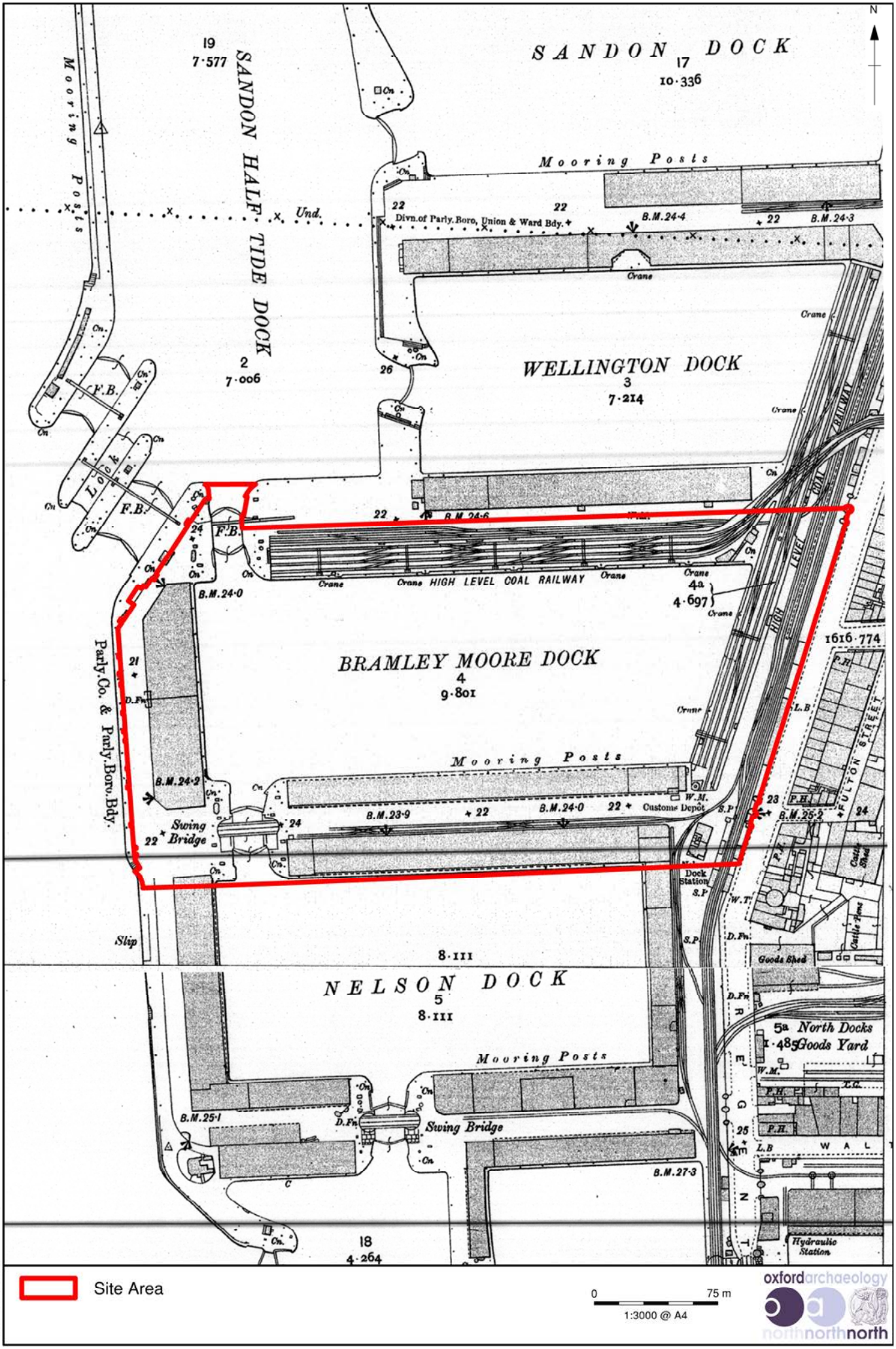

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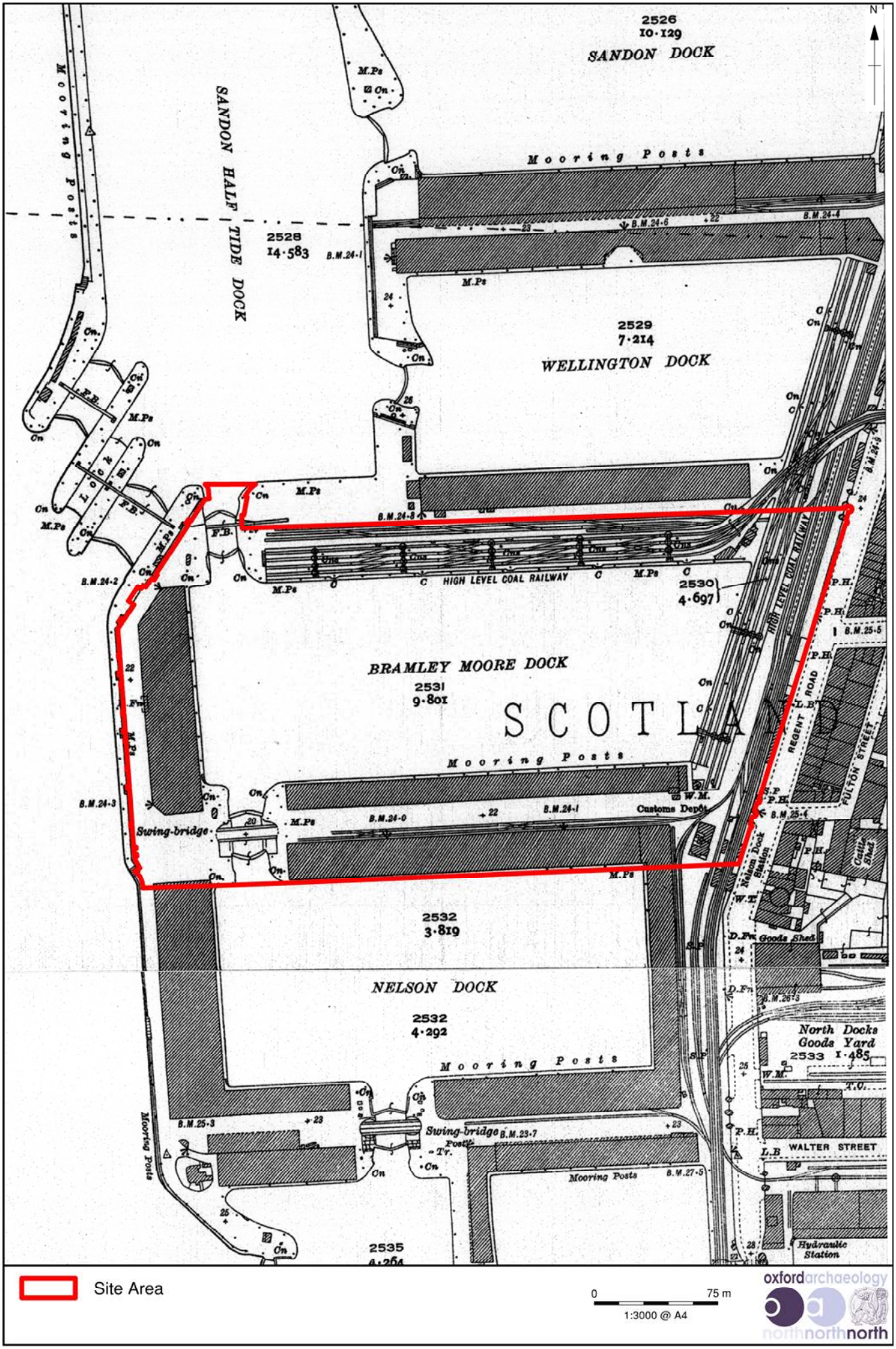
Figure 6: Site area superimposed on the Ordnance Survey 25":1 mile map, revised 1905 (pub.1908)



KT'L11058'MAT'Aug 2020

Figure 7: Site area superimposed on the Ordnance Survey 25":1 mile map, revised 1924 (pub.1927)

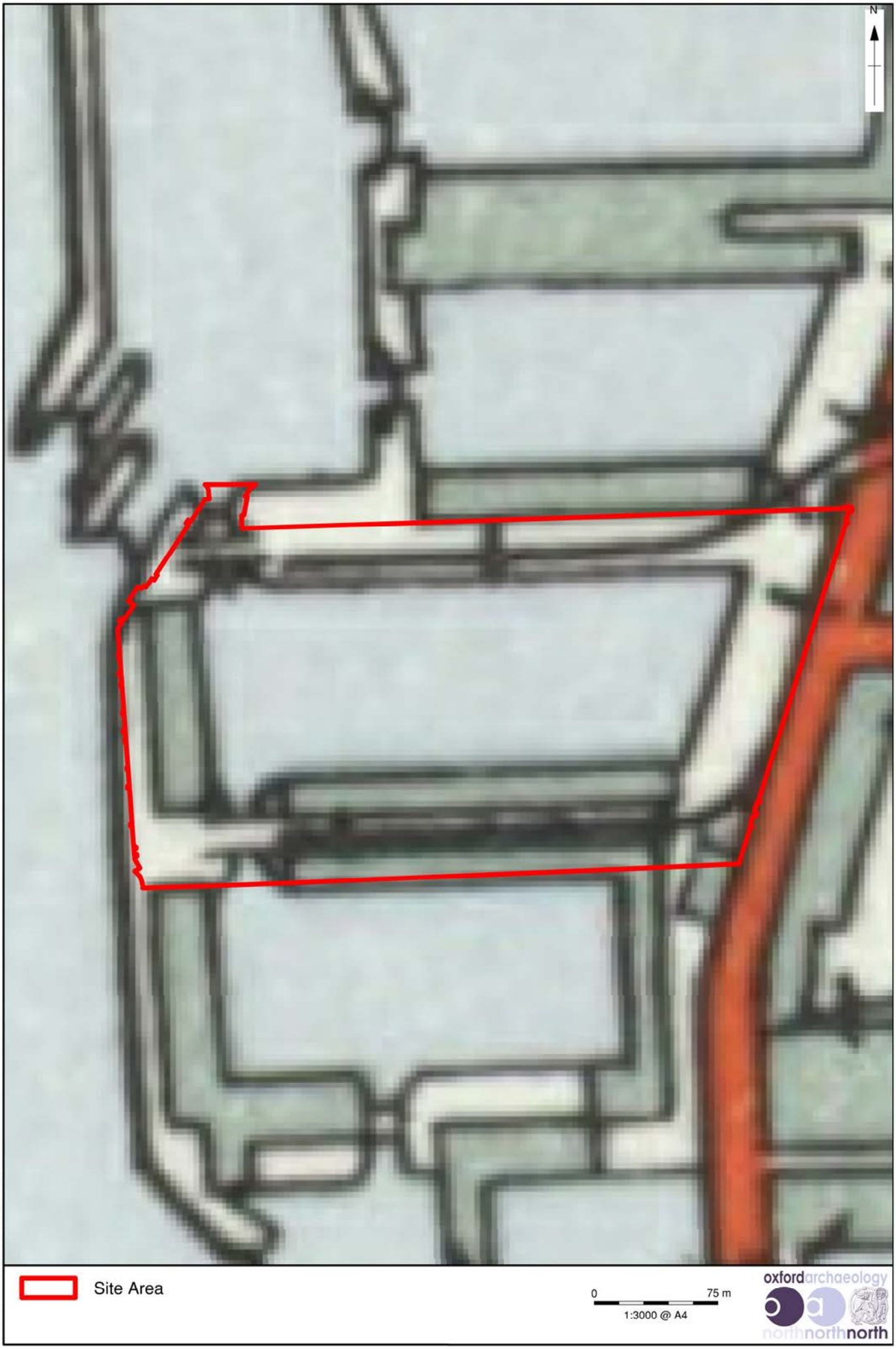


Figure 8: Site area superimposed on the Ordnance Survey 1":1 mile map, surveyed 1952-61 (pub.1961)

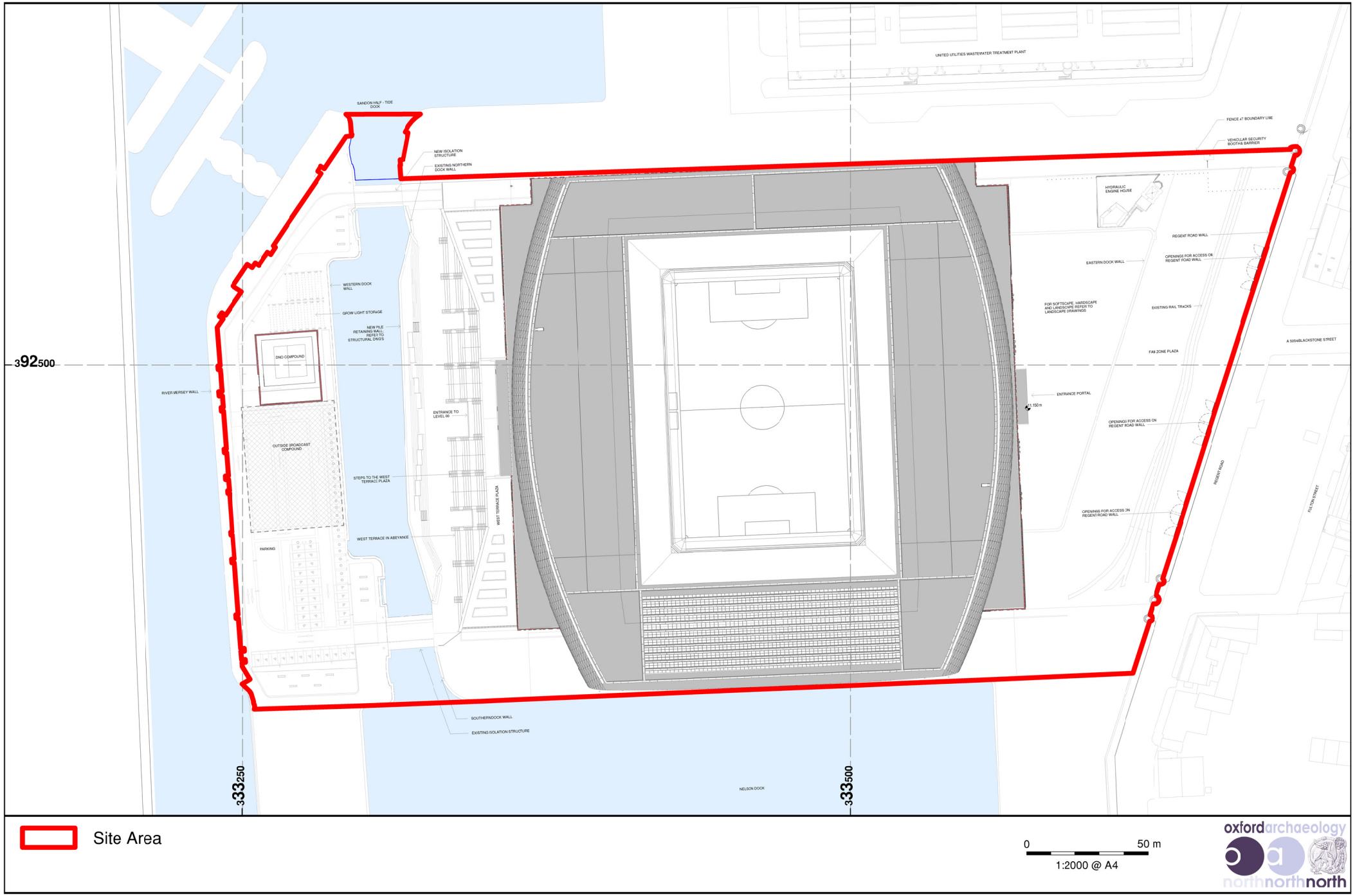


Figure 9: Proposed development plan

APPENDIX 1: LISTED BUILDINGS WITHIN 500M OF THE APPLICATION SITE

National Heritage List for England	***Listing Grade***	***MHER***	***Description***	***NGR***
NHLE 1209517	II	MME 9575	Collingwood Dock retaining walls: entrances to Stanley and Salisbury Docks, 1848	SJ 33560 92187
NHLE 1209519	II	MME 12363	Nelson Dock retaining walls: entrances to Bramley-Moore and Salisbury Docks	SJ 33303 92319
NHLE 1209989	II	MME 9574	Victoria clock tower, Salisbury Dock, 1848	SJ 33314 92106
NHLE 1217985	II	MME 12429	Hydraulic accumulator tower to the west of north warehouse, Stanley Dock, possibly 1848	SJ 33638 92156
NHLE 1359841	II*	MME 9568	North warehouse on north side of Stanley Dock. Dock and Warehouse dated 1852-54 (now the Titanic Hotel)	SJ 33694 92155
NHLE 1361686	II	MME 9573	Dock retaining wall at Salisbury Dock; entrances to Trafalgar, Collingwood and Nelson Docks, 1848	SJ 33442 92166
NHLE 1361706	II	MME 13106	Salisbury Pier Head, sea wall to island at dock entrance, 1848	SJ 33300 92096

NHLE 1072939	II	MME 10990	Entrance to Stanley Dock at north end, incl. gate piers and gate watchman's hut, 1848	SJ 33633 92174
NHLE 1072979	II	MME 11071, incl. MME 15571, 15572, 15574, 15575, 15576	Dock Walls from opposite Sandhills Lane to Collingwood, Nelson, Bramley-Moore, Wellington and Sandon Dock	SJ 33693 92595 (Centred; 171m by 1142m)
NHLE 1072980	II	MME 9572	Bramley-Moore Dock retaining walls, 1848	SJ 3343692427
NHLE 1072981	II	MME 11074	Hydraulic engine house and hydraulic tower at Bramley-Moore Dock	SJ 33626 92570
NHLE 1073438	II	MME 11099	Sea Wall north of Salisbury Pier Head	SJ 33282 92166
NHLE 1073479	II	MME 11138	Dockmaster's House, Salisbury Dock, 1848	SJ 33288 92186

APPENDIX 2: HERITAGE ASSETS WITHIN 500M OF THE APPLICATION SITE

MHER	***Name***	***NGR***	***Description***
MME 2645	Site of Victoria Cottage Public House	SJ 33880 92758	Public House, first recorded c 1840, demolished between 1991 and 2000
MME9568	Titanic Hotel	SJ 33668 92680	Titanic Hotel, formerly the North Warehouse, Stanley Dock, built 1852-4, converted 2013-14, Grade II*
MME 9576	Stanley Dock	SJ 33649 92130	Stanley Dock (1848) and two Warehouses (1854), provided link between dock system and Leeds and Liverpool Canal. Dock partly filled in 1900 when Tobacco warehouses constructed. All converted early 21st century.
MME 15565	Site of North Battery	SJ 33567 92025	Site of North Battery, c 1835, demolished *c* 1847
MME 15568	Sandown Half Tide Dock	SJ 33397 92767	Sandown Half Tide Dock, originally Wellington Half Tide Dock, opened in 1849 and Sandon Basin
MME 15569	Site of Sandon Dock	SJ 33565 92862	Site of Sandon Dock graving docks
MME 15570	Wellington Dock	SJ 33666 92674	Wellington Dock (see event records, Table 3)
MME 15579	Bascule bridge over the entrance to Stanley Dock	SJ 33627 92089	Bascule bridge over the entrance to Stanley Dock, *c* 1928
MME 15580	Stanley Dock wall	Centred SJ 33744 92074 (227m by 232m)	Stanley Dock wall, 1848. The wall to Great Howard Street was rebuilt in 1954 following bomb damage
MME 15865	Site of hydraulic tower, Stanley Dock	SJ 33640 92069	One of a pair, *c* 1850, situated either side of entrances to Stanley dock.
MME 15876	Former Rum Warehouse, Stanley Dock	SJ 33805 92159	Built in 1953 to replace a warehouse destroyed in 1941 Blitz, converted into a conference centre in 2013-14
MME 16526	Nos. 15-17 Fulton Street	SJ 33715 92545	Nos. 15-17 Fulton Street; a mid-19th century warehouse, later a corn mill
MME16662	Route of the High Level Coal Branch, Regent Road	SJ 33616 92586 (469m by 296m)	Former route of the High Level Coal Branch, Regent Road, Liverpool, a mid 19th century railway and coal loading facility

MME16873	Route of the Liverpool Dock Railway	SJ 34270 91393 (1865m by 7436m)	Former route of the Liverpool Dock Railway, built in the mid 19th century
MME17077	Peat, Fulton Street	SJ 33716 92512	Paleoenvironmental record: peat with hazelnuts in was found in Fulton Street, Liverpool, *c* 1850; similar deposits were found when Sandon Dock was excavated
MME17324	Site of Mile House, Regent Road	SJ 33642 92348 (point)	Former site of Mile House, Regent Road, Liverpool, an 18th century building, later the North Shore Hotel and North Shore Windmill
MME17325	Location of a windmill, Regent Road	SJ 33627 92128	Former location of an 18th-century windmill, Regent Road, shown on Yates and Perry's map of 1759
MME17458	Site of Victoria Engine Works, Boundary Street, Kirkdale	SJ 33812 92771	Site of Victoria Engine Works, Boundary Street, Kirkdale, shown on the first edition OS map of 1851
MME17464	Site of North Docks Goods Station, Regent Road	SJ 33786 92298	Former site of North Docks Goods Station, Regent Road, Liverpool, shown on the first edition OS map of 1851
MME18091	Route of North Docks Goods Railway	SJ 34069 92778 (648m by 1196m)	Former route of North Docks Goods Railway, built in 1855
MME18105	Route of Liverpool Overhead Railway	SJ 34574 91899 (3468m by 8837m)	Former route of Liverpool Overhead Railway, opened in 1893
MME18114	Site of Nelson Dock Station, Regent Road	SJ 33617 92378 (point)	Former site of Nelson Dock Station, Regent Road, Liverpool, opened in 1896
MME19512	Engineering works, 68 Regent Road	SJ 33716 92574	Late 19th-century engineering works, 68 Regent Road, D Rollo and Sons (marked on Goad's map of 1890)
MME19513	Engineering works, 66 Regent Road	SJ 33713 92566	Late 19th-century engineering works, 66 Regent Road, D Rollo and Sons (marked on Goad's map of 1890)
MME19514	No. 9 Blackstone Street, built 1875.	SJ 33741 92543	No. 9 Blackstone Street, built 1875; The Goad plan of 1890 labels the building as D. Rollo and Sons Engineers

