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# North Pennines Archaeology Ltd

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Client Report No 971/10

March 2010

## **TOPOGRAPHIC SURVEY OF LAND AT THE FORMER WHITEMOOR MARSHALLING YARD, MARCH, CAMBRIDGESHIRE**

on behalf of

**WARDELL ARMSTRONG LLP**

NGR TL 4123 9873



Martin Railton BA Hons, MA, MIFA  
North Pennines Archaeology Ltd  
Nenthead Mines Heritage Centre  
Nenthead  
Alston  
Cumbria CA9 3PD  
Tel: (01434) 382045  
Fax: (01434) 382294  
Mobile: 07500878336  
Email: [m.railton@nparchaeology.co.uk](mailto:m.railton@nparchaeology.co.uk)



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Company Registration No. 4847034

VAT Registration No. 817 2284 31

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## SUMMARY

In February 2010, North Pennines Archaeology Ltd. (NPA) undertook a topographic survey of land at the Former Whitemoor Marshalling Yard, March, Cambridgeshire (centred on NGR TL 4123 9873). North Pennines Archaeology Ltd had been invited by Wardell Armstrong LLP to undertake an archaeological evaluation on the site, on behalf of their client, Network Rail. The survey was undertaken as an initial stage of archaeological investigation, in order to help inform a subsequent trial trench evaluation of the site.

The proposed evaluation area is currently unoccupied ground to the east of Hundred Road, on the north side of March. The archaeological works follow a development proposal by Network Rail to construct a National Track Materials Recycling Centre (NTMRC) for recovered rail material (Phase 2) on approximately 21.7ha of land adjacent to the recently completed Network Rail Local Distribution Centre (Phase 1). A desk-based assessment for the proposed development has already been completed by Jacobs, which demonstrated that the area had some archaeological potential in respect of its proximity to identified Romano-British sites, not least of which is the Fen Causeway, which is believed to have crossed the southern part of the proposed development area. Recent investigations to the west of Hundred Road have also revealed evidence of earlier prehistoric activity in the vicinity, including evidence for Bronze Age settlement.

The 19<sup>th</sup> and 20<sup>th</sup> century railway yards at Whitemoor are themselves considered to be of regional and national importance. From 1927 under the London and North Eastern Railway (LNER) Company the site developed to become the largest marshalling yard in Great Britain, employing 25% of the population of March. The marshalling yard also contained the first bi-directional gravity 'hump', which used gravity and an innovative hydraulic braking system to allow carriages to enter the sidings, where they were sorted automatically for transfer to their destinations. There are significant structural and archaeological remains associated with the development and functioning of the Whitemoor Marshalling Yard within the proposed development area, which constitute an important archaeological and cultural heritage resource. The industrial remains include the truncated remains of the gravity hump, control cabin and retarders, building foundations, turntables and rail lines, inspection/examination tunnels and ash pits.

The survey comprised a metric survey, designed to establish and record the extent and locations of all above ground structural remains within the proposed development area, including building foundations, turntables and rail lines associated with the former marshalling yard, and the locations of potential archaeological features such as inspection/examination tunnels and ash pits. The survey was also undertaken to record in plan the location and extent of earthwork features associated with the marshalling yard, in particular the remains of the



gravity hump. The survey was conducted in accordance with English Heritage guidelines and corresponded to an English Heritage Level 1/2 survey (English Heritage 2006).

The topographic survey identified a number of 19<sup>th</sup> and 20<sup>th</sup> century earthworks and structures which are directly related to the former Whitemoor Marshalling Yards. These included the foundations of the Loco Repair Shed/Engine Shed, Running Shed, Water Cooling Tank, Examination Tunnel, and the Locomotive Oil Fuelling Plant, which are recorded on plans of the former railway sidings. Two railway turntables, a number of inspection pits, sections of rail track and concrete/brick structures were also identified, as well as a number of modern concrete railway platforms and floor surfaces.

A number of earthworks were identified which correspond to the locations of 19<sup>th</sup> century railway sidings, as shown on the 1889 Ordnance Survey map of the site. The most notable feature is an earthwork platform which crosses the centre of the proposed development area and forms part of the bi-directional gravity hump. There was no visible evidence for the Fen Causeway Roman Road or other early features at the site. However, it is possible that evidence for these survives sub-surface beneath the 19<sup>th</sup>/20<sup>th</sup> earthworks of the former marshalling yard, or elsewhere across the site.

A series of WWII air raid shelters were also identified about which relatively little is known. Five of the shelters were simple brick-built surface bomb shelters, with a reinforced roof. One shelter is of a different design, with L-shaped entrance and an escape hatch.

The results of the survey are to be used to inform the design of a trench location plan for the trial trench evaluation of the site, targeting both features associated with the former marshalling yard, and potential sub-surface archaeological remains, in agreement with the Cambridgeshire Archaeology Planning and Countryside Advice Service.

## 1 INTRODUCTION

- 1.1 In February 2010, North Pennines Archaeology Ltd. (NPA) undertook a topographic survey of land at the Former Whitemoor Marshalling Yard, March, Cambridgeshire (centred on NGR TL 4123 9873). North Pennines Archaeology Ltd had been invited by Wardell Armstrong LLP to undertake an archaeological evaluation on the site, on behalf of their client, Network Rail. The survey was undertaken as an initial stage of archaeological investigation, in order to help inform a subsequent trial trench evaluation of the site.
- 1.2 The proposed evaluation area is currently unoccupied ground to the east of Hundred Road, on the north side of March. The archaeological works follow a development proposal by Network Rail to construct a National Track Materials Recycling Centre (NTMRC) for recovered rail material (Phase 2) on approximately 21.7ha of land adjacent to the recently completed Network Rail Local Distribution Centre (Phase 1). A desk-based assessment for the proposed development has already been completed by Jacobs, which demonstrated that the area had some archaeological potential in respect of its proximity to identified Romano-British sites, not least of which is the Fen Causeway, which is believed to have crossed the southern part of the proposed development area. Recent investigations to the west of Hundred Road have also revealed evidence of earlier prehistoric activity in the vicinity, including evidence for Bronze Age settlement.
- 1.3 The 19<sup>th</sup> and 20<sup>th</sup> century railway yards at Whitemoor are themselves considered to be of regional and national importance. From 1927 under the London and North Eastern Railway (LNER) Company the site developed to become the largest marshalling yard in Great Britain, employing 25% of the population of March. The marshalling yard also contained the first bi-directional gravity 'hump', which used gravity and an innovative hydraulic breaking system to allow carriages to enter the sidings, where they were sorted automatically for transfer to their destinations. There are significant structural and archaeological remains associated with the development and functioning of the Whitemoor Marshalling Yard within the proposed development area, which constitute an important archaeological and cultural heritage resource. The industrial remains include the truncated remains of the gravity hump, control cabin and retarders, building foundations, turntables and rail lines, inspection/examination tunnels and ash pits.
- 1.4 As a result of this potential, Cambridgeshire Archaeology Planning and Countryside Advice service (CAPCA) required that a scheme of archaeological investigation be implemented prior to the development taking place (Planning Application No. F/02006/09/CW). This work will consist of an archaeological

evaluation and subsequent open area excavation, as outlined in a CAPCA combined brief for archaeological evaluation and investigation, dated 19<sup>th</sup> November 2009 (Gdaniec 2009).

- 1.5 In January 2010 a project design for the archaeological evaluation was produced by North Pennines Archaeology Ltd (Railton 2010), which was subsequently approved by CAPCA. This was produced in accordance with the Institute for Archaeologists standards and guidance for archaeological evaluations (IfA 2008) and English Heritage *Management of Research Projects in the Historic Environment* (MoRPHE 2006), which now replaces English Heritage *The Management of Archaeological Projects* (MAP2 1991). This project design outlined the methodologies for undertaking a topographic survey (Stage 1) followed by an archaeological trial trench evaluation (Stage 2). This report presents the results of the Stage 1 topographic survey of the site.

## **2 BACKGROUND**

- 2.1 The site is located on former industrial land on the west side of the Former Whitemoor Marshalling Yard. It is bounded by Hundred Road to the west, with Longhill Road to the north and Commercial Road to the south (Figure 1). Immediately to the east of the site is the location of the recently completed Network Rail Local Distribution Centre (Phase 1). The geology of the area comprises mixed till deposits and March Gravels drift deposits where they overlie Ampthill Clay substrata. The site is currently unoccupied land with a large proportion of the area being covered by young trees and vegetation, which has now been removed.
- 2.2 The surrounding area is believed to have been occupied from an early period, when March was an island surrounded by salt water lagoons. There is evidence for human settlement near the fens from the Mesolithic period onwards, particularly along the fen edges and on the low lying islands within the fens, which offered the opportunity for hunting and fishing. Late Mesolithic and Early Neolithic worked flints were recovered during recent evaluations west of Hundred Road (see below).
- 2.3 The Cambridgeshire County Council Historic Environment Record (HER) records evidence of Bronze Age activity to the west of the site, uncovered during evaluation work at the Trading Park, Hundred Road (ECB2965 & ECD3027), where a dense concentration of pits, linear features, post holes and cremations in urns indicated intensive occupation during the Bronze Age. Fieldwork undertaken for Phase 1 of the Whitemoor Sidings development in 2003/4 revealed further Bronze Age features, as well as evidence for Roman

field systems (ECB2014), although the remains were heavily truncated by the effects of the 19<sup>th</sup> century and later railway yards. This suggests that further evidence for prehistoric occupation may survive within the present development area.

- 2.4 The HER records extensive evidence of Romano-British occupation and activity in the general area, but none which has been ascribed an Iron Age date. The most significant evidence of Romano-British activity in the area is represented by the large Roman settlement at Grandford and, of course, the Fen Causeway. In addition, cropmarks identified to the east and west of the proposed development area from aerial photographs, show enclosures and field systems that have been ascribed a Roman date, and appear to continue into the proposed development area.
- 2.5 The apparent lack of Iron Age activity recorded by the HER in the locality may reflect an absence of identification rather than a genuine absence of settlement during this period. Despite the fact that the peak of the water levels in the fens was reached in the Iron Age there is evidence that there was still considerable settlement on the islands and fen edge during this period.
- 2.6 The considerable evidence recorded on the HER for Roman activity and settlement within, and beyond, the immediate area, indicates that March island was intensively occupied during this period. The Fen Causeway, which is believed to pass through the southern part of the site, provided a strategic route through the fenlands and would have facilitated economic exploitation of the area which included salt production. The evaluation undertaken for Phase 1 of the Whitemoor Sidings development failed to identify the remains of the Fen Causeway. However, it was uncertain whether this was due to later truncation, or the insubstantial nature of the road as it crosses March island. Two possible alignments of the fen Causeway have been identified within the site. The identification of field systems of Roman date also suggests quite extensive arable and livestock farming in the area.
- 2.7 The HER does not record any evidence for Anglo Saxon activity within the search area. This does not, however, necessarily mean a lack of activity and/or occupation in the area during this period and the March island and fen edge was probably exploited in the same way as in earlier periods.
- 2.8 During the medieval period the settlement pattern of the area was characterised by dispersed villages and isolated farmsteads. By the 16<sup>th</sup> century March was a minor port, with barges used to transport coal and grain, but appears to have remained largely undeveloped through the post-medieval

period. The proposed development area was probably utilised as agricultural land throughout these periods.

- 2.9 The arrival of the railway in 1847 was the catalyst for the rapid expansion of March into a thriving market town. Whitemoor Marshalling Yard was first developed as rail sidings in the 1850s, and progressively expanded westwards. From 1927 under the London and North Eastern Railway (LNER) Company the site developed to become the largest marshalling yard in Great Britain, employing 25% of the population of March. The marshalling yard also contained the first bi-directional gravity 'hump', which used gravity to allow carriages to enter the sidings, where they were sorted automatically for transfer to their destinations. The Marshalling yard was also the first to use the Frohlich system of hydraulic breaks. The 'Up Yard' was situated on the eastern side of the main line, and was joined in 1933 by the 'Down Yard', replacing the sidings west of the main yard, giving the capacity to process 8000 wagons per day. Ordnance Survey maps of the site show the progressive development of the Marshalling Yards up to 1973. British Railways plans dated 1947 and 1948 also provide information as to the layout of buildings and other railway structures at the site.
- 2.10 During World War II a number of pill boxes and air-raid shelters were also built around the yard, which survive beneath piles of earth and later demolition debris. The 'Down Yard' was closed in 1972, and the remainder of the marshalling yard closed in the 1990s. The tracks were lifted, and all the buildings were demolished apart from the Water Tower and a small shed.

### **3 RESEARCH AIMS AND OBJECTIVES**

- 3.1 Planning Policy Guidance (PPG) Notes 15 and 16 stress the importance of preserving archaeological sites and deposits of national significance *in situ*. The preservation of archaeologically sensitive materials is preferable to their disturbance by whatever means, or, where this is not feasible, 'preservation by record'.
- 3.2 It has been highlighted that the 19<sup>th</sup> and 20<sup>th</sup> century railway yards at Whitemoor are considered to be of regional and national importance, and are a significant archaeological and cultural heritage resource. Whitemoor Marshalling Yard is considered important because of its size, early technical innovation, and its association with the growth of March. There is significant local interest in the railway as it was inextricably linked to the development and success of the town. This theme has been identified one requiring further research in the revised Research Framework for the Eastern Counties: "*The impact of the primary communication routes on the*

*region's development and character is of considerable interest, this includes major routes such as the Great North Road, secondary routes, railways, rivers and marine transport and ports." (Medleycott & Brown 2008, 108).*

- 3.3 One of the main aims of the project is therefore to evaluate and record the surviving structural and archaeological remains of the Whitemoor Marshalling Yard in order to determine the quality, quantity and significance of the surviving industrial elements of the site.
- 3.4 The specific objectives in relation to the Whitemoor Marshalling Yard are:
- To produce a scaled plan of surviving industrial structures and deposits associated with the 19<sup>th</sup> and 20<sup>th</sup> century railway yards, in order to facilitate an understanding of the layout and development of the site.
  - To excavate and record a representative sample of archaeological deposits and structures associated with the former marshalling yard, in order to determine the nature, extent and dates of industrial features.
  - Excavate sample sections through the surviving gravity hump, in order to determine the nature, construction and use of the hump, and to identify any evidence for features associated with its operation.
  - It is also a priority to retrieve the remains of any early locomotives, engines or machinery, which may survive within inspection pits or other industrial features at the site, as the retrieval and analysis of these may contribute to a reconstruction of the industrial archaeology of the yards.
- 3.5 The Research Framework for the Eastern Counties (Glazebrook 1997, Brown & Glazebrook 2000) sets out the research agenda for the region in terms of prehistoric and Roman-British archaeology. Although the potential for Bronze Age features within the present development area is yet to be determined, it is possible that the project may contribute to a number of research topics, including refining Bronze Age chronologies through scientific dating, defining cultural boundaries through artefacts, monuments and burial rites, and testing models of Bronze Age settlement and economy (Medleycott & Brown 2008, 31).
- 3.6 The possible enclosures and field systems identified on air photographs of the area have been ascribed a potential Roman date, and appear to continue into the proposed development area. This project therefore provides an opportunity to investigate Romano-British land-use, settlement and agricultural economy in the Roman fen lands.
- 3.7 For the Roman period infrastructure issues have been highlighted as an area for research, in particular Roman roads have been understudied (Medleycott & Brown 2008, 66). Investigation of the Fen Causeway, which is believed to have crossed the southern part of the proposed development

area, may provide information regarding the construction and use of this route, and provide research material regarding road infrastructure and environment in the Roman period.

- 3.8 The Stage 1 topographic survey outlined in this report was conducted in order to meet the requirements of the first of the objectives listed in Section 3.4 above, and to inform the subsequent trial trench evaluation work at the site.

## **4 METHODOLOGY**

- 4.1 The Stage 1 survey comprised a metric survey designed to establish and record the extent and locations of all above ground structural remains within the proposed development area, including building foundations, turntables and rail lines associated with the former marshalling yard, and the locations of potential archaeological features such as inspection/examination tunnels and ash pits. The survey was also undertaken to record in plan the location and extent of earthwork features associated with the marshalling yard, in particular the remains of the gravity hump.
- 4.2 The survey was undertaken following the removal of vegetation at the site and reduction of the existing tree cover to ground level. An initial walk-over survey was undertaken in order to assess the layout of the site and to identify features associated with the former marshalling yards, which were marked out with flags.
- 4.3 Archaeological features and surviving structures were subsequently surveyed in plan using a Topcon HiperPro differential GPS system. The principle plan components of visible archeological features and structures were established using a detail pole, mounted with a roving receiver and data logger. Measurements were stored directly within the instrument's memory. Existing survey stations, previously established at the site, were recorded by this method to improve survey accuracy.
- 4.4 Survey data was downloaded onto a laptop computer for initial data processing, and then exported as .dxf files in order to produce hachured plans using AutoCad 2007 software. These were incorporated into existing CAD plans of the site.
- 4.5 Pro-forma recording sheets were also completed for individual structures and earthworks in order to provide a descriptive record of the features being surveyed. Digital photographs were also be taken, a selection of which are included in the Appendix to this report.

- 4.6 The survey was conducted in accordance with English Heritage guidelines and corresponded to an English Heritage Level 1/2 survey (English Heritage 2006).

## 5 THE TOPOGRAPHIC SURVEY

### 5.1 *Introduction*

- 5.1.1 The survey was undertaken between 15<sup>th</sup> and 17<sup>th</sup> February 2010, and included all visible earthworks and historic structural remains contained within proposed development area. Areas of modern concrete and other impediments to the subsequent trial trench evaluation were also recorded (Figure 2).

- 5.1.2 At the time of the survey a number of modern stockpiles were present at the north and south ends of the site. A designated wildlife area was also marked out at the northeast corner of the survey area. Another area of woodland and retained vegetation was present at the southeast corner. These areas were inspected for archaeological features, but are not to be included in the subsequent trial trench evaluation. However, no significant earthworks or other features were believed to be present in these areas other than those included on the survey plans. Although the majority of the survey area had been cleared of vegetation by the time of the survey, soil covered much of the site and many of the historic railway features were only partially visible. Due to the presence of hibernating newts, it was not possible to expose these features further.

- 5.1.2 The results of the survey are depicted in Figures 3-5. Bold numbers on the plan refer to features identified during the walkover survey, which are listed in the gazetteer (Appendix I). Numbers in blue refer to the locations of historic structures previously identified by Wardell Armstrong LLP on historic maps and plans of the site.

- 5.1.3 A written summary of the earthworks and structures identified is included below. The numbers in square brackets refer to the feature numbers as depicted in the survey plan and listed in the gazetteer.

### 5.2 *Results*

- 5.2.1 The most notable earthwork at the site is a broad flat ridge running across the entire survey area, believed to be the remains of a bi-directional gravity hump [17] which formed part of the World War II Marshalling Yard. This used gravity to allow carriages to enter the former railway sidings, where they were sorted automatically for transfer to their destinations. The earthwork crosses the site in a southeast to northwest direction, being 50m wide for a distance of approximately 500m before narrowing to c.22m at the northern end (Plate 18). The earthwork comprises a level raised platform of land for the former railway tracks, being approximately 1m high at the south end. The platform has 2m-



wide 0.7m-high earth banks on the east and west sides over much of its length (Plate 19). At the centre of the platform there is a 15m-wide gap in the western bank where it has been interrupted by a modern track. The earthwork levels out at the north end of the survey area, in the vicinity of modern stock piles.

- 5.2.2 No features were visible on the upper surface of this earthwork, apart from a rectangular brick-built structure at the northern end [15]. This was situated on the eastern edge of the earthwork, and comprised a 2.5m-long, 2.25m-wide, 0.6m-high structure with a 0.7m-wide opening on the west side (Plate 16). Below this, inserted into the east side of the earthwork were a series of brick piers forming at least four 3.6m-long 2m-wide bays, largely filled with brick rubble. These structures are immediately to the north of the site of the shunters and stores recorded on the 1947 railway plan. The date of the brick structures is uncertain, but the piers may have either have formed a supporting structure or been used as storage bays.
- 5.2.3 The gravity hump earthwork overlies an earlier earthwork [19] at the northeast side of the site. This earlier earthwork is a 200m-long 20m-wide 0.5m-high earthwork platform, which corresponds to the location of former railway track beds, and possibly relates to rail tracks shown on the 1889 Ordnance Survey map. A similar 230m-long 38m-wide 1m-high earthwork platform [18] was identified to the west of the gravity hump, which also corresponds to the location of former railway track beds. An earthwork in this location is shown on the 1889 Ordnance Survey map and may relate to the former 'Down yard' rail tracks. This earthwork is partly covered at the north end by a prominent linear earthwork [13]. Another 120m-long 10m-wide 0.5m-high earthwork platform [20] was identified on the south side of the survey area, which appears to run underneath the modern access road. This feature also corresponds to the approximate location of former railway track beds shown on the 1889 Ordnance Survey map.
- 5.2.4 Earthwork [13] is a 150m-long linear earthwork situated at the centre of the proposed development area, aligned approximately northwest to southeast (Plate 13). The central part of the earthwork forms a rectangular area measuring 24m long, 10m wide and 2m high, which is immediately east of a rectangular structure [14], the possible site of an examination tunnel. To the north the earthwork narrows to 40m-long 4m-wide 1m-high, narrow ridge. The southern end of the earthwork is 70m long, 2m wide and 1m high. The nature of this earthwork is uncertain, but it appears to be later than a broad earthwork platform of the former 'Down yard' rail tracks [19]. The loco coal wagon storage sidings are marked in this location on the 1948 railway plan.
- 5.2.5 A short section of rail track and track bedding material [08] was identified at the eastern edge of the survey area, along with a series of *in situ* railway

sleepers. The track measures c.22m long, and comprises two linear 0.5m-wide 0.3m-deep trenches, adjacent to a series of ten 2.6m-long, 0.2m-wide, 0.1m-thick timber sleepers with rail tie plates attached, spaced 1.5m apart. A rail track is first shown in shown this location on the 1947 railway plan.

- 5.2.6 A number of brick and concrete foundations were identified during the survey, some of which can be related to named structures on historic maps and plans of the site. Two 7m by 12m concrete floors [01] were noted immediately to the east and west of a standing shed on the south side of the site (Plate 1 and Plate 2), which is identified as the Tube Store on the 1947 railway plan of the site. To the east of this building are a series of parallel brick and concrete foundations and brick floors [03] which correspond to the location of the Loco Repair Shed as marked on the 1947 railway plan, as well engine sheds marked on Ordnance Survey plans of the site from 1899 onwards. A series of rectangular concrete bases are also present [04], which are believed to be associated with later structures at this location.
- 5.2.7 No visible evidence was present for the Shed Master's Office, Pay Clerk's Office, Clothing Store or Cycle Shed, which are shown on the 1948 railway plan along the southern edge of the site. This part of the site is now under the cycle path created in Phase 1. However, there were a number of sub-surface concrete surfaces in this area which may be associated with these structures. No evidence was visible for the former Blacksmith's Shop (on the 1947 railway plan) but this location is beneath a modern stockpile, as are the sunken ash wagon roads (1947 and 1948 railway plans) and Hump Control Cabin (1947 railway plan) at the north end of the site. Further sub-surface concrete surfaces were identified in the location of the former Cycle Shed, First Aid Room, Engineman's Mess Room, Booking on Lobby, Locker Room and associated offices (1948 railway plan), although no standing structures were identified. A concrete surface was identified in the vicinity of the sand dryer (1947 railway plan) and firedroppers mess room (1948 railway plan) within the designated wildlife area. The locations of the Down Tranship Shed and Up Tranship Shed (1947 railway plan) were inspected but no structures were visible.
- 5.2.8 A well-preserved water-cooling tank [07] was recorded on the west side of the survey area. This comprised a sunken concrete structure measuring 18m by 20m internally, being 0.5m deep (Plate 8). This tank is shown on the 1947 railway plan. A series of concrete fuel tanks, identified as the Locomotive Oil Fuelling Plant (1948 railway plan) was recorded on the northwest side of the survey area [16]. The structure is 83m long and 16m wide with four tanks measuring 9.7m in diameter. This structure is within a designated wildlife area, and will be left *in situ* under the proposed development.

- 5.2.9 Two railway turntables were recorded during the survey. The first was located at the north side of the survey area and comprised a brick foundation, with external timber walkway [09], measuring 25m in diameter. An associated signal post, pulley and cable were also present (Plate 9). This structure is marked as a post-1946 turntable on the 1948 railway plan. The second turntable is situated 330m to the south, and comprises a short section of brick edging [11], the remainder of the structure being covered by soil (Plate 11). The diameter of this turntable can be estimated as c.22m. It is marked as a pre-1946 turntable on the 1948 railway plan, although the brickwork appears more recent. Both turntables are soil covered, and only parts of the outer structures were visible. No evidence for internal features was identified.
- 5.2.10 A series of soil-filled brick-lined inspection pits [10] and other sub-surface concrete structures were identified (Plate 10). These were estimated to be 17m-long and 1.2m-wide, but are of unknown depth. To the north of these were a series of concrete bases [12], covering an area approximately 40m long and 22m wide (Plate 12). These features correspond to the location of the Main Running Shed as shown on the 1947 and 1948 railway plans. A soil-covered concrete surface is present to the southeast of these foundations, marked as the site of filters and boiler washers on the 1948 railway plan. The site of the former Coaling Station is marked on the 1947 railway plan, to the southeast of these features, but no evidence for this was visible at the time of the survey.
- 5.2.11 The 27.5m-long 6m-wide foundations of the former Examination Tunnel [14] were recorded on the north side of the survey area, immediately to the west of a prominent linear earthwork [13]. The structure comprised parallel 0.4m-wide concrete foundations for the tunnel, with 1.6m-wide concrete floors, and a central 2.3m-wide soil-filled rail bed. The Examination Tunnel is recorded at this location on the 1947 railway plan (Plate 14).
- 5.2.12 A 24m-long 10m-wide raised concrete platform [02] was recorded on the southern edge of the site, which appears to be associated with a series of concrete surfaces and a former track bed along the southern edge of the survey area. A structure is shown in this location on the 1959 and later Ordnance Survey maps of the site, but is not shown on the 1948 railway plan. Another concrete platform [05] with electric lighting was recorded to the north of these features, which is believed to be relatively recent. A small brick and concrete stand [06] was also recorded to the east of this platform, which may have formed an electric light stand (Plate 7).
- 5.2.13 A series of six World War II surface air raid shelters were identified around the periphery of the survey area [21]-[26]. Of these, five were very similar earth-covered mounds measuring 15-20 in length, 10-13m wide, and up to 3m high. At the time of the survey very little was visible of the air-raid shelters

themselves. However, it was possible to ascertain that these were a simple bomb-shelters constructed of red brick walls, with an arched reinforced roof. Fortunately the entrance to Air Raid Shelter #6 was exposed at the east end of the mound (Plate 26). This comprised a 1m-wide entrance with a concrete lintel, leading into a brick passage with outer blast wall (Plate 27). It was not deemed safe to enter the structure. However, a survey of one of the shelters has previously been undertaken by Wardell Armstong LLP.

- 5.2.14 Air Raid Shelter #5 appeared to be a different design to the other examples. It comprises an earth-covered mound approximately 16m long, 10m wide and 2m high, at the north end of a 70m-long earthwork. The entrance to the shelter was exposed, and comprised a 1.8m-high 0.9m-wide square entrance with a concrete lintel, leading to an L-shaped entrance passage (Plate 24). The shelter has a 0.9m square, brick lined escape hatch at the north end of the roof, covered by an iron door (Plate 25).

## 5 CONCLUSIONS

- 5.1 The topographic survey identified a number of 19<sup>th</sup> and 20<sup>th</sup> century earthworks and structures which are directly related to the former Whitemoor Marshalling Yards. These included the foundations of the Loco Repair Shed/Engine Shed, Running Shed, Water Cooling Tank, Examination Tunnel, and the Locomotive Oil Fuelling Plant, which are recorded on plans of the former railway sidings. Two railway turntables, a number of inspection pits, sections of rail track and concrete/brick structures were also identified, as well as a number of modern concrete railway platforms and floor surfaces.
- 5.2 The majority of the structures were only partially visible due to the growth of vegetation and soil development since the yard was abandoned and buildings demolished in the 1970's. However, a number of the historic railway structures will be examined as part of the trial trench evaluation of the site, which will provide further information on the form, construction and use of these features.
- 5.3 A number of earthworks were identified which correspond to the locations of 19<sup>th</sup> century railway sidings, as shown on the 1889 Ordnance Survey map of the site. The most notable feature is an earthwork platform which crosses the centre of the proposed development area. This forms part of a bi-directional gravity hump, which used gravity to allow carriages to enter the sidings, where they were sorted automatically for transfer to their destinations.
- 5.4 There was no visible evidence for the Fen Causeway Roman Road or other early features at the site. However, it is possible that evidence for these survives sub-surface beneath the 19<sup>th</sup>/20<sup>th</sup> earthworks of the former marshalling yard, or elsewhere across the site.
- 5.5 The results of the survey are to be used to inform the design of a trench location plan for the Stage 2 trial trench evaluation of the site, targeting both features associated with the former marshalling yard, and potential sub-surface archaeological remains.
- 5.6 A series of WWII air raid shelters were also identified about which relatively little is known. Five of the shelters were simple brick-built surface bomb shelters, with a reinforced roof. One shelter is of a different design, with L-shaped entrance and an escape hatch.

## 6 ACKNOWLEDGEMENTS

North Pennines Archaeology is grateful to Helen Martin-Bacon, Wardell Armstrong LLP for commissioning the survey, and for her assistance with the project. Thanks are also due to Dave Porter and his staff at Cheetham Hill Construction for their assistance during the fieldwork.

The earthwork survey was conducted by Martin Railton, NPA Project Manager, with the assistance of Angus Clark, NPA Archaeologist and Stuart Barton NPA Surveyor. This report was prepared and illustrated by Martin Railton.

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## Appendix I: Survey Gazetteer

<b>Feature No</b>	01
<b>WA Site No</b>	07 Tube Store
<b>Title</b>	Building/Structure
<b>Easting</b>	541190
<b>Northing</b>	298389
<b>Period(s)</b>	20 <sup>th</sup> century (pre-1947?)
<b>Description</b>	A standing red brick-built building known as the Shed, is situated at the southwest corner of the development area, identified as the site of the Tube Store on a 1947 railway plan. Structure 01 consists of two areas of concrete hard standing adjoining the east and west sides of the building, each measuring 7m wide and 12m long. These are interpreted as former floor surfaces associated with the Shed, which was originally part of a larger building. This is confirmed by wall scars, and a blocked doorway on the east and west sides of the building (see Plates 1 and 2, below). The building appears to be present on Ordnance Survey maps from at least 1958 onwards, situated immediately to the east of the Engine Shed (WA Site 01). The floors are partly covered by a modern stock pile on the south side.



*Plate 1. The Shed (Structure 01) looking west.*





*Plate 2. The Shed, showing the outline of a former extension to the building, looking northeast*

<b>Feature No</b>	02
<b>WA Site No</b>	N/A
<b>Title</b>	Structure
<b>Easting</b>	541174
<b>Northing</b>	298339
<b>Period(s)</b>	20 <sup>th</sup> century (pre-1959)
<b>Description</b>	Structure 02 comprises a raised rectangular concrete railway platform on the southern edge of the development area. The platform is 10m wide, 24m long, and 0.8m high, with an outer step measuring 0.3m wide and 0.4m high, upon which were the foundations of a red brick structure at the western end (Plate 3). No detail was visible at the surface of the platform, which was overgrown with vegetation. The platform appears to be associated with a series of other concrete surfaces running along the southern periphery of the site. It is first shown on the 1959 Ordnance Survey map of the site.



*Plate 3. Structure 02 looking east.*

<b>Feature Nos</b>	03 and 04
<b>WA Site No</b>	01 Loco Repair Shed/Engine Sheds
<b>Title</b>	Building/Structure
<b>Easting</b>	541243
<b>Northing</b>	298383
<b>Period(s)</b>	19 <sup>th</sup> century (pre-1889 with later additions)
<b>Description</b>	Structure 03 comprises the brick and concrete foundations of an engine shed, first illustrated as the NER Engine Shed on the Ordnance Survey map of 1889. A series of three parallel red brick and concrete wall foundations are visible immediately to the south of the modern access road on the south side of the development area. These are at least 30m long, 0.65m wide and 0.3m high, with a 3.9m-wide internal space (for a locomotive?), and 0.34m-wide brick floor on the north side. These walls were largely overgrown by vegetation at the time of the survey, were covered by a gravel track to the west, and were mostly covered by stockpiles to the east and west. The site is marked as the Loco Repair Shed on the 1947 railway plan, and is labelled as 'Old Shed' on a 1948 railway plan.

Structure 04 comprises a further 36m-long 10m-wide series of parallel concrete walls, blocks and surfaces which were visible to the south of these foundations. These included a regular series of bolted concrete bases for rail tie plates and machinery, measuring 0.4m by 0.4m and 0.6m by 0.8m. These are almost certainly later additions, and may relate to one of two engine sheds marked on Ordnance Survey maps of 1973 and 1988 (Plates 4 and 5).



*Plate 4. Structure 04 looking east.*



*Plate 5. Detail of structure 04 looking east.*

<b>Feature No</b>	05
<b>WA Site No</b>	N/A
<b>Title</b>	Structure
<b>Easting</b>	541259
<b>Northing</b>	298440
<b>Period(s)</b>	20 <sup>th</sup> century

**Description** Structure 05 comprises a 42m-long 25m-wide concrete surface, forming part of a former railway platform. The surface has a series of embedded bolts for rail tie plates, and is flanked by electric lamp posts and iron fuse/switch boxes. This feature is almost certainly associated with later railway operations, and may be associated with the northernmost of the two engine sheds marked on Ordnance Survey maps of 1973 and 1988 (Plate 6).



*Plate 6. Structure 05 looking east.*

**Feature No** 06  
**WA Site No** N/A  
**Title** Structure  
**Easting** 541148  
**Northing** 298468  
**Period(s)** 20<sup>th</sup> century  
**Description** A rectangular brick structure measuring 1.2m long, 1.4m wide and 0.4m high was identified at the southwest corner of the site. It comprised four courses of brick and two concrete blocks forming a small base. The structure does not appear on historic Ordnance Survey maps of the site, but it is possible it functioned as a light stand, or other railway feature, as a number of used 100 watt light bulbs were found nearby (Plate 7).





*Plate 7. Structure 06 looking east.*

<b>Feature No</b>	07
<b>WA Site No</b>	12 Water Cooling Tank
<b>Title</b>	Structure
<b>Easting</b>	541124
<b>Northing</b>	298675
<b>Period(s)</b>	20 <sup>th</sup> century (pre-1947)
<b>Description</b>	Structure 07 is a sunken concrete water cooling tank on the east side of the proposed development area, which is shown on the 1947 railway plan (Plate 8). It measures 20m long, 18m wide and 0.5m deep internally with a concrete flag floor and moulded concrete lip. The west side was covered by demolition rubble at the time of the survey, but the structure appears well-preserved.



*Plate 8. Water cooling tank (Structure 07) looking southeast.*

**Feature No** 08  
**WA Site No** N/A  
**Title** Earthwork/Structure  
**Easting** 541101  
**Northing** 298768  
**Period(s)** 20<sup>th</sup> century (pre-1947?)  
**Description** Feature 08 is a surviving section of railway on the eastern edge of the proposed development area, which is first shown in shown this location on the 1947 railway plan. It measures c.22m long, and comprises two linear 0.5m-wide 0.3m-deep trenches, adjacent to a series of ten 2.6m-long, 0.2m-wide, 0.1m-thick timber sleepers with rail tie plates attached, spaced 1.5m apart.

**Feature No** 09  
**WA Site No** 13 Post-1946 Turntable  
**Title** Structure  
**Easting** 541134  
**Northing** 298882  
**Period(s)** 20<sup>th</sup> century (post-1946)  
**Description** Structure 09 is the site of a railway turntable shown on the 1947 and 1948 railway plans (Plate 9). Only a small proportion of the perimeter of the turntable was visible at the time of the survey. This comprised a 0.2m-wide, 0.4m-deep brick perimeter, with an external 1.2m-wide timber walkway, and a 0.05m diameter twisted iron cable for turning the plate. The total diameter was approximately 25m. On the east side of the turntable there is a surviving signal post with bracket and wheel for a pulley system, which would have been used to control the signal. No internal features were visible.



*Plate 9. Post-1946 turntable and signal post (Structure 09) looking north.*

<b>Feature No</b>	10
<b>WA Site No</b>	N/A
<b>Title</b>	Structures
<b>Easting</b>	541209
<b>Northing</b>	298619
<b>Period(s)</b>	20 <sup>th</sup> century
<b>Description</b>	A series of at least four 17m-long, 1.2m-wide brick-lined inspection pits of unknown depth were identified in the southern part of the survey area, aligned northwest to southeast. These were only partially visible at the time of the survey, but had moulded brick edging with bolts for railway tie plates along the sides (Plate 10). The foundations of two rectangular concrete tanks or chambers were also identified to the south.



*Plate 10. Outline of an inspection pit (Structure 10) looking north.*

<b>Feature No</b>	11
<b>WA Site No</b>	17 Pre-1946 Turntable
<b>Title</b>	Structure
<b>Easting</b>	541193
<b>Northing</b>	298557
<b>Period(s)</b>	20 <sup>th</sup> century (pre-1946)
<b>Description</b>	Structure 11 is the site of a railway turntable shown on the 1948 railway plan, which appears to have been redundant by the time of the



plan was produced (Plate 11). Only a small proportion of the perimeter of the turntable was visible at the time of the survey. This comprised a small section of the 0.5m-wide brick perimeter, which appeared relatively recent being constructed from modern grey brick. No internal features were visible; however it was possible to estimate the diameter of the turntable as 22m.



*Plate 11. Edge of a pre-1946(?) turntable (Structure 11) looking east.*

<b>Feature No</b>	12
<b>WA Site No</b>	10 Running Shed
<b>Title</b>	Building/Structure
<b>Easting</b>	541197
<b>Northing</b>	298674
<b>Period(s)</b>	20 <sup>th</sup> century (pre-1947)
<b>Description</b>	A parallel series of 0.5m-wide 0.4m-deep concrete foundations were identified at the site of the Main Running Shed shown on the 1947 and 1948 railway plans, covering an area measuring approximately 40m by 22m. These contained a regular series of bolts which may have supported rails. Three lines of bases appeared to be <i>in situ</i> , however the bases to the east appeared to be dislocated (Plate 12).





*Plate 12. Concrete foundations of the Main Running Shed (Structure 12) looking north.*

<b>Feature No</b>	13
<b>WA Site No</b>	N/A
<b>Title</b>	Earthwork
<b>Easting</b>	541191
<b>Northing</b>	298779
<b>Period(s)</b>	20 <sup>th</sup> century (post-1958?)
<b>Description</b>	Earthwork 13 is a 150m-long linear earthwork situated at the centre of the proposed development area, aligned approximately northwest to southeast (Plate 13). The central part of the earthwork forms a rectangular area measuring 24m long, 10m wide and 2m high, which is immediately east of a rectangular structure (Structure 14), the possible site of an examination tunnel. To the north the earthwork narrows to 40m-long 4m-wide 1m-high, narrow ridge. The southern end of the earthwork is 70m long, 2m wide and 1m high. The nature of this earthwork is uncertain, but it appears to be later than a broad earthwork platform of the former 'Down yard' rail tracks (Earthwork 19), and may therefore be relatively modern.



*Plate 13. Linear earthwork (Earthwork 13) looking north.*

<b>Feature No</b>	14
<b>WA Site No</b>	21 Examination Tunnel
<b>Title</b>	Structure
<b>Easting</b>	541179
<b>Northing</b>	298773
<b>Period(s)</b>	20 <sup>th</sup> century (pre-1947?)
<b>Description</b>	Structure 14 comprises the probable foundations of the former Examination Tunnel, shown on the 1947 railway plan. It consists of two parallel concrete foundations measuring 27.5m long, 0.4m wide and 0.15m high, which would have supported the roof structure. Each have a 0.2m-wide groove containing the bases of former girders spaced at regular 2.5m intervals. Two 1.65m-wide concrete floors flank a central 2.3m-wide rail bed, the whole structure measuring 6m across (Plate 14).



*Plate 14. Possible foundations of the Examination Tunnel (Structure 14) looking north.*

<b>Feature No</b>	15
<b>WA Site No</b>	N/A
<b>Title</b>	Structure
<b>Easting</b>	541176
<b>Northing</b>	299052
<b>Period(s)</b>	20 <sup>th</sup> century
<b>Description</b>	Structure 15 comprises a series of brick piers and walls inserted into the east side of the gravity hump earthwork (Earthwork 17), on the north side of the survey area. The piers are approximately 1.5m long, 1m high and 0.3m-wide with 0.5m square ends, constructed of modern grey brick. Large parts of the structure are covered by deposits of brick rubble, but at least four or five 3.6m-wide bays could be identified, which may relate to a former building or storage facility (Plate 15). A square red brick structure measuring 2.5m long, 2.25m wide and 0.6m high was identified on the north end of the piers (Plate 16). This had a 0.7m high opening on the west side. The nature of these structures is uncertain but the piers at least appear relatively modern.



*Plate 15. Brick pier of a former structure (Structure 15) on the east side of the gravity hump looking east.*





*Plate 16. Brick structure (Structure 15) on the east side of the gravity hump looking northeast.*

<b>Feature No</b>	16
<b>WA Site No</b>	14 Locomotive Oil Fuelling Plant
<b>Title</b>	Structure
<b>Easting</b>	541137
<b>Northing</b>	299009
<b>Period(s)</b>	20 <sup>th</sup> century (pre-1948)
<b>Description</b>	Structure 16 comprises a series of concrete fuel tanks, identified as the Locomotive Oil Fuelling Plant on the 1948 railway plan. The structure is 83m long and 16m wide with four tanks measuring 9.7m in diameter. The tank lies within a designated wildlife area and will not be included in the archaeological evaluation (Plate 17).



*Plate 17. Concrete fuel tanks (Structure 16) on the northwest side of the survey area looking southeast.*

<b>Feature No</b>	17
<b>WA Site No</b>	N/A
<b>Title</b>	Earthwork
<b>Easting</b>	541221
<b>Northing</b>	298883
<b>Period(s)</b>	20 <sup>th</sup> century (pre-1947)
<b>Description</b>	Earthwork 17 is believed to be a bi-directional gravity hump, which used gravity to allow carriages to enter the former railway sidings, where they were sorted automatically for transfer to their destinations. The earthwork crosses the side in a southeast to northwest direction, being 50m wide for a distance of approximately 500m before narrowing to c.22m at the northern end (Plate 18). The earthwork comprises a level raised platform of land for the former railway lines, being approximately 1m high at the south end. The platform has 2m-wide 0.7m-high earth banks on the east and west sides over much of its length (Plate 19). At the centre of the platform there is a 15m-wide gap in the western bank where it has been interrupted by a modern track. The earthwork levels out at the north end of the survey area.



*Plate 18. The southeast side of the bi-directional gravity hump (Earthwork 17) looking north*



*Plate 19. Earth bank on the west side of the gravity hump (Earthwork 17) looking north*

**Feature No** 18  
**WA Site No** N/A  
**Title** Earthwork  
**Easting** 541251  
**Northing** 298651  
**Period(s)** 19<sup>th</sup> century (pre-1889)  
**Description** Earthwork 19 is a 230m-long 38m-wide 1m-high earthwork platform to the west of the gravity hump (Earthwork 18), which corresponds to the location of former railway track beds. An earthwork in this location is shown on the 1889 Ordnance Survey map and may relate to this feature. The earthwork is partly covered at the north end by Earthwork 13.

**Feature No** 19  
**WA Site No** N/A  
**Title** Earthwork  
**Easting** 541181  
**Northing** 299083  
**Period(s)** 19<sup>th</sup> century (pre-1889)  
**Description** Earthwork 20 is a similar 200m-long 20m-wide 0.5m-high earthwork platform to the northeast of the gravity hump. This feature also corresponds to the location of former railway track beds, and probably relates to rail tracks shown on the 1889 Ordnance Survey map. It is overlain by the north end of the gravity hump (Earthwork 18), indicating that this is an earlier feature.

**Feature No** 20  
**WA Site No** N/A  
**Title** Earthwork  
**Easting** 541255  
**Northing** 298419  
**Period(s)** 19<sup>th</sup> century (pre-1889?)  
**Description** Earthwork 20 is a 120m-long 10m-wide 0.5m-high earthwork platform on the south side of the survey area, which appears to run underneath the modern access road. This feature also corresponds to the approximate location of former railway track beds shown on the 1889 Ordnance Survey map. However, it is also possible that this relates to later railway operations.

**Feature No** 21  
**WA Site No** N/A  
**Title** Air Raid Shelter #1  
**Easting** 541164  
**Northing** 298520  
**Period(s)** 20<sup>th</sup> century (WWII)  
**Description** Structure 20 is one of six earth-covered World War II air raid shelters, that have been identified within the proposed development area. Air Raid Shelter #1 is situated at the southwest corner of the site, and comprises an earth-covered mound approximately 20m long, 13m wide and 3m high (Plate 20). No part of the air raid shelter is visible, apart from a small aperture on the west side, through which part of a square concrete entrance passage is visible.



*Plate 20. Air Raid Shelter #1 (Structure 21) looking southwest*



**Feature No** 22  
**WA Site No** N/A  
**Title** Air Raid Shelter #2  
**Easting** 541138  
**Northing** 298639  
**Period(s)** 20<sup>th</sup> century (WWII)  
**Description** Air Raid Shelter #2 is situated c.120m to the north of the first shelter, on the west side of the site, and comprises a similar earth-covered mound approximately 15m long, 10m wide and 3m high. No part of the air raid shelter is visible.

**Feature No** 23  
**WA Site No** N/A  
**Title** Air Raid Shelter #3  
**Easting** 541093  
**Northing** 298864  
**Period(s)** 20<sup>th</sup> century (WWII)  
**Description** Air Raid Shelter #3 is situated further c.220m to the north at the northwest corner of the site, and comprises a similar earth-covered mound approximately 20m long, 12m wide and 3m high (Plate 21). Part of the end wall of the air raid shelter is visible, and comprises a red brick wall with arched felted roof (Plate 22).



*Plate 21. Air Raid Shelter #3 (Structure 23) looking northwest*





*Plate 22. Part of the end wall of Air Raid Shelter #3 (Structure 23) looking northwest*

<b>Feature No</b>	24
<b>WA Site No</b>	N/A
<b>Title</b>	Air Raid Shelter #4
<b>Easting</b>	541165
<b>Northing</b>	298989
<b>Period(s)</b>	20 <sup>th</sup> century (WWII)
<b>Description</b>	The fourth shelter (Air Raid Shelter #4) is situated 140m to the northwest adjacent to the gravity hump earthwork, and comprises a similar earth-covered mound approximately 17m long, 10m wide and 3m high (Plate 23). Part of the end wall and domed felted roof of the air raid shelter is visible.



*Plate 23. Air Raid Shelter #4 (Structure 24) showing part of the roof, looking northwest*

<b>Feature No</b>	25
<b>WA Site No</b>	N/A
<b>Title</b>	Air Raid Shelter #5
<b>Easting</b>	541141
<b>Northing</b>	299232
<b>Period(s)</b>	20 <sup>th</sup> century (WWII)
<b>Description</b>	Air Raid Shelter #5 is situated c.240m to the north on the northern edge of the proposed development area. It comprises an earth-covered mound approximately 16m long, 10m wide and 2m high, at the north end of a 70m-long earth ridge. The entrance to the shelter is exposed, and comprises a 1.8m-high 0.9m-wide square entrance with a concrete lintel, leading to an L-shaped entrance passage (Plate 24). The shelter has a 0.9m square, brick lined escape hatch at the north end of the roof, covered by an iron door (Plate 25). This air raid shelter appears to be different in design to the previous four examples, although only limited information is available on the layout of these as access is limited.



*Plate 24. Entrance to Air Raid Shelter #5 (Structure 25) looking north*





*Plate 25. Escape hatch for Air Raid Shelter #5 (Structure 24) looking south*

<b>Feature No</b>	26
<b>WA Site No</b>	N/A
<b>Title</b>	Air Raid Shelter #6
<b>Easting</b>	541295
<b>Northing</b>	298433
<b>Period(s)</b>	20 <sup>th</sup> century (WWII)
<b>Description</b>	Air Raid Shelter #6 appears to be similar in design to Shelters 1-4. It is situated at the south end of the proposed development area, and comprises an earth-covered mound approximately 16m long, 10m wide and 3m high (Plate 26). The entrance to the shelter is visible at the east end of the mound, and comprises a 1m-wide entrance with a concrete lintel, leading into a brick passage with outer blast wall (Plate 27).



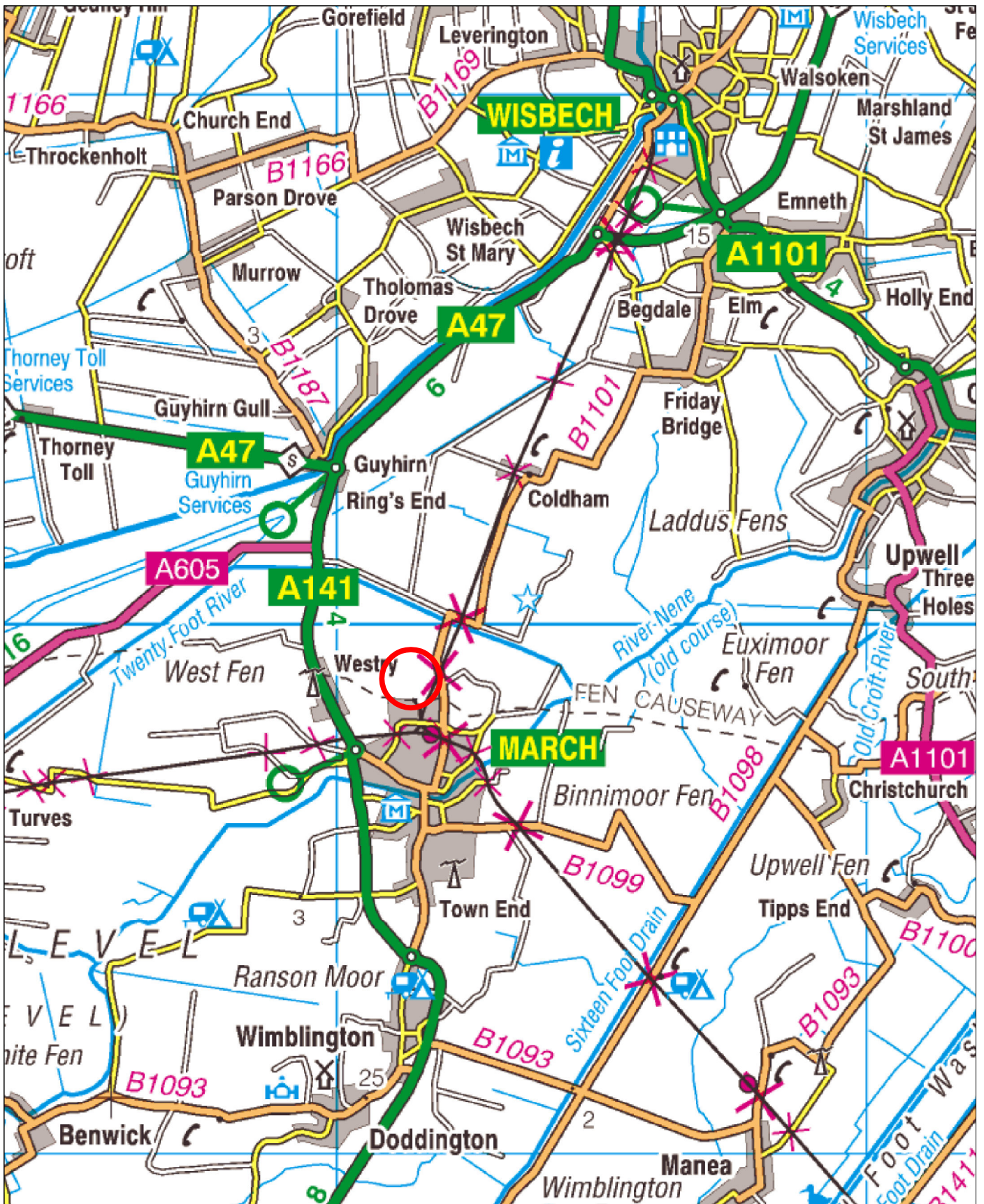
*Plate 26. Air Raid Shelter #6 (Structure 26) looking south*



*Plate 27. Entrance to Air Raid Shelter #6 (Structure 26) looking west*

## **Appendix II: Figures**





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2010

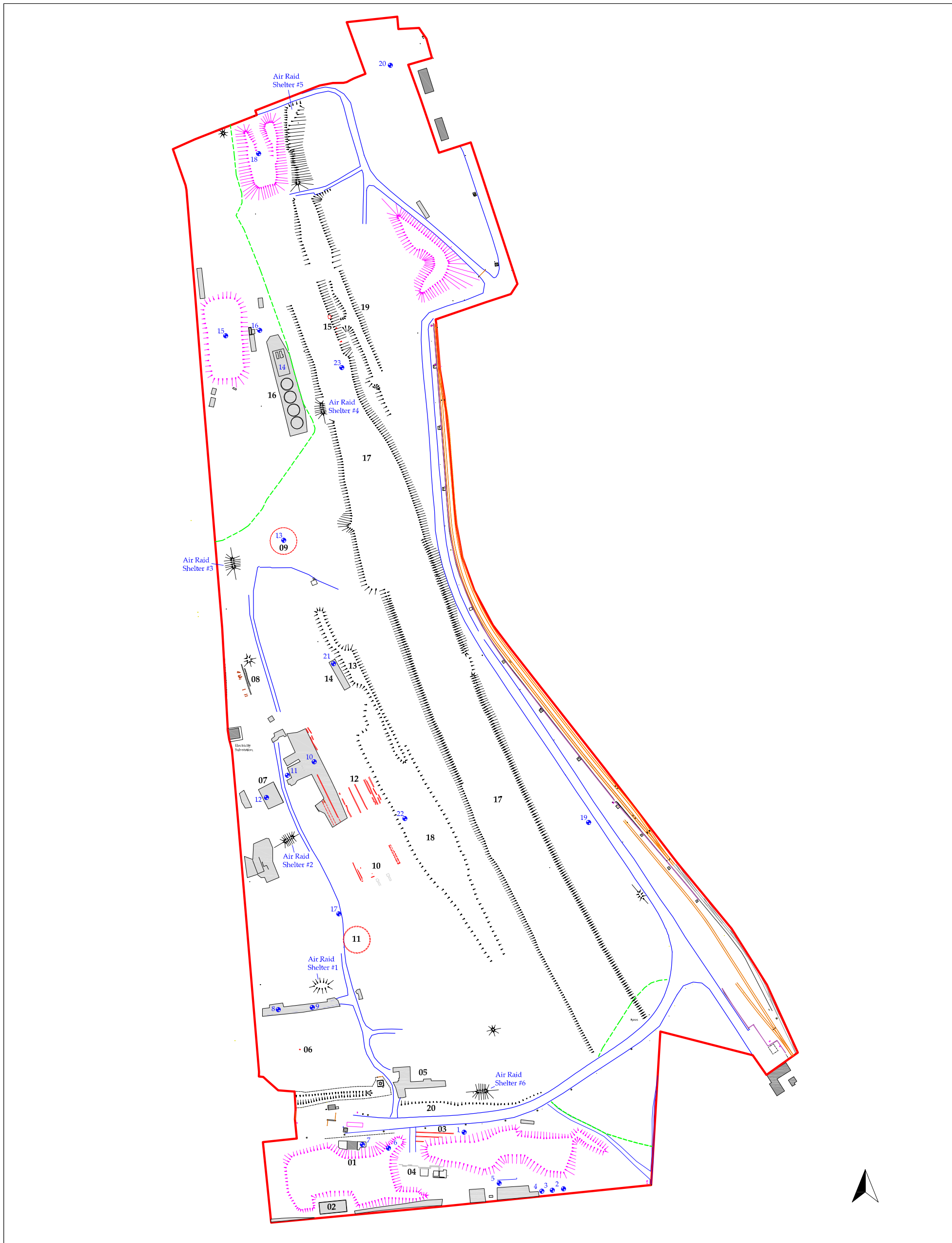
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 SCALE: 1:100,000 at A4  
 REPORT No: CP971  
 CLIENT: Wardell Armstrong LLP  
 DRAWN BY: MDR  
 DATE: March 2010  
 FIGURE: 1

KEY:



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Figure 1 : Location map
















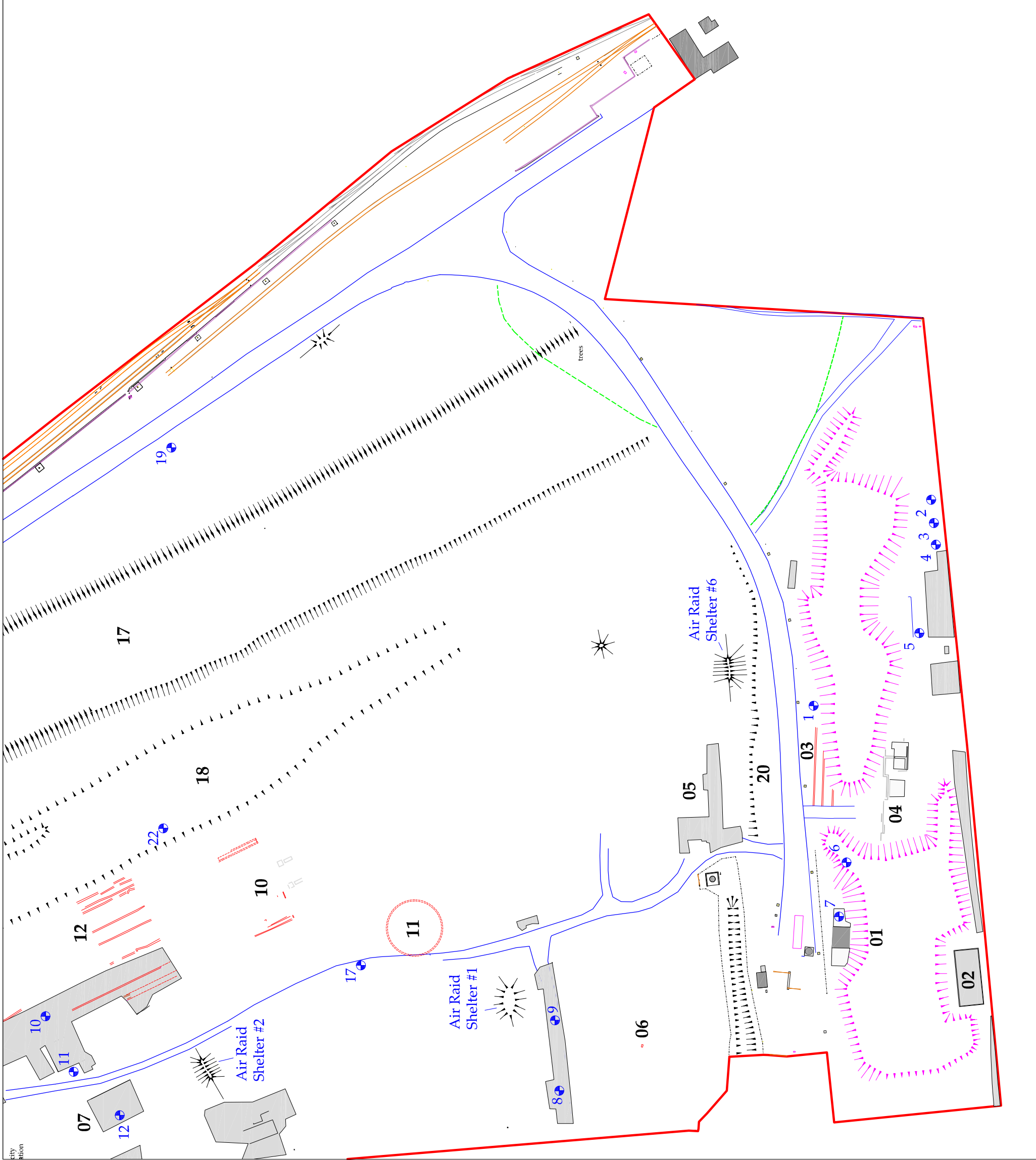
 <p>North Pennines Archaeology Ltd 2010</p>	PROJECT:	Whitemoor Marshalling Yard, March	KEY:	 outline of the proposed development area	 brick walls/foundations
	SCALE:	1:3000 at A3	 access roads	 earthworks	
	REPORT No:	CP971	 rails	 timber	
	CLIENT:	Wardell Armstrong LLP	 modern stock piles	 feature number	
	DRAWN BY:	MDR	 boundary to wildlife areas	 site of railway structure on historic mapping	
	DATE:	March 2010	 standing buildings		
FIGURE:	2	 concrete bases			

Figure 2 : Plan of the proposed development area





North Pennines Archaeology Ltd  
2010  
Whitemoor Marshalling Yard,  
March, Cambridgeshire

CLIENT:  
Wardell Armstrong LLP

SCALE:  
1:1500 at A3

DRAWN BY: MDR  
DATE: February 2010

- KEY:
- outline of the proposed development area
  - access roads
  - rails
  - modern stock piles
  - boundary to wildlife areas
  - standing buildings
  - concrete bases
  - brick walls/foundations
  - earthworks
  - site of railway structure
  - timber



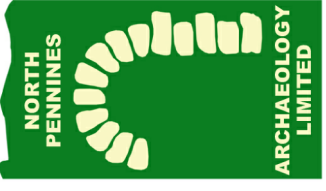
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FIGURE:  
3

Figure 3 : Survey plan of the south end of the proposed development area





North Pennines Archaeology Ltd  
2010  
Whitemoor Marshalling Yard,  
March, Cambridgeshire

CLIENT:

Wardell Armstrong LLP

SCALE: 1:1500 at A3

DRAWN BY: MDR

DATE: February 2010

KEY:

- outline of the proposed development area
- access roads
- rails
- modern stock piles
- boundary to wildlife areas
- standing buildings
- concrete bases
- brick walls/foundations
- earthworks
- site of railway structure
- timber



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REPORT No:

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FIGURE:

4

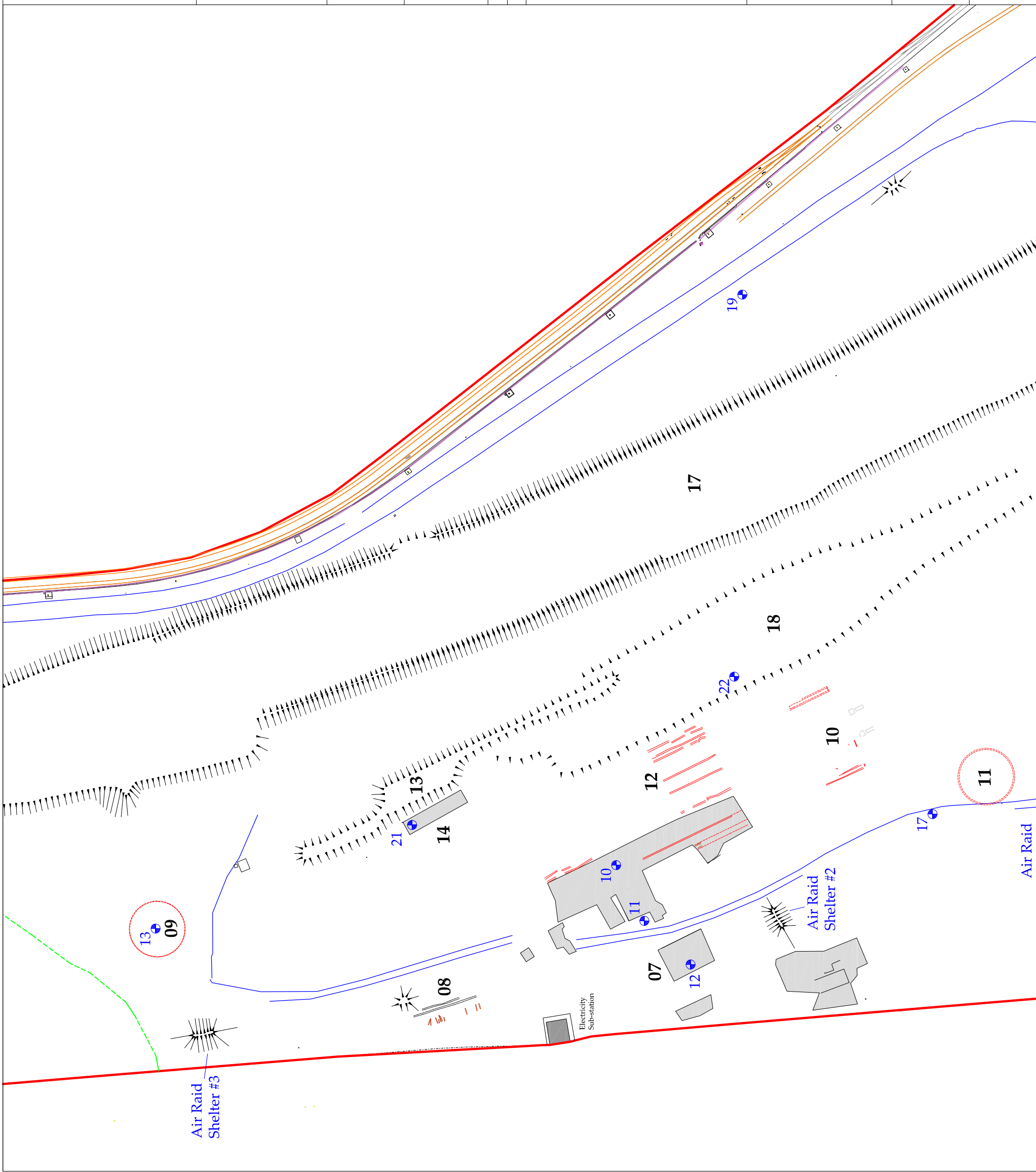


Figure 4 : Survey plan of the central part of the proposed development area

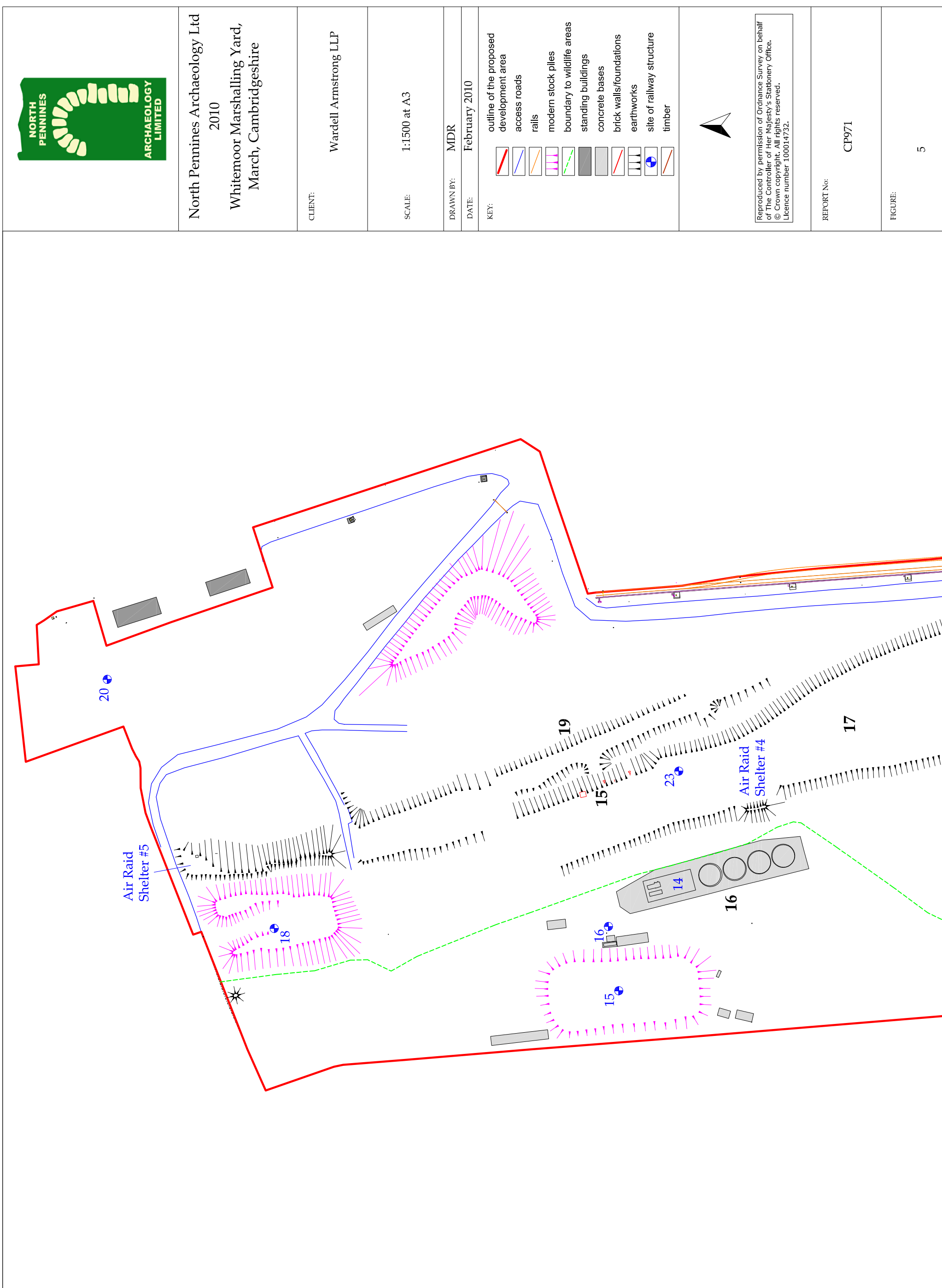


Figure 5 : Survey plan of the north end of the proposed development area