AN ARCHAEOLOGICAL EVALUATION AT, NORTHERN AREA, KING'S CROSS CENTRAL, TRENCHES 2 AND 4, LONDON BOROUGH OF CAMDEN N1 0AZ

SITE CODE: KXR09

REPORT NO: R11548

OCTOBER 2013

An Archaeological Evaluation at the Northern Area, King's Cross Central, Trenches 2 and 4, London Borough of Camden N1 0AZ

Site Code: KXR09

Report Number: R11548

Central National Grid Reference: TQ 2993 8385

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1 ABSTRACT

1.1 This report details the results and working methods of an archaeological evaluation at the Northern Area, King's Cross Central, Plots T2 and T5. The evaluation was commissioned by King's Cross Central General Partner Limited. The evaluation took place between 25th September 2013 and 9th October 2013, and represents two of four evaluation trenches intended to support the designs of King's Cross Central Northern Area, in response to the London Borough of Camden planning requirements.

1.2 Two trenches, Trench 2 and Trench 4, were targeted on the possible remains of 19th century railway structures shown on historic maps of the area. Trench 2 targeted a turntable structure and Trench 4 targeted the outer wall of the locomotive shed, both shown on historic Ordnance Survey maps.

1.3 Investigations in Trench 4 revealed the natural sequence to be mid-yellow brown clay overlain by gravels capped by a mid-green grey alluvial clay.

1.4 The earliest archaeological deposits were post-medieval soil horizons recorded in Trench 4. These pre-date the construction of the Great Northern Railway depot and probably relate to the use of the site as a brickfield in the 19th century.

1.5 A layer of burnt clay ballast capped by a layer of ashy clinker, encountered in Trench 4, represented the earliest phase of railway construction, comprising the ground preparation/levelling layers laid down in advance of the main works. The remains of a wall, a machine/engine base, internal and external surfaces were identified as the 19th century locomotive shed known as 'Top Shed' in Trench 4.

1.6 Seven parallel concrete footings were encountered in the base of Trench 2. These are the remains of three of the 1930s railway sidings known as the 'Back Pits' (locomotive maintenance pits).

1.7 A 1930s concrete wall footing and a mid to late 20th century wall were also recorded in Trench 4.

1.8 Post 1960s demolition material and CTRL made ground deposits covered both trenches.

1.9 The trenches were inserted in advance of construction of flats and student accommodation on Plots T2 and T5. Final designs for the building construction are not currently available.

2 INTRODUCTION

2.1 An archaeological evaluation at the Northern Area, King's Cross Central, London Borough of Camden was undertaken between 25th September 2013 and 9th October 2013, and represents two of four evaluation trenches intended to support the designs of King's Cross Central Northern Area, in response to the London Borough of Camden planning requirements. The work was carried out in accordance with the Written Scheme of Investigation (Hawkins 2011). Trench 1 was carried out as part of the Roundhouse investigation (see Maher, Thompson and Haslam, 2012) and Trench 3 was not carried out due to surface obstructions on the site. Trench 3 will be carried out at a later date.

2.2 The trenches were located in the proposed development Plots T2 and T4 (Figure 2). The site was bounded by York Way to the east, an open area to the south and east and by railway tracks to the north (Figures 1 and 2).

2.3 The site is located at National Grid Reference TQ 2993 8385.

2.4 The work was commissioned by the King's Cross Central General Partner Limited. The fieldwork was managed for PCA by Helen Hawkins and supervised by the author.

2.5 The site was assigned the code KXR09.

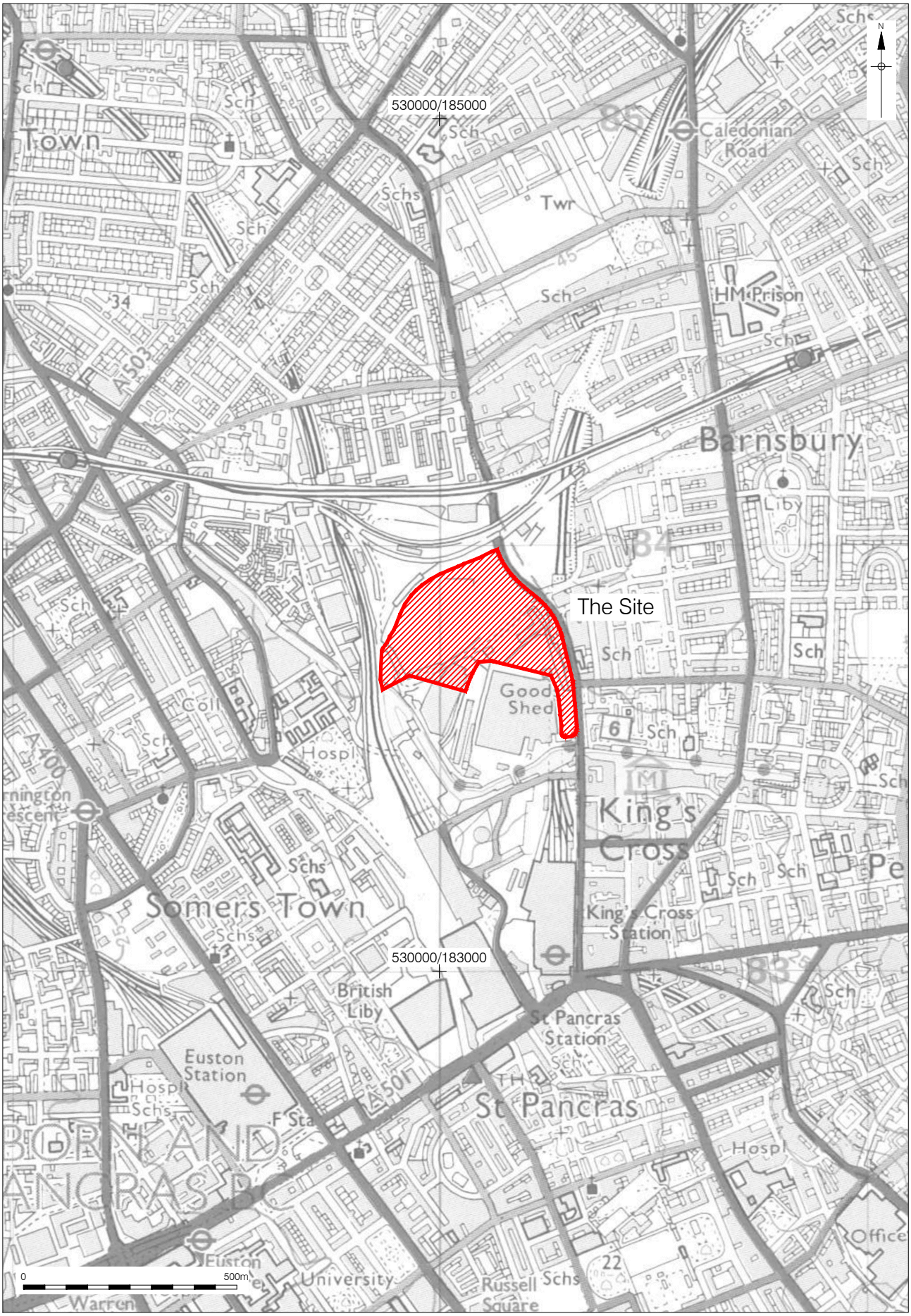

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Figure 1
Site Location
1:12,500 at A4

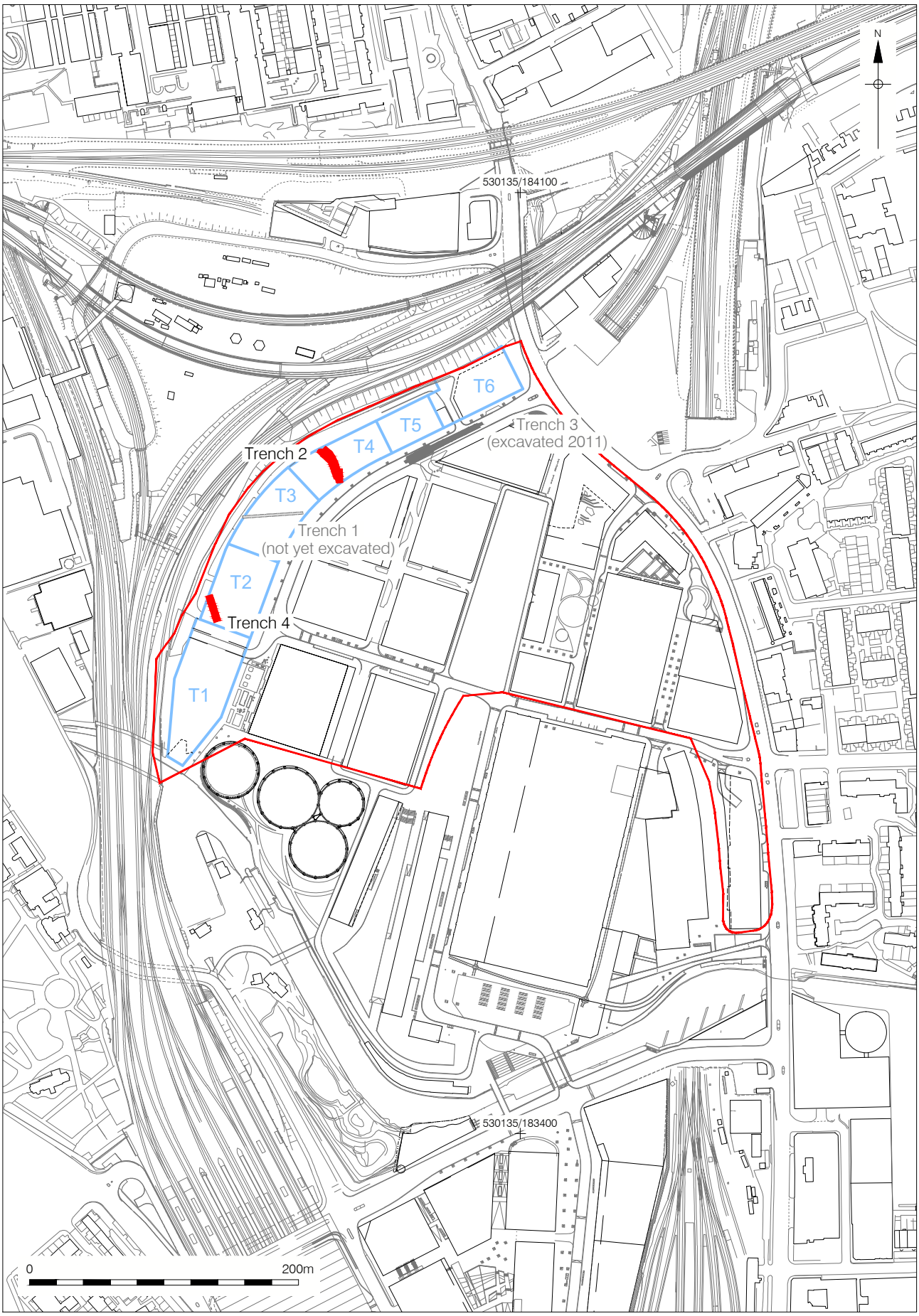

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Figure 2
Detailed Site and Trench Location showing Plots T1 to T6
1:4,000 at A4

3 PLANNING BACKGROUND

3.1 National Planning Policy Framework (NPPF)

3.1.1 The National Planning Policy Framework (NPPF) was adopted on 27 March 2012, and now supersedes the Planning Policy Statements (PPSs). The NPPF constitutes guidance for local planning authorities and decision-takers both in drawing up plans and as a material consideration in determining applications.

3.1.2 Chapter 12 of the NPPF concerns the conservation and enhancement of the historic environment, with the following statements being particularly relevant to the proposed development:

> *128. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.*
>
> *129. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.*

3.1.3 Additionally:

> *141. Local planning authorities should make information about the significance of the historic environment gathered as part of plan-making or development management publicly accessible. They should also require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.*

3.1.4 In considering any planning application for development the local planning authority will now be guided by the policy framework set by the NPPF.

3.1.5 The NPPF also states that:

> *214. For 12 months from the day of publication, decision-takers may continue to give full weight to relevant policies adopted since 2004 even if there is a limited degree of conflict with this Framework.*
>
> *215. In other cases and following this 12-month period, due weight should be given to relevant policies in existing plans according to their degree of consistency with this framework (the closer the policies in the plan to the policies in the Framework, the greater the weight that may be given).*

3.1.6 In considering any planning application for development, the local planning authority will be guided by the policy framework set by government guidance, in this instance the NPPF, by current Unitary Development Plan policy and by other material considerations.

3.1.7 The relevant Strategic Development Plan framework is provided by 'The London Plan, Spatial Development Strategy for Greater London Consolidated with Alterations since 2004' (Feb 2008). It includes the following policies relating to archaeology and cultural heritage within central London:

POLICY 4B.15 ARCHAEOLOGY

The Mayor, in partnership with English Heritage, the Museum of London and boroughs, will support the identification, protection, interpretation and presentation of London's archaeological resources. Boroughs in consultation with English Heritage and other relevant statutory organisations should include appropriate policies in their DPDs for protecting scheduled ancient monuments and archaeological assets within their area.

3.2 The Development Plan framework is provided by the Camden Replacement Unitary Development Plan (2006) which states:

B8 – ARCHAEOLOGICAL SITES AND MONUMENTS

A – SITES AND MONUMENTS OF NATIONAL ARCHAEOLOGICAL IMPORTANCE:

WHEN CONSIDERING DEVELOPMENT CLOSE TO SITES AND MONUMENTS OF NATIONAL ARCHAEOLOGICAL IMPORTANCE, INCLUDING SCHEDULED ANCIENT MONUMENTS, THE COUNCIL WILL SEEK THE PHYSICAL PRESERVATION OF THE ARCHAEOLOGICAL FEATURES AND THEIR SETTINGS.

B – SITES AND MONUMENTS OF ARCHAEOLOGICAL IMPORTANCE:
THE COUNCIL WILL ONLY GRANT CONSENT FOR DEVELOPMENT WHERE ACCEPTABLE MEASURES ARE UNDERTAKEN TO PRESERVE REMAINS OF ARCHAEOLOGICAL IMPORTANCE AND THEIR SETTINGS. DEVELOPERS SHOULD ADOPT MEASURES THAT ALLOW SUCH REMAINS TO BE PERMANENTLY PRESERVED IN SITU. WHERE THIS CANNOT BE ACHIEVED, NO DEVELOPMENT SHALL TAKE PLACE UNTIL SATISFACTORY EXCAVATION AND RECORDING OF THE REMAINS HAS BEEN CARRIED OUT.

3.3 Also of relevance is local policy KC11:

KC11 - HERITAGE
THE COUNCIL WILL GRANT PLANNING PERMISSION FOR DEVELOPMENT PROPOSALS FOR THE KING'S CROSS OPPORTUNITY AREA, WHICH SEEK TO ENSURE THAT:
A) PRESERVE LISTED BUILDINGS OR STRUCTURES AND THEIR SETTING
B) PRESERVE OR ENHANCE BUILDINGS. STRUCTURES AND OTHER FEATURES OF CHARACTER AND HISTORIC INTEREST, AND THEIR SETTING, WITHIN THE CONSERVATION AREAS
C) PRESERVE THE REMAINS OF SIGNIFICANT ARCHAEOLOGICAL IMPORTANCE AND THEIR SETTINGS.

3.4 In accordance with the Camden Replacement Unitary Development Plan (2006) and local policy KC11, the Outline Planning Permission for the project (granted by Camden Council) stipulated that a programme of archaeological and built heritage recording was required. This is detailed in Outline Planning Permission Condition 56 (Archaeological Investigation and Mitigation), which states:

> *No development shall take place in relation to each phase of the Development as notified under condition 21 until the applicant, their agent or successors in title has secured the implementation of a programme of archaeological work in accordance with a written*

scheme of investigation which has been submitted by the applicant and approved by the local planning authority.
*Reason: Important archaeological remains may exist on the site. The requirements of this condition are to secure the provision of archaeological investigation and the subsequent recording of the remains prior to development and to minimize damage to them in accordance with the Environmental Impact Assessment, in accordance with the policies policy B8 of the London Borough of Camden Replacement Unitary Development Plan 2006***.**

3.5 The trenches were intended to target important archaeological features likely to be present on the site. At the time of the trench design, the proposed developments on each plot were unknown, but it was clear that development in the area would impact on any surviving archaeological remains. The Trench 1 investigation carried out in 2011 identified the Roundhouse building survived c. 3m below ground level, and full excavation of this feature was subsequently carried out (Maher, Thompson and Haslam 2012).

4 GEOLOGY AND TOPOGRAPHY

4.1 Geology

4.1.1 The British Geological Survey of England and Wales 1:50,000 scale map of the area (Sheet 256 *North London*) indicates that the Northern Area of King's Cross Central is underlain by London Clay.

4.2 Topography

4.2.1 The site lies within the King's Cross Railway Lands, an area which has been artificially landscaped on several occasions between the mid 19th century and the present day. The modern topography is therefore entirely man-made and is partially a result of the CTRL enabling works. Ground level was found to be at a maximum height of 27.99m OD by Trench 2 and at a minimum height of 27.08m OD by Trench 4.

5 HISTORICAL BACKGROUND

5.1 The following is taken from the Assessment Report of the *Midlands Railway Roundhouse Excavations* (Maher, Thompson and Haslam 2012).

5.2 **Introduction: St Pancras, Battle Bridge and King's Cross to 1851**

5.2.1 Straddling the borders of the old boroughs of St Pancras and Islington, the modern district of King's Cross is centred upon the ancient hamlet of Battle Bridge, which developed around a crossing of the River Fleet. The manor of Pancras was described in the Domesday Book of 1086, when it was held by the Canons of St Paul's Cathedral. The "ancient and diminutive" church of St Pancras was first mentioned in 1183, and was subsequently rebuilt in the mid-14th century. The church stood at the centre of the manor, which was reported as being sparsely populated in the mid-13th century.

5.2.2 The earliest shoots of urbanisation in the area began with the opening of the New Road between Paddington and Islington in 1756. The north side of the stretch now known as the Euston Road between Tottenham Court Road and Battle Bridge became a magnet for developers and by the 1770s was lined with residential properties. By the early 19th century the value of property in the Somers Town development had fallen considerably, and although construction of new terraces and squares continued, parts of Somers Town had already taken on the appearance of a slum.

5.2.3 A short distance to the east of Somers Town, the Smallpox Hospital moved to gardens north of Battle Bridge in 1767. The new hospital stood a short distance to the east of St Pancras Road/Pancras Place, and was comprehensively rebuilt in 1793-94. In 1802 the separate Fever Hospital was built over gardens between the Smallpox Hospital and St Pancras Road.

5.2.4 At around the same time, local landowners began to let large areas of land in the vicinity to building contractors such as Thomas Cubitt for brick making, and brickfields and ancillary works became a distinctive feature of the landscape between Copenhagen Fields and the Euston Road.

5.2.5 The completion of the Regent's Canal in 1820 further contributed to the increasingly industrial character of the area. A little over a year after the canal opened the newly-founded Imperial Gas Light and Coke Company purchased a plot of land on the south bank of the waterway, upon which it was planned to build a new gasworks serving the northern districts of London. The Pancras Gasworks opened in 1824 and remained the largest in the capital until the development of Beckton in 1869. Following the death of the local landowner William Agar in 1840, his widow sold off small plots of his estate on short-term leases to poor labourers, prompting the rapid development of the notorious slum of Agar Town to the south and west of the gasworks. Condemned by an associate of Charles Dickens as a "disgrace to the metropolis," Agar Town was described by the prolific Victorian publisher John Weale as "that awful rookery at the back of St Pancras Road". Residents of Agar Town were described as being assailed from one side by the clouds of 'mephitic vapours' that belched from the chimneys of the gasworks and from the 'rheumatic dampness' that rose up from the canal on the other.

5.2.6 In 1846 the Great Northern Railway Company received Parliamentary Assent to develop a new line linking London and York. Prohibited by the judgement of a recent Royal Commission from building its London terminus south of the Euston Road, the company decided instead to build the Passenger station on the site of the Smallpox Hospital. With the nearby Regent's Canal offering a conduit for the onward transport of goods and coals received by rail, the company chose to build its Goods Station, Coal Depot and Locomotive Depot on the north bank of the canal in Maiden Lane, where it purchased several acres of former brick fields.

5.2.7 Working under the supervision of Joseph Cubitt, the Engineer of the line, and Lewis Cubitt, the architect of the London termini, contractors began to level the ground on the north side of the canal in 1849, while construction of the buildings began in the spring of 1850 and continued into the following year. The Goods Station buildings were largely complete by March 1851, although fitting-out of the Granary continued into the summer of that year and possibly beyond.

5.3 The brick and tile industry in Islington and St Pancras in the early 19th century

5.3.1 Although the extraction of clay for the purpose of brick manufacture in the vicinity was recorded as early as the 14th century, brick and tile making only became widespread on the heavy London Clay soils of St Pancras and Islington in the 17th and 18th centuries. By the early 19th century a number of brick makers had established premises in the vicinity.

5.3.2 Tile making also became established in the fields on either side of Maiden Lane in the early decades of the 19th century.

5.4 The construction of the Great Northern Goods Station and Locomotive Depot at King's Cross, 1849-1851

5.4.1 In 1848 the Great Northern Railway awarded the contract to develop the site of the future King's Cross Goods Yard and Locomotive Depot to John Jay. In May 1849 Jay gained access to part of the site and commenced "levelling the same down for a station". By the end of March 1850 construction of the foundations of the new Goods Station buildings was already well advanced.

5.4.2 Much of the clay stripped from the ground surface was later burnt and spread across the site in order to raise the ground and form the level surface necessary for railway working.

5.5 Construction of the King's Cross Locomotive Depot

5.5.1 The Locomotive Depot was built to the north-west of the Goods Station, in an area bordered to the north by the embankment of the East and West India Docks and Birmingham Junction Railway, by the mainline of the Great Northern to the east, by the northernmost terraces of Agar Town to the west and by the Great Northern Goods and Coal Depots to the south and south-east.

5.5.2 Plans of the proposed locomotive shops were prepared as early as February 1849, however these were subsequently revised in order to accommodate twenty-five (rail) roads as opposed to the thirteen originally envisaged. The principal locomotive shed was a striking building, with a concave curved front containing twenty-five arches, one for each of the railway tracks that entered the building. The shed was completed in 1850/1, and the Locomotive Depot became known subsequently as 'Top Shed'.

5.5.3 The following year Archibald Sturrock, the Locomotive Superintendent of the Great Northern requested that a 40' diameter turntable be provided in order that locomotives and tenders could be turned whilst coupled. The new turntable was built some distance to the east of the depot, although this was subsequently removed in 1855 to permit the development of the Potato Market from the site of the original Maiden Lane temporary passenger terminus. A new turntable of the same diameter was ordered as a replacement, and it was decided to install it at a location as far as possible from the existing goods yard lines in order to leave room for additional tracks. The chosen location was much closer to the Locomotive Depot than that of its predecessor, a short distance from the site of what was subsequently to become the Midland Roundhouse.

5.6 20th Century

5.6.1 The Midland Roundhouse was demolished in 1931 and replaced by seven long parallel tracks and engine pits for standing locomotives, the 'Back Pits'.

5.6.2 The 'Big Four' railway companies were nationalised with effect from 1st January 1948, and the King's Cross Locomotive Depot was placed in the hands of the Eastern Region of British Railways. Following several years of post-war austerity, in 1955 the British Transport Commission (BTC) unveiled a 15-year plan to modernise and re-equip British Railways. Although primarily concerned with the elimination of steam traction, the plan also proposed to transform freight traffic policy by concentrating wagon load traffic in fewer and more efficient goods terminals and new 'Freight Transfer Depots' which would streamline transhipment of goods from rail to road and vice-versa.

5.6.3 The decision to replace steam traction across the Eastern Region of British Railways in the late 1950s signalled the end for Top Shed. Despite having a complement of 107 locomotives in 1959, the King's Cross Locomotive Depot was closed in June 1963 and demolition of the buildings began soon afterwards. The closure of the depot rendered the back pits redundant, and they had been removed by 1968, when the Ordnance Survey map was published.

5.6.4 In November 1965 British Railways launched its inaugural 'Freightliner' service from the newly completed container terminal at York Way. During the first three years of Freightliner operations British Railways built facilities for the new service at key points across the rail network, including a further three terminals in the capital at King's Cross, Stratford and Willesden. The new King's Cross Freightliner terminal was built in the north-west corner of the Goods Yard and on the site of the former Locomotive Depot. While the terminals at Stratford and Willesden were the "largest and most modern" built by the company, the facilities at King's Cross were much more modest, reflecting the latter's status as a 'mini-terminal'.

5.6.5 Although the Freightliners concept was a sensible response to the problems posed by containerised rail freight, the fortunes of the new depots varied considerably. York Way was the first to go, closing in August 1971, following which the site was sold to Camden Council for residential development.

5.6.6 In September 1984 the London Brick Company gave notice of its intention to terminate services from Stewartby to King's Cross with effect from the end of the following January, prompting Freightliners to consider closing the terminal and relocating the staff and the remaining business to Stratford. Although it was initially proposed to close the terminal with effect from 1st February 1985, in November 1984 Freightliners decided to keep King's Cross running with a reduced complement of 25 staff. By the end of 1985 the terminal handled only one service per day in each direction between Edinburgh, Newcastle and London and was clearly no longer economically viable. King's Cross Freightliners terminal ceased operating in 1986.

5.6.7 Following the passing by Parliament of the Channel Tunnel Rail Link (CTRL) Act in December 1996, Rail Link Engineering was established in order to design and project manage the construction of the High Speed railway link between the Channel Tunnel and the new international terminus at St Pancras.

5.6.8 As part of Section 2 of the CTRL works, companies were invited to tender for civil engineering works in the King's Cross Railway Lands, including the construction of new tracks and railway connections to the north of King's Cross and St Pancras Stations. The contract necessitated considerable disturbance in the vicinity of the former Freightliners depot and groundworks impacted upon the site.

6 ARCHAEOLOGICAL METHODOLOGY

6.1 The methodology for evaluating the site is given in the Written Scheme of Investigation[1]. The evaluation consisted of two trenches positioned within the footprints of Plots T2 and T4 (Figures 1 and 2).

6.2 The trenches were targeted to investigate the outer wall of the fan-shaped 'Top Shed' and a turntable associated with it to the east. Other objectives were to investigate:

- The character of the site and landscape prior to first phase industrial development, including information about the rural topography with evidence of prehistoric to post-medieval land-use;
- The preparation, infilling processes and materials used for the mid 19th century railway facilities;
- Ground surface features of all ages exposed at the location of the investigations;
- The character of remains of the roundhouse, known from maps, documents, IHCM research, and PCA archives;
- Identification and documentation of newly discovered buried structural features;
- An evaluation of the investigated surface and below ground structures and made ground for inputting into ongoing heritage related studies;

6.3 The trenches were machined using a mechanical excavator. The machine was fitted with a toothless bucket to remove modern overburden under the supervision of an attendant archaeologist. Spoil was piled at safe distance from the trench edges. Machine excavation continued in spits of approximately 200mm until archaeologically relevant material was observed. The trenches were stepped for safety in order to enable a depth of c. 3m to be reached. The basal measurement of Trench 2 was 21.35m in length by 2.00m wide and the base of Trench 4 measured 18.00m long by 2.00m in the south of the trench and 3.60m in the north.

6.4 Following machine excavation, relevant faces of the trench that required further examination were investigated and cleaned using appropriate hand tools.

6.5 Individual descriptions of all archaeological strata and features excavated and/or exposed were entered onto pro-forma recording sheets. All plans and sections of archaeological deposits were recorded on polyester based drawing film, the plans being drawn at a scale of 1:20 and the sections at 1:10. The recording system used was "single context".

6.6 The proposal follows IFA guidelines, and the methodologies set out in English Heritage (GLAAS) Guidance Papers for standards and practices in archaeological fieldwork watching briefs and assessments and evaluation.

6.7 GPS was used to locate the trench and to establish Temporary Bench Marks (TBM) for each trench. TBM 1 was established by the northern edge of Trench 4 at a value of 27.08m OD and TBM 2 was established on concrete in the base of Trench 2 at a value of 25.35m OD.

6.8 Brick samples were taken when necessary.

[1] Hawkins, H 2011 *Written Scheme of Investigation for an Archaeological Evaluation at the Northern Area, King's Cross Central, London Borough of Camden* Pre-Construct Archaeology Ltd unpublished client report

7 SUMMARY OF THE ARCHAEOLOGICAL SEQUENCE

Trench 4, Figures 4 and 5

7.1 Phase 1 Natural

7.1.1 A layer of firm, mid-yellow brown clay [17/9], with occasional lenses of sub-rounded gravels was observed in the base of the trench at 24.83m OD and 24.65m OD.

7.1.2 A small deposit of sub-rounded gravels [18] was seen at 24.68m OD, which appeared to be water lain and overlaid the natural clay.

7.1.3 These were sealed by a layer of firm, mid-green grey alluvial clay [18/30] recorded between 24.95m OD and 24.90m OD.

7.2 Phase 2 Pre-1850

7.2.1 A post-medieval soil deposit of soft, mid-grey brown, silty clay [19] with occasional flecks of CBM was noted in section above the natural clay at 24.94m OD and was 0.23m thick. Clay Tobacco Pipe recovered from this layer was spot dated 1640-60. Covering this was a layer of firm, dark brown, silty clay [20/31] which was recorded in section between 25.09m OD and 25.20m OD. The deposit contained occasional CBM, coal, charcoal and pottery fragments. The pot fragments were spot dated 1770-1838.

7.2.2 The cut of a possible clay extraction pit [11] was seen in the base of the trench at 24.65m OD measuring 1.7m long by 1.10m wide. Filling the cut was a soft to compact, light green grey, silty clay [10].

7.3 Phase 3, Post 1850 Railway Land

7.3.1 The earliest railway associated deposit was a layer of mid-reddish brown burnt clay ballast [22/32] recorded in section between 25.44m OD and 25.28m OD with a maximum thickness of 0.20m. Above this a loose to compact, black band of ash, clinker, and sand [12/21/33] was observed between 25.80m OD and 24.33m OD with a maximum thickness of 0.38m. These layers represented the levelling layers laid down prior to the major railway construction works.

7.3.2 In the north of the trench a northeast to southwest aligned wall [1], with a return running to the northwest, was seen. This measured 3.8m in length, with a width of 0.60m and extended beyond the trench edges between 25.75m OD and 25.60m OD. The return was measured at 2.3m in length before it disappeared into the L.O.E. It was built with soft to hard mid orange red bricks, measuring 220x70x110 mm and bonded with a light yellow brown sandy mortar.

7.3.3 A yellow stock brick floor [2], bedded on a soft, light brown grey sand [4], abutted the northern face of wall [1] and was observed at 25.67m OD measuring 1.3m in length by 0.36m wide. The bricks were laid on edge measuring 220x65x105mm and bonded with sand similar to [4].

7.3.4 To the north of floor [2] what is interpreted here as a possible machine/engine base [4] was seen. Two sandstone blocks, one with a metal fixing attached, were recorded between 25.67m OD and 25.66m OD measuring 0.42m x 0.70m and 0.36m x 0.70m.

7.3.5 In the south of the trench a linear cut [24] was noted in section at 25.34m OD to be 1.00m wide and 0.94m deep. Fragments of a ceramic foul water pipe were observed at the base of the cut within the backfill [23]. The fill was covered by a 0.10m thick layer of coarse grained, dark yellow sand recorded at 25.40m OD.

7.3.6 A linear service cut [14], running roughly northeast to southwest, was seen measuring 1.4m wide and 3.2m in length extending beyond the trench edges at 25.12m OD. It was filled by a firm, mid to dark brown, grey silty clay [13] with moderate CBM and coal fragments, which when CAT scanned gave off a substantial live signal. Because of this it was deemed safest to avoid excavation.

7.4 Phase 4, 20th Century Railway Lands

7.4.1 A 0.4m thick layer of firm, dark grey brown/black, clay silt [26] with occasional fragments of chalk and clinker and frequent lenses of ash type deposits was seen sealing [25] at 25.80m OD.

7.4.2 A linear cut [7] was noted truncating floor [2] and machine/engine base [3] at 25.57m OD. The cut was aligned northeast to southwest (roughly parallel with wall [1]) measuring 3.5m in length by 0.8m wide and extended beyond the L.O.E. Remnants of a cast iron pipe were seen within the compact, dark grey brown clay sand fill [6].

7.4.3 To the south of wall [1] a brick lined inspection chamber [8] with a cast iron cover was recorded at 25.59m OD measuring 1.06m x 1.18m. A rough surface, probably external, made from compacted coal fragments, clinker, and concrete was noted covering the edges of the inspection chamber at 25.52m OD. This measured 2.50m x 3.16m and extended into the L.O.E. A poorly constructed light yellow brown sandy concrete footing [15] with sub-rounded gravel inclusions was observed running northeast to southwest across the centre of the trench at 25.65m OD. The width was 0.8m and the length 3.6m to the L.O.E.

7.4.4 The remains of a wall and rough concrete footing [16] were recorded to the south of and parallel to [15] at 25.63m OD measuring 3.2m in length and 0.54m wide. The bricks measured 220x70x100mm and were stamped with 'LBC PHORPRES'. The bonding material was a very hard light yellow brown cement mortar.

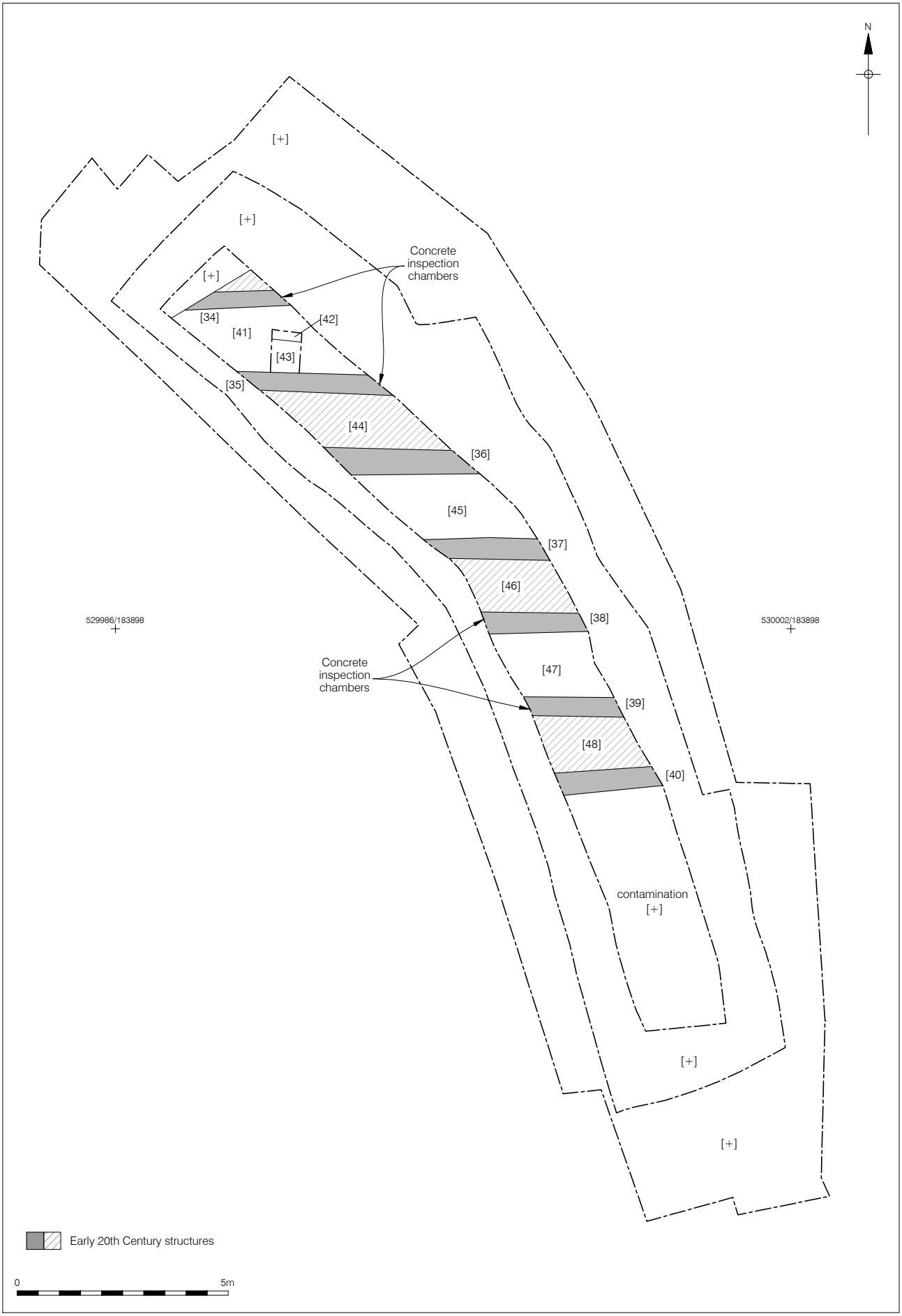
Trench 2 Figures 3 and 8

7.5 Phase 4, 20th Century Railway Lands

7.5.1 A series of parallel concrete footings [34, 35, 36, 37, 38, 39, and 40] aligned roughly east to west were observed in the base of the trench all at 25.34m OD. These were of the same mid yellow white concrete with uniform widths of 0.50m and lengths of 3.10m, extending beyond the trench edges. The concrete footings appeared to be in pairs i.e. [35, 36], [37, 38], [39, 40], interpreted here as engine maintenance pits. Each pit had an internal width of 1.20m, which would accommodate locomotives with a British Standard Gauge of 4ft. 8 inches (1.4m). The distance between each pit was found to be 1.5m. Excavations beyond [40] had to be abandoned due to the presence of hydrocarbon contamination within what appeared to be a modern truncation in the base of the trench.

7.5.2 A sondage excavated against footing [35] revealed make-up layers for the surfaces between the concrete pits. The lowest layer was a loose, dark blackish grey, ashy clinker [43] seen at 24.94m OD which was not bottomed due to the presence of contamination in the trench. A 0.20m thick dump of compacted, mid-pinky red, burnt clay ballast [42] with occasional fragments of concrete and gravels was observed at 25.24m OD, covering [43]. This was sealed by a surface deposit of well compacted, dark grey black, silty ash clinker [41] with frequent coal fragments, recorded at 25.34m OD measuring 0.10m thick. Two similar surface layers were recorded, [45] between [36] and [37] and [47] between [38] and [39], at 25.34m OD. These represent the external ground surface at the time when the pits were in use.

7.5.3 The engine pits were eventually backfilled when they fell out of use in 1968 and were backfilled with similar deposits of compacted, dark grey black, silty ash clinker [44, 46, 48] with frequent coal fragments and concrete, recorded at 25.34m OD.



11/10/13 JS

Figure 3
Plan of Trench 2
1:125 at A4

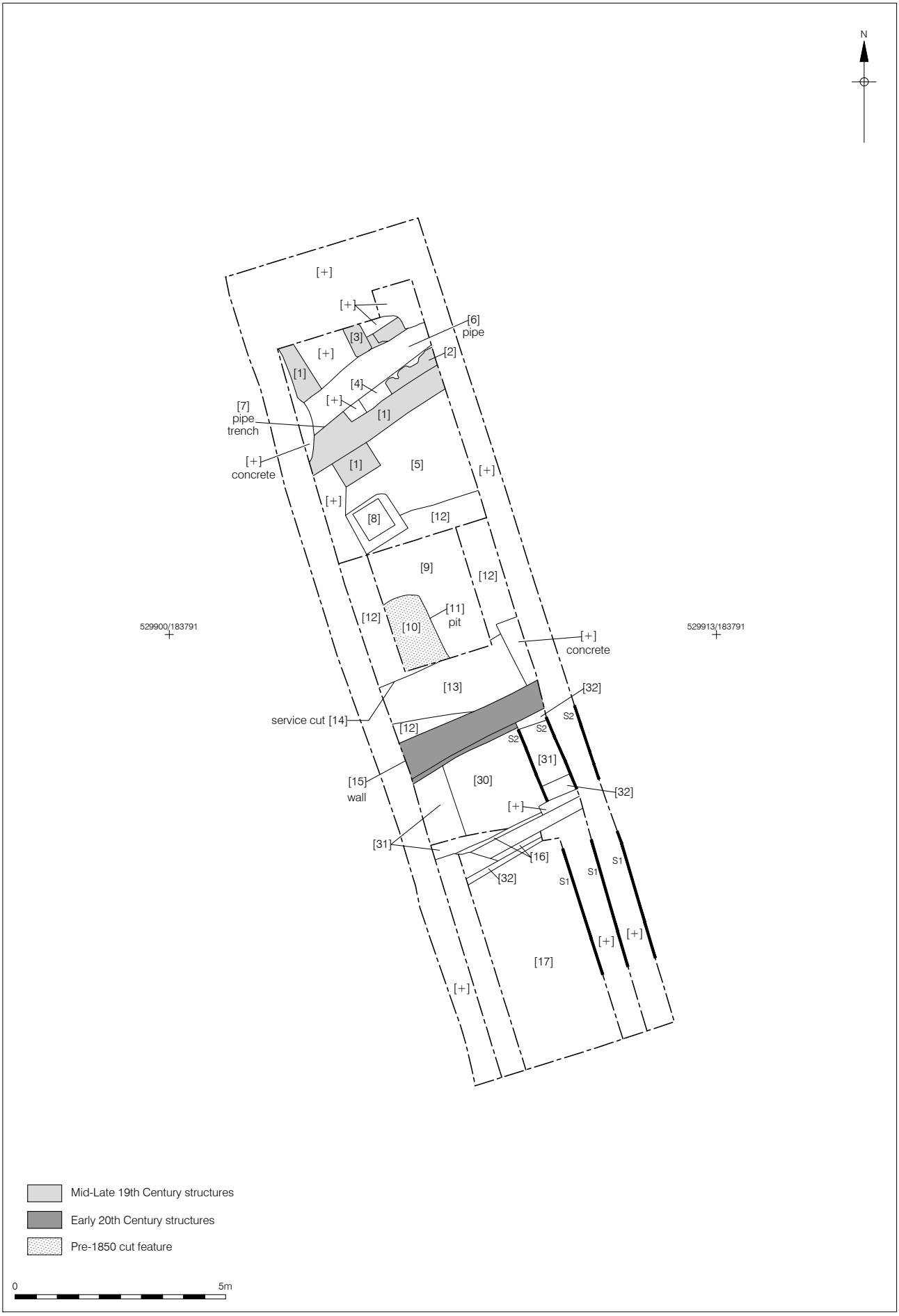


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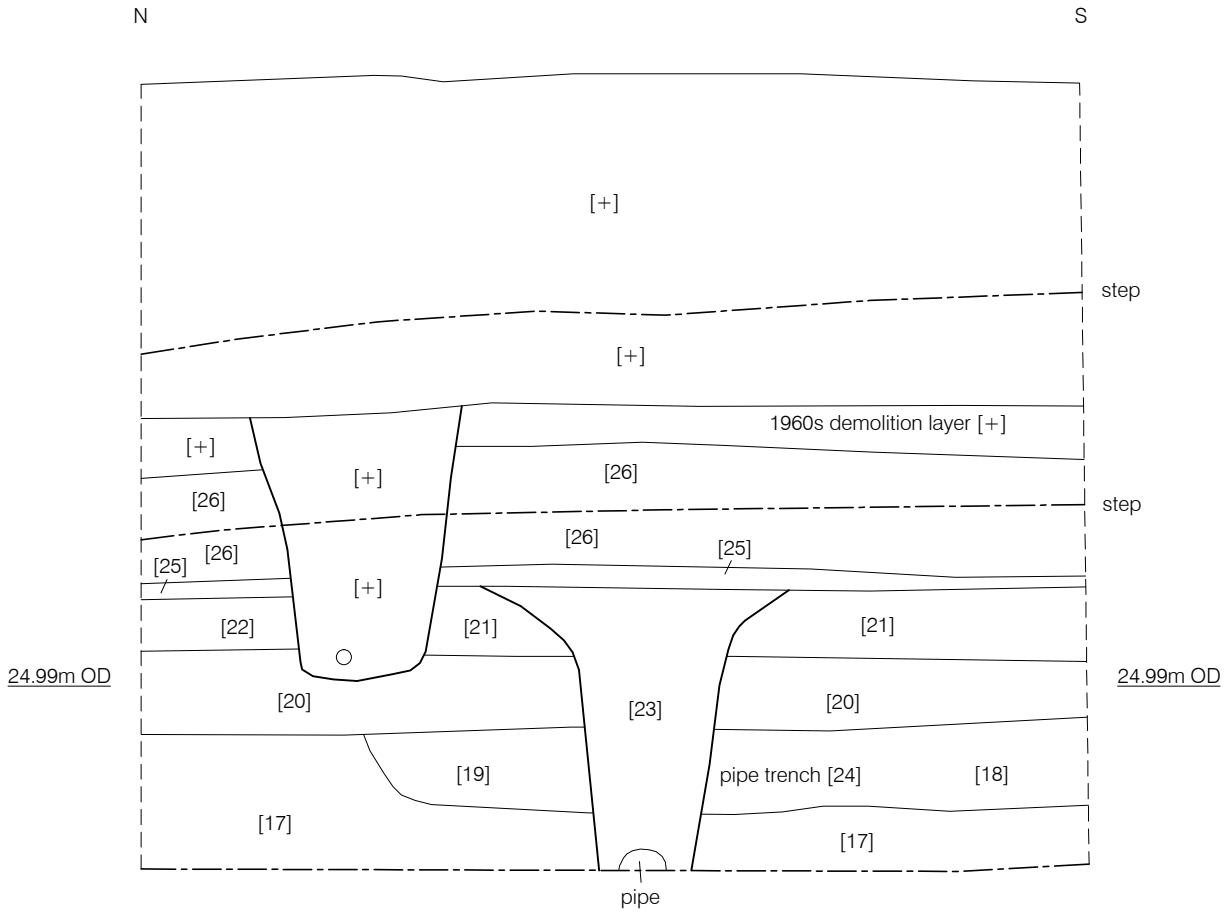
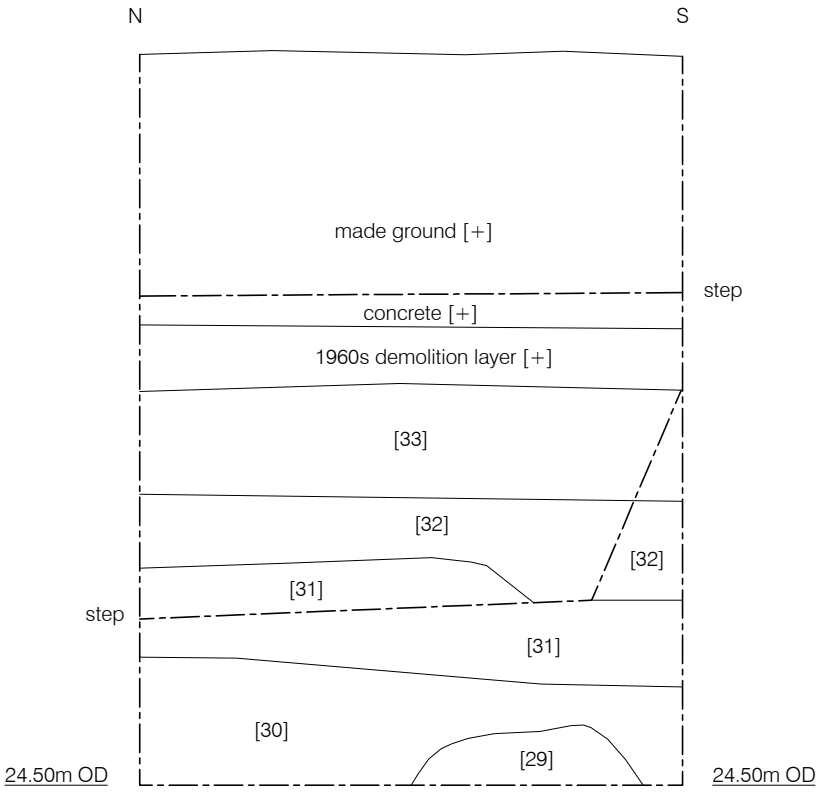
Figure 4
Plan of Trench 4
1:100 at A4



Section 1
Trench 4
West Facing



Section 2
Trench 4
West Facing

0 1m

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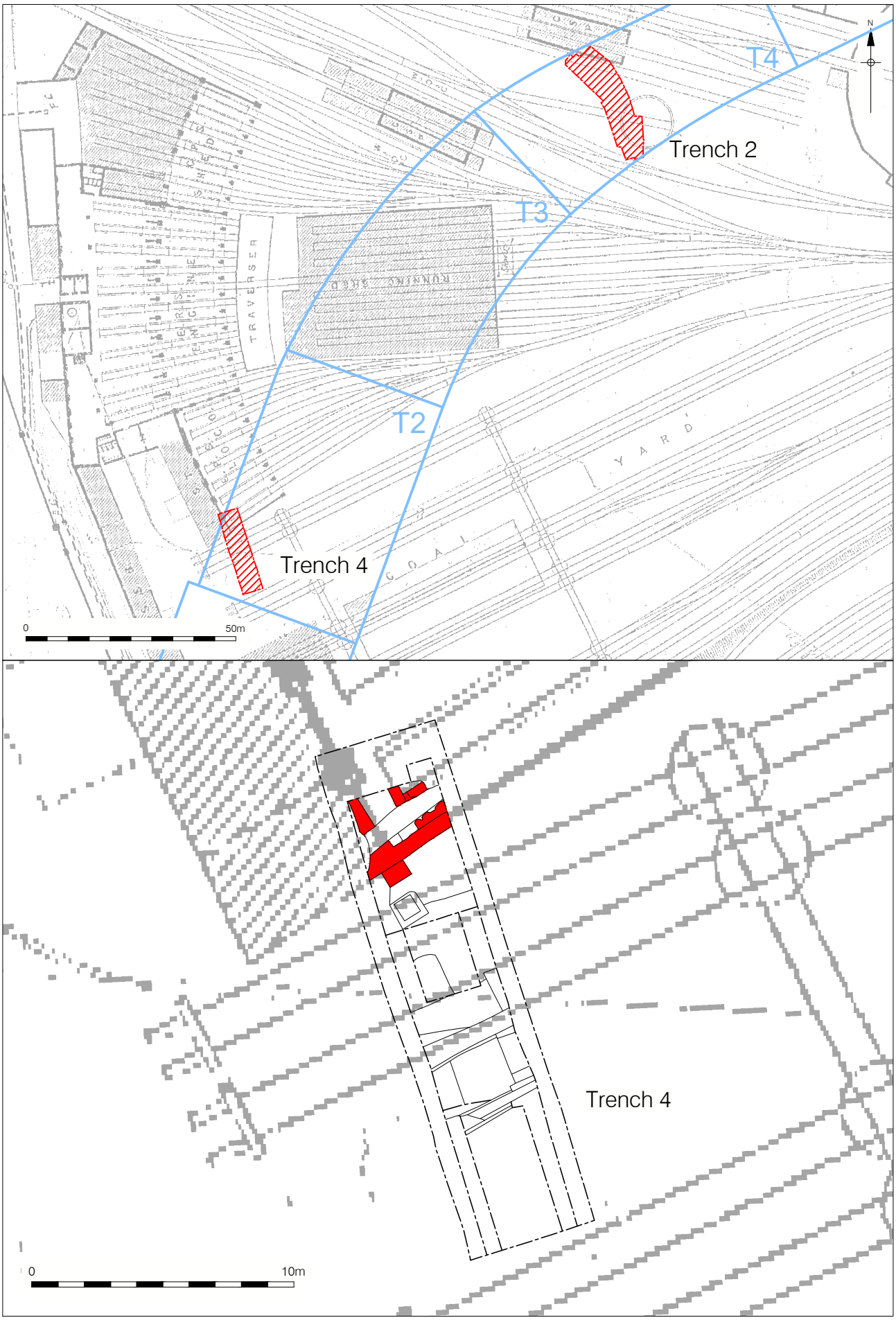
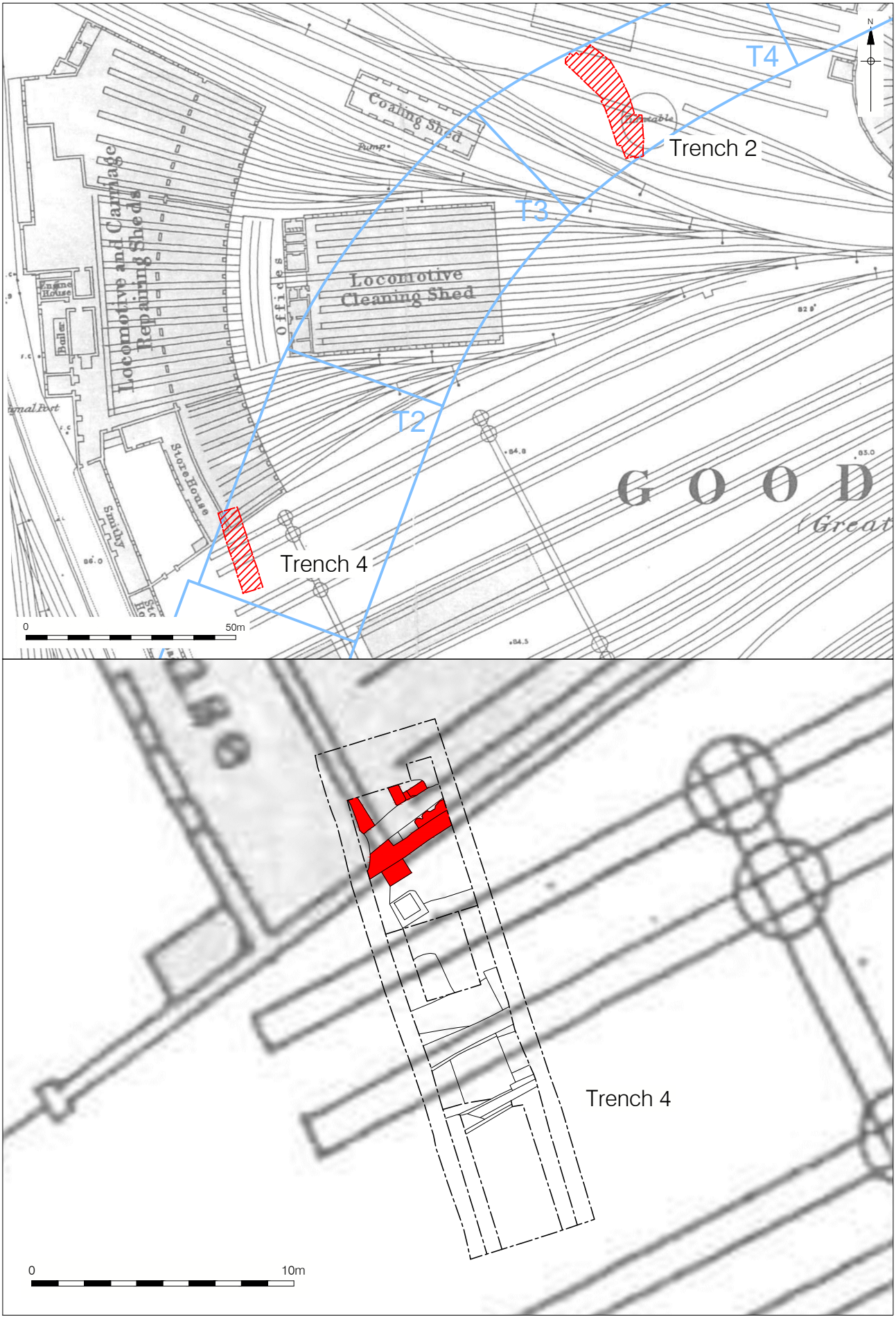
Figure 5
Sections 1 and 2
1:25 at A4



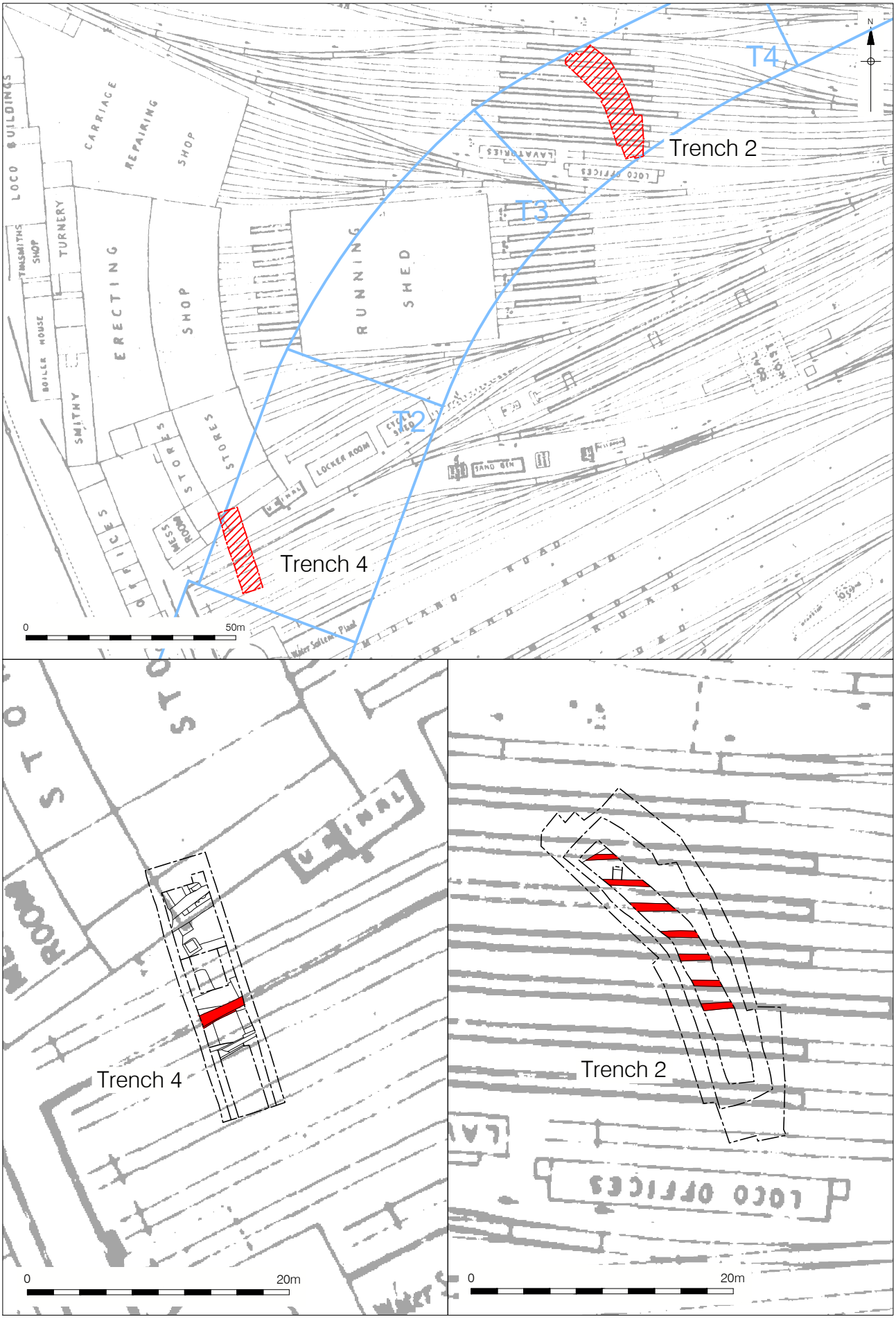
15/10/13 MR

Figure 6
Plan of Trench 4 overlain on William Humber's plan of King's Cross Goods Station, 1866
1:1,250 and 1:200 at A4



15/10/13 MR

Figure 7
Plan of Trench 4 overlain on First Edition Ordnance Survey map, 1871
1:1,250 and 1:200 at A4



15/10/13 MR

Figure 8
Plans of Trenches 2 and 4 overlain on the LNER plan of King's Cross, 1933
1:1,250 and 1:400 at A4

8 INTERPRETATION AND CONCLUSIONS

8.1 Natural clay was recorded in Trench 4 between 24.83m OD and 24.65m OD. This was overlain by what appeared to be deposit of water lain gravels capped by a layer of mid-green grey alluvial clay.

8.2 Post medieval soil horizons and the remains of a possible clay extraction pit were recorded overlying the alluvial clay. The earliest soil deposit yielded a clay pipe bowl and stem that was spot dated 1640-60. Although no finds or other dating evidence were recovered from the possible clay extraction pit it does provide evidence for previous land usage that pre-dates the Railway depot.

8.3 The post medieval deposits were sealed by a layer of mid-reddish brown burnt clay ballast overlain with a band of black ash, clinker, and sand. The burnt clay ballast is the general levelling layer laid down in advance of the general site works in 1850 and has been noted in previous investigations across the wider site investigations at King's Cross.

8.4 The brickwork of the wall encountered in Trench 4 has been identified as 19th century, and has been seen elsewhere during previous investigations in the wider Goods Depot areas. The two sandstone blocks, one with a metal fixing, are probably the base of some piece of maintenance equipment (e.g. a motor for an overhead crane). This and the presence of the yellow stock brick floor abutting the wall suggest this area to be internal. When overlaid on the First Edition Ordnance Survey Map 1871 (Figure 7) this is confirmed. The wall is part of the southern wall and the return is an internal wall of the 'fan-shaped' Locomotive and Carriage Repairing Sheds ('Top Shed'). Rougher external surfaces and their make-up deposits were also recorded.

8.5 To the south of the 19th century walls a poorly constructed concrete wall footing was recorded. This could be the footing of the wall like structure shown on the LNER plan of King's Cross 1933 (Figure 8). A late 20th century wall and its footing were noted because these may represent the phase of land use between the closing of the Goods Depot and the construction of CTRL.

8.6 In Trench 2 the parallel concrete footing have been identified as three of the engine maintenance pits associated with the railway sidings that were known as the 'Back Pits' (Townend 1975) and constructed in the 1930s. No evidence of the turntable that existed in this area prior to the pits was encountered.

8.7 Evaluation Trench 4 has shown that archaeological features and deposits did survive the construction of the King's Cross Goods Yard and could provide a valuable insight into previous the land usage in the 17th and 18th centuries, with a possibility of even earlier.

8.8 The survival and condition of the southern wall and internal structures of the Locomotive and Carriage Repairing Sheds ('Top Shed') suggests the possibility that the construction works of CTRL has not impacted so heavily on this part of site and that more of the shed's internal features survive. This is of particular interest to railway and industrial archaeology enthusiasts, who know the depot as the 'Top Shed', as it continued in use from 1850 till closure in 1963 (Townsend 1975). The 'Top Shed' was the principal (indeed only) locomotive depot building for the Great Northern Railway throughout its existence in the capital.

8.9 No deposits or features earlier than the concrete 'Back Pits' were recorded in Trench 2. The turntable shown in historic maps has most likely been removed during construction along with any earlier deposits. The presence of extensive hydrocarbon contamination in the trench would make further investigation extremely hazardous.

9 ACKNOWLEDGEMENTS

9.1 Pre-Construct Archaeology Limited would like to thank IHCM and King's Cross Central General Partner Limited for commissioning the project, and Carillion who carried out the onsite work. Thanks to the digging crew who undertook the excavation of the trench and the safe maintenance of it.

9.2 The author would like to thank Helen Hawkins for her project management, Jennifer Simonson and Mark Roughley for CAD and Matt Edmonds for his onsite help and assistance.

10 BIBLIOGRAPHY

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Maher, Thompson & Haslam, 2012 *An Assessment of an Archaeological Excavation and Watching Brief at King's Cross Central, Northern Area Blocks, Roundhouse Excavation, London Borough of Camden,* Pre-Construct Archaeology Ltd, unpublished report

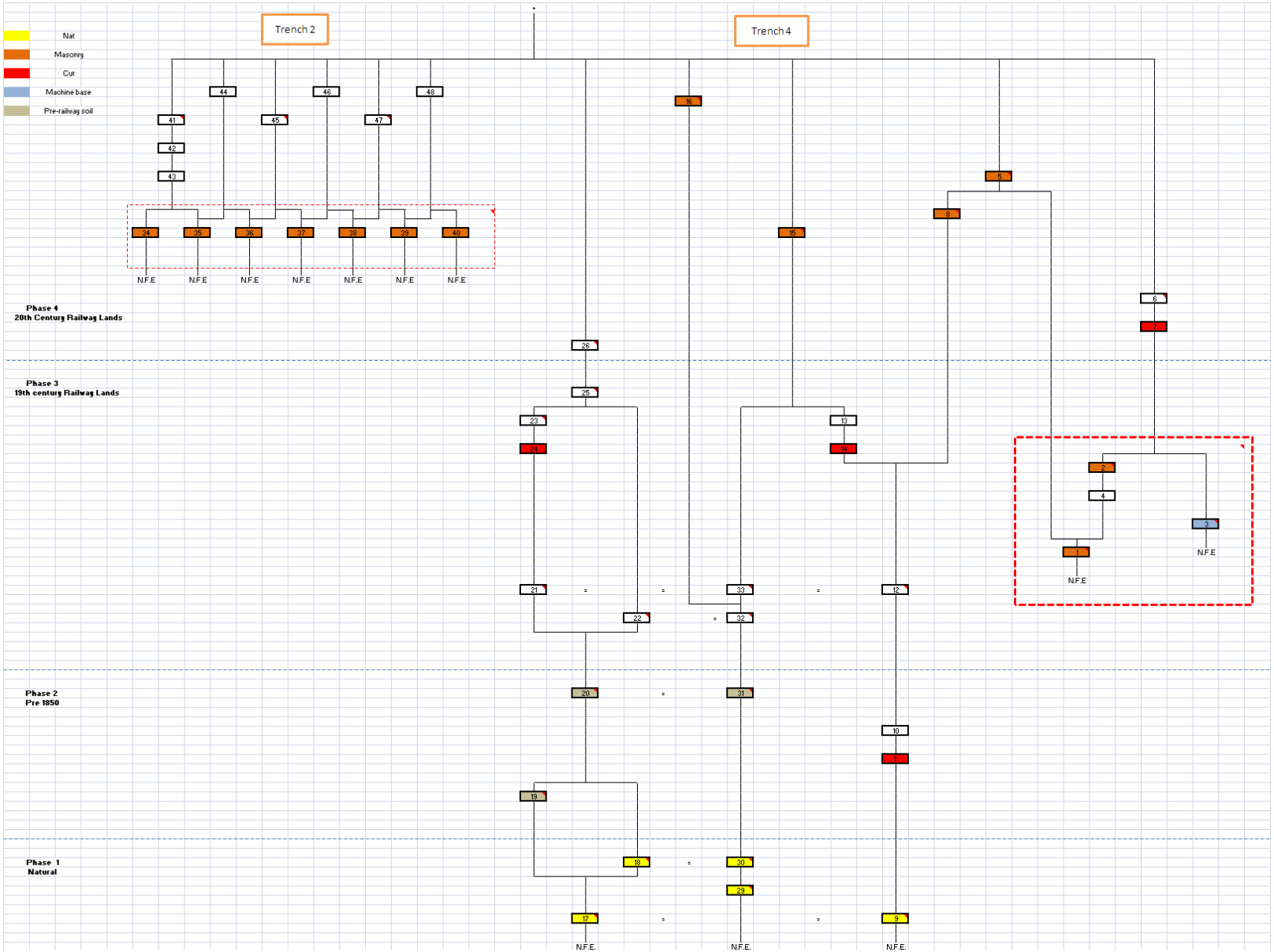
Townend P. N. 1975 *Top Shed* Ian Allen Ltd

APPENDIX 1 CONTEXT REGISTER

CONTEXT No	TYPE	AREA	PLANS	SECTIONS	TRENCH	DESCRIPTION	INTERPRETATION	HIGHEST LEVEL	Lowest LEVEL
1	Masonry	T 2	TR 4	N/A	TR 4	Victorian wall	External wall of the Top-Shed	25.75m OD	25.60m OD
2	Masonry	T 2	TR 4	N/A	TR 4	Floor	Internal floor of the Top-Shed	25.67m OD	N/A
3	Masonry	T 2	TR 4	N/A	TR 4	Machine base	Machine/engine base within Top-Shed	25.67m OD	25.66m OD
4	Layer	T 2	TR 4	N/A	TR 4	Bedding	Bedding sand for floor [2]	25.57m OD	N/A
5	Masonry	T 2	TR 4	N/A	TR 4	Surface	Exterior ground surface	25.52m OD	N/A
6	Fill	T 2	TR 4	N/A	TR 4	Fill of [7]	Backfill containing cast iron pipe	25.57m OD	N/A
7	Cut	T 2	TR 4	N/A	TR 4	Cut	Cut for cast iron pipe	25.57m OD	25.56m OD
8	Masonry	T 2	TR 4	N/A	TR 4	Inspection chamber	Inspection chamber with cast iron cover	25.59m OD	N/A
9	Layer	T 2	TR 4	N/A	TR 4	Clay	Natural clay	24.65m OD	N/A
10	Fill	T 2	TR 4	N/A	TR 4	Fill of [11]	Alluvial type fill of cut [11]	24.65m OD	N/A
11	Cut	T 2	TR 4	N/A	TR 4	Cut	Possible cut for clay extraction pit (quarry pit)	24.64m OD	N/A
12	Layer	T 2	TR 4	N/A	TR 4	Leveling layer	Black ashy railway levelling layer	25.43m OD	N/A
13	Fill	T 2	TR 4	N/A	TR 4	Fill of [14]	Victorian backfill (live CAT scan signal)	25.12m OD	N/A
14	Cut	T 2	TR 4	N/A	TR 4	Cut	Cut for Victorian service trench	25.12m OD	N/A
15	Masonry	T 2	TR 4	N/A	TR 4	Footing	20th Century concrete footing	25.65m OD	N/A
16	Masonry	T 2	TR 4	N/A	TR 4	Footing	20th Century concrete footing	25.63m OD	N/A
17	Layer	T 2	TR 4	1	TR 4	Clay	Natural clay	24.83m OD	N/A
18	Layer	T 2	N/A	1	TR 4	Clay	Alluvial clay layer	24.90m OD	N/A
19	Layer	T 2	N/A	1	TR 4	Layer	Redeposited clay	29.94m OD	N/A
20	Layer	T 2	N/A	1	TR 4	Layer	Pre-1850 deposit	25.09m OD	N/A
21	Layer	T 2	N/A	1	TR 4	Leveling layer	Black ashy railway levelling layer	25.32m OD	N/A
22	Layer	T 2	N/A	1	TR 4	Leveling layer	Red leveling layer	25.28m OD	N/A
23	Fill	T 2	N/A	1	TR 4	Fill of [24]	Fill of [24] with ceramic pipe fragments	25.34m	N/A
24	Cut	T 2	N/A	1	TR 4	Pipe cut	Cut for ceramic pipe	25.34m OD	N/A
25	Layer	T 2	N/A	1	TR 4	Leveling layer	Sand leveling deposit	25.40m OD	N/A
26	Layer	T 2	N/A	1	TR 4	Leveling layer	Black levelling deposit	25.80m OD	N/A

CONTEXT No	TYPE	AREA	PLANS	SECTIONS	TRENCH	DESCRIPTION	INTERPRETATION	HIGHEST LEVEL	Lowest LEVEL
27	Void	Void	Void	Void	Void	Void	Void	Void	Void
28	Void	Void	Void	Void	Void	Void	Void	Void	Void
29	Layer	T 2	N/A	2	TR 4	Gravels	Lens of gravels	24.68m OD	N/A
30	Layer	T 2	TR 4	2	TR 4	Clay	Alluvial clay layer	24.90m OD	24.48m OD
31	Layer	T 2	TR 4	2	TR 4	Layer	Pre-1850 deposit	25.20m OD	N/A
32	Layer	T 2	TR 4	2	TR 4	Leveling layer	Red leveling layer	25.44m OD	N/A
33	Layer	T 2	N/A	2	TR 4	Leveling layer	Black ashy railway levelling layer	25.80m OD	N/A
34	Masonry	T 4	TR 2	N/A	TR 2	Concrete footing	Part of Back pits	25.34m OD	N/A
35	Masonry	T 4	TR 2	N/A	TR 2	Concrete footing	Part of Back pits	25.34m OD	N/A
36	Masonry	T 4	TR 2	N/A	TR 2	Concrete footing	Part of Back pits	25.34m OD	N/A
37	Masonry	T 4	TR 2	N/A	TR 2	Concrete footing	Part of Back pits	25.34m OD	N/A
38	Masonry	T 4	TR 2	N/A	TR 2	Concrete footing	Part of Back pits	25.34m OD	N/A
39	Masonry	T 4	TR 2	N/A	TR 2	Concrete footing	Part of Back pits	25.34m OD	N/A
40	Masonry	T 4	TR 2	N/A	TR 2	Concrete footing	Part of Back pits	25.34m OD	N/A
41	Fill	T 4	TR 2	N/A	TR 2	Backfill	Railway yard surface	25.34m OD	N/A
42	Fill	T 4	TR 2	N/A	TR 2	Backfill	Surface Make-up	25.24m OD	N/A
43	Fill	T 4	TR 2	N/A	TR 2	Backfill	Surface Make-up	24.94m OD	N/A
44	Layer	T 4	TR 2	N/A	TR 2	Layer	Backfill of backpit [35,36]	25.34m OD	N/A
45	Fill	T 4	TR 2	N/A	TR 2	Backfill	Railway yard surface	25.34m OD	N/A
46	Layer	T 4	TR 2	N/A	TR 2	Layer	Backfill of backpit [37,38]	25.34m OD	N/A
47	Fill	T 4	TR 2	N/A	TR 2	Backfill	Railway yard surface	25.34m OD	N/A
48	Layer	T 4	TR 2	N/A	TR 2	Layer	Backfill of backpit [39,40]	25.34m OD	N/A

APPENDIX 2 MATRIX



APPENDIX 3: OASIS FORM

OASIS ID: preconst1-161269

Project details

Project name	An Archaeological Evaluation at, Northern Area, King's Cross Central, Trenches 2 and 4, London Borough of Camden N1 0AZ
Short description of the project	An archaeological evaluation was undertaken on the Northern Area of King's Cross central site. Two targeted trenches were excavated to ascertain the possible survival of outer wall of the 1850 locomotive repair shed, 'Top Shed' and an associated turntable. The excavation revealed natural clay to be overlain with post medieval soil horizons and a clay extraction pit, pre-dating the development of the railways. Remnants of the 1850s shed wall, a machine base, a brick floor and exterior yard surface were recorded. Four engine pits were recorded and the concrete footing of an external wall provided evidence of 1930s remodelling of the railway yard.
Project dates	Start: 25-09-2013 End: 09-10-2013
Previous/future work	Yes / Yes
Any associated project reference codes	KXR09 - Sitecode
Any associated project reference codes	KXI07 - Sitecode
Type of project	Field evaluation
Site status	Local Authority Designated Archaeological Area
Current Land use	Other 13 - Waste ground
Monument type	WALL Post Medieval
Monument type	FLOOR Post Medieval
Monument type	SURFACE Post Medieval
Monument type	LAYERS Post Medieval
Monument type	CUT Post Medieval
Monument type	WALLS Modern
Significant Finds	CTP Post Medieval
Significant Finds	POT Post Medieval
Methods & techniques	"Targeted Trenches"

Development type	Urban commercial (e.g. offices, shops, banks, etc.)
Prompt	Direction from Local Planning Authority - PPS
Position in the planning process	After full determination (eg. As a condition)

Project location

Country	England
Site location	GREATER LONDON CAMDEN CAMDEN An Archaeological Evaluation at, Northern Area, King's Cross Central, Trenches 2 and 4, London Borough of Camden N1 0AZ
Postcode	N1 0AZ
Study area	0 Square metres
Site coordinates	TQ 3031 8363 51 0 51 32 09 N 000 07 15 W Point
Height OD / Depth	Min: 24.65m Max: 24.83m

Project creators

Name of Organisation	Pre-Construct Archaeology Limited
Project brief originator	Argent (King's Cross) Limited
Project design originator	Richard Hughes
Project director/manager	Helen Hawkins
Project supervisor	Shane Maher

Project archives

Physical Archive recipient	LAARC
Physical Contents	"Ceramics"
Digital Archive recipient	LAARC
Digital Media available	"Images raster / digital photography","Spreadsheets","Survey","Text"
Paper Archive	LAARC

recipient		
Paper available	Media	"Context sheet","Diary","Drawing","Map","Matrices","Plan","Section","Survey "
Entered by		Shane Maher (shaniemacsadie@yahoo.co.uk)
Entered on		14 October 2013

APPENDIX 4: PHOTOGRAPHS

Plate 1: Trench 2 the 'Back Pits' looking northwest (1m scale)

Plate 2: Trench 2 the 'Back Pits looking southeast (1m scale)

Plate 3: Trench 4 looking south

Plate 4: Wall [1] showing internal floor [2], machine/engine base [3] and external surface [5] looking east

Plate 5: Section 2 showing mid-reddish brown burnt clay ballast [32], post medieval soil [31] and 1930's wall footing [15], looking east

Plate 6: Section 1 showing Natural Clay [17] and post medieval soils [19] and [20], looking east

APPENDIX 5: CERAMIC BUILDING MATERIALS SPOT DATES

Kevin Hayward
KXR-09
King's Cross Northern Area – Phase 2 Oct 2013 Evaluation

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
1	3032 3101	3032R Shallow frogged post great fire brick T1 mortar Hard brown mortar	6	1664	1900	1664	1900	1850-1900	1800-1900
2	3035 3101	Machine Frogged yellow Medway Brick T1 mortar Hard brown mortar	1	1780	1940	1780-	1940	1850-1925	1800-1900
3	3129	Burnt York stone machine base fragment	1	1700	1950	1700	1950	1800-1900	No mortar

Review

The assemblage consists of two whole post medieval bricks and one example stone. The frogged post great fire brick from [1] is identical to those used in the construction of the 1858/9 Kings Cross Midland Roundhouse (Derby Shed) KXR-09 (Hayward 2012). Dimensions 228x103x65mm are broadly the same whilst the same brown lime mortar (T1) was adhered to the bricks. Taken together this suggests that the wall [1] here is contemporary with the 1858/9 construction.

A machine made yellow Medway brick from [2] almost certainly is of contemporary or near contemporary build with broadly the same mortar T1. Finally, a fragment of a green banded micaceous York stone block quarried Namurian (Upper Carboniferous) beds of Yorkshire is present in [3]. This rock was used as pillar bases to the 1858/9 roundhouse (Hayward 2012).

Recommendations

The small building stone assemblage from KXR-09 reflects later 19th century development of the Railway Network around Kings Cross. The brick form, fabric and mortar type are comparable with those used in the 1858/9 Roundhouse construction suggesting the two are contemporary or near contemporary. On the basis of the building material alone there are no items of particular interest, and all will be discarded. The assemblage merely reflects contemporary or near contemporary construction of the 'Top Shed' associated with 1858/9 King's Cross Midland Roundhouse (Derby Shed) KXR-09.

Bibliography

Hayward, K.M.J. (2012). *Assessment of Building Material– The Roundhouse, York Way, London Borough of Camden KXR-09.* Unpublished Building Material Assessment Pre-Construct Archaeology Ltd.

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