



Station Road, Normanton West Yorkshire

Post-excavation Assessment and Updated Project Design



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Summary

Wessex Archaeology was commissioned by ECUS, on behalf of the Strategic Team Group, to undertake an archaeological watching brief and strip, map and sample excavation at Station Road, Normanton, West Yorkshire (NGR SE38110 22897). The work was carried out as a condition of planning permission (Ref: 18/02893/FUL) for a proposed residential development of 140 dwellings. The overall development area comprises approximately 4.5 ha.

The archaeological elements excavated were predominantly structural remains of railway buildings and turntables that can be identified on the 1846 Ordnance Survey map of Normanton, but also included evidence of the later 19th-century development of the site into an area of sidings.

The remains of an engine house present in 1846 (group 2050) contained two complex brick inspection pits (2090 and 2190). Also present in 1846 were flues, probably a heat exchanger, associated with a gas works (group 2137), a passenger platform (walls 1005 and 1013) and two turntables, one large (1020) and one small, perhaps for directing wagons (2118). The below-ground foundation walls of the structures mostly survived in a good condition. The remains of the gas works were subject to heavy truncation during construction of a later turntable (group 2119).

Mid- and late-19th-century redevelopment comprised a re-sited gas holder (2005) and associated structures, the stone-built large turntable mentioned above (2119) and drains.

Undated features included a long surface (1010/1012), perhaps a track bed or platform, a further track bed evidenced by sleeper scars (2040) and a row of four postholes aligned with the tracks.

No earlier soils were encountered, the site having been levelled to natural geology prior to construction of the railway. Natural geology was reached across all areas of investigation.

The finds assemblage from both the excavation and previous evaluation (Wessex Archaeology 2019) was small, 19th and 20th century in date and confirms the use of the area at the height of the importance of the railway.

The archaeology within the site was fully characterised and the excavation largely met many of the research aims. Further documentary research is necessary to compare the development of the early railway within the site to other national examples of early railway archaeology, and to compare the turntables to other national examples of early railway and rolling stock traffic management. Dissemination of the results of the investigation in a suitable journal/model railway magazine is recommended.

The archive is currently held at the offices of Wessex Archaeology in Sheffield. It is recommended that the project archive resulting from the excavation be deposited with Wakefield Museum when that organisation is ready to accept archaeological archives. In the interim the archive will be retained at Wessex Archaeology's offices. An OASIS form, wessexar1- 374054, has been completed for this project and will be finalised at the time of deposition of the archive.



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The fieldwork was directed by Emily Eastwood, with the assistance of Otis Gilbert, Aaron Friars and Michael Clark. This report was written by Emily Eastwood and Ashley Tuck and edited by Phil Andrews. Lorraine Mephram assessed the finds and the illustrations are by Joanna Debska. The project was managed by Milica Rajic on behalf of Wessex Archaeology.



Station Road, Normanton, West Yorkshire

Post-Excavation Assessment and Updated Project Design

1 INTRODUCTION

1.1 Project and planning background

1.1.1 Wessex Archaeology was commissioned by ECUS, on behalf of Strategic Team Group, to undertake archaeological mitigation works comprising a watching brief and a strip, map and sample excavation covering 4.5 ha, centred on NGR 438110 422897 (SE 38110 22897), at Station Road, Normanton, West Yorkshire WF6 2ND (**Fig. 1**).

1.1.2 The work was carried out as a condition of planning permission (Ref: 18/02893/FUL) for a proposed residential development of 140 dwellings. The overall development area comprises approx. 4.5 ha.

1.1.3 The excavation was the final stage in a programme of archaeological works, which had included an archaeological desk-based assessment (ECUS 2019a) and an archaeological evaluation (Wessex Archaeology 2019). The evaluation comprised two 20 x 2 m trenches and five 10 x 4 m trenches, positioned to investigate specific aspects of the railway and sidings depicted on the 1846 plan. Archaeological features were identified in all seven trenches and survived in good condition. These features included a stable, station buildings and turntables marked on the 1846 plan. It was found that there was good correlation between the plan and the surviving structural remains.

1.1.4 The excavation was undertaken in accordance with a WSI (Written Scheme of Investigation) which detailed the aims, methodologies and standards to be employed, for both the fieldwork and the post-excavation work (ECUS 2019b). WYAAS Senior Archaeological Officer David Hunter approved the WSI, on behalf of the Local Planning Authority (LPA), prior to fieldwork commencing. The WSI was supplemented by a Method Statement (ECUS 2019c).

1.1.5 The excavation was undertaken between the 7 and 30 October 2019.

1.2 Scope of the report

1.2.1 The purpose of this report is to provide the provisional results of the excavation, and the preceding evaluation, to assess the potential of the results to address the research aims outlined in the WSI. In addition, where appropriate, to recommend a programme of further analysis work, and outline the resources needed, to achieve the aims (including the revised research aims arising from this assessment), leading to dissemination of the archaeological results via publication and the curation of the archive.

1.3 Location, topography and geology

1.3.1 The excavation area was located approximately 500 m west of the centre of Normanton, West Yorkshire, and approximately 5 km north-east of Wakefield. The site was roughly triangular in shape and bounded to the south-east by a railway line and trees, to the north-west by a mixture of modern housing, woodland and agricultural land, and to the north-east by Station Road.



- 1.3.2 The site was broadly flat with existing ground levels approximately 33 m above OD.
- 1.3.3 The site had been cleared of railway ballast following the closure of the railway sidings which formerly occupied the site. The cleared material had been gathered into a series of bunds which lined the southern edge of an access track in the northern portion of the site.
- 1.3.4 The underlying geology is mapped as mudstone, siltstone and sandstone of the Pennine Middle Coal Measures Formation, with no superficial deposits recorded (British Geological Survey online viewer).

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Introduction

- 2.1.1 The site has previously been the subject of a desk-based assessment (ECUS 2019a), and an archaeological evaluation (Wessex Archaeology 2019). The following section summarizes information presented in the desk-based assessment and evaluation report.

2.2 Archaeological and historical context

Prehistoric and Romano-British

- 2.2.1 The West Yorkshire Historic Environment Record (WYHER) records several areas of cropmarks in the vicinity of the site, which have been interpreted as representing linear land divisions and enclosures. One of these areas has been tested archaeologically and the excavations uncovered features dating to the prehistoric and Romano-British periods, these including an enclosure, pits, post holes and gullies, linear and curvilinear features.
- 2.2.2 These features are situated in the open agricultural land between Normanton and Altofts. It is considered likely that they would have extended over a much wider area but would have been severely impacted by subsequent development.

Medieval

- 2.2.3 Normanton is included within the Domesday Survey of 1086 and is therefore likely to have been established during the early medieval period. The medieval core of Normanton is located approximately 500 m west of the site, and it is probable that the site formed part of the medieval agricultural land associated with the village. Additionally, the site lies approximately 150 m south of the former location of Altofts Hall, which may have formerly been a moated manor.

Post-medieval

- 2.2.4 Normanton remained a relatively small village until the mid-19th century and the arrival of the railways. In 1836 and 1837, the North Midland Railway and the Manchester and Leeds Railway, respectively, were authorised by Parliament (Simmons and Biddle 2003). Both lines were engineered by George Stephenson who originally envisioned parallel tracks entering Leeds. This was rejected by Parliament and the lines were then redesigned to converge before entering Leeds. The natural meeting point of these lines was at the Goosehill Junction to the south of Normanton. Simultaneously, a planned route from York was also being engineered by Stephenson (Simmons and Biddle 2003), and the most cost-effective route was determined to link the planned York and North Midlands Railway with the North Midlands Railway at Altofts, to the north of Normanton. All three railways were completed and opened in 1840.
- 2.2.5 The convergence of the railway lines made Normanton one of the most important interchange stations in the country, as all through traffic to and from Leeds and the North



- East had to pass here. The original station building at Normanton was completed in September 1841, with a hotel added in 1842.
- 2.2.6 The meeting of the railways also offered the opportunity for locomotives to be refuelled, watered or changed for their ongoing journeys. Consequently, sidings were set up to the north–west of the station, in the area of the site. By 1846, demand was such that the station was extended and the line widened at Normanton. The Ordnance Survey map of 1846 (**Fig. 2**) depicts the site at this period. One of the platform islands is shown within the site. The sidings included a turntable, engine house, gas house and gas holder. A terrace, named on later maps as Altoft Terrace, had been constructed and was in the ownership of the Midland Railway.
- 2.2.7 A further plan, this time depicting the alteration of Station Road to its current alignment, was drawn in 1860. The platform, engine house and terrace were still extant, and further associated sidings buildings had been constructed within the site.
- 2.2.8 The pre-eminence of Normanton as an interchange faded as further cross-country railways were constructed and opened, and the introduction of the corridor train reduced the need for passenger refreshment stops. Despite this the infrastructure at Normanton remained important on long distance routes. The original station building was replaced in 1871 with a new building, which included a platform 520 ft (158 m) in length. This platform was the fourth longest in the country at the time.
- 2.2.9 The 1892 Ordnance Survey map (**Fig. 3**) shows the development of the sidings at Normanton which now occupied the majority of the site. Much of the former infrastructure had been replaced by new buildings and over half of Altofts Terrace had been demolished. A goods shed with an associated platform was depicted in the north of the site. This platform appears to have still been extant along with a cobbled track. Subsequent mapping depicts minor alterations to the layout of the site during the first half of the 20th century. The sidings eventually went out of use during the 1960s, although the tracks themselves remained in place until eventually being cleared in the 1990s. The remainder of Altofts Terrace had also been demolished.
- 2.3 Previous works related to the development**
- Archaeological Evaluation (2019)*
- 2.3.1 In June and July 2019 an archaeological evaluation was undertaken at the site. The evaluation comprised the excavation of seven trenches, each of which was targeted on specific structural features identified on the 1846 plan of Normanton station (trench locations given on **Fig. 1**; 1846 historic map reproduced on **Fig. 2**).
- 2.3.2 The evaluation trenches were targeted on seven features related to the 1840s railway interchange. Archaeological features were identified in all seven trenches and survived in good condition. These features included a stable, station buildings and turntables marked on the 1846 plan. It was found that there was good correlation between the plan and the surviving structural remains.
- 2.3.3 The stables on the 1846 plan were identified, as were both smaller turntables. A foundation was found for either the station or platform edge. The edge of the large turntable was identified although in a slightly different position to that indicated by the map.
- 2.3.4 A building was identified in the location of the gas house depicted in 1846, although the structural remains probably relate to the 1860 building in the same area. The potential for the gas holder to survive was uncertain.



2.3.5 Structural remains in the area of the engine house were difficult to interpret, although the excavated circular stone-built walls and a brick-built drain suggest some features of the engine house may have survived.

3 AIMS AND OBJECTIVES

3.1 Aims

3.1.1 The general aims of the watching brief and excavation, as stated in the WSI (ECUS 2019b) and in compliance with the ClfA's *Standard and guidance for archaeological excavation* (ClfA 2014a), were:

- to examine the archaeological resource within a given area or site within a framework of defined research objectives;
- to seek a better understanding of the resource;
- to determine the extent, condition, character, significance and date of any archaeological deposits encountered that will be removed or disturbed by groundworks;
- to compile a lasting record of the resource; and,
- to analyse and interpret the results of the excavation and disseminate them.

3.2 Research objectives

3.2.1 Following consideration of the archaeological potential of the site the research objectives of the watching brief and excavation defined in the WSI (ECUS 2019b) were:

- to contribute to the understanding of the development of the early railway within the site and how this compares to other national examples of early railway archaeology;
- to identify original track lines and alignments and investigate any voids from original track beds;
- to investigate and characterise any switching points due to multiple operators and characterise any evidence for signalling;
- to characterise the turntables on site and compare to other national examples of early railway and rolling stock traffic management;
- to identify whether any evidence survives for gas works;
- to characterise any archaeological evidence in relation to the mid-19th-century station at Normanton, including platforms and arrangements for passengers; and,
- to characterise any archaeological evidence relating to the mid-19th-century railway sidings.



4 METHODS

4.1 Introduction

4.1.1 All works were undertaken in accordance with the detailed methods set out within the method statement (ECUS 2019c) and in general compliance with the standards outlined in ClfA guidance (ClfA 2014a). The methods employed are summarised below.

4.2 Scope of works

4.2.1 Two areas were subjected to archaeological investigation (**Fig. 1**). Area 1 was located in the south of the site and Area 2 was in the north. A watching brief was maintained across both areas. Area 2 was also subject to strip, map and sample excavation.

4.3 Fieldwork methods

General

4.3.1 The investigation areas were set out using GPS, in the same position (**Fig.1**) as that proposed in the method statement (ECUS 2019c), with the exception of the north-eastern limit of excavation in Area 2, which was moved to respect a 6 m buffer to the National Rail fence line. The topsoil/overburden was removed in level spits using a 360° excavator equipped with a toothless bucket, under the constant supervision and instruction of the monitoring archaeologist. Machine excavation proceeded in level spits until the archaeological horizon or the natural geology was exposed.

4.3.2 Within the watching brief areas, the surface of archaeological deposits were cleaned by hand to aid visual definition. A sample of archaeological features and deposits identified was hand-excavated within the excavation area, sufficient to address the aims of the mitigation.

4.3.3 Spoil derived from both machine stripping and hand-excavated archaeological features was visually scanned for the purposes of finds retrieval. Where found, artefacts were collected and bagged by context. All artefacts from excavated contexts were retained.

Recording

4.3.4 All archaeological features and deposits were recorded using Wessex Archaeology's pro forma recording system. Plans were prepared at appropriate scales showing the areas investigated and their relation to more permanent topographical features. The plans show the location of contexts observed and recorded in the course of the investigation. Other plans, sections and elevations of archaeological features and deposits were drawn as necessary at 1:10, 1:20 and 1:50 as appropriate. All drawings were made in pencil on permanent drafting film and tied to the Ordnance Survey (OS) National Grid. The Ordnance Datum (OD: Newlyn) heights of all principal features were calculated, and levels added to plans and section drawings.

4.3.5 A Leica GNSS connected to Leica's SmartNet service surveyed the location of archaeological features. All survey data is recorded in OS National Grid coordinates and heights above OD (Newlyn), as defined by OSGM15 and OSTN15, with a three-dimensional accuracy of at least 50 mm.

4.3.6 A full photographic record was made consisting of 35 mm monochrome prints with supporting photography using digital cameras equipped with an image sensor of not less than 10 megapixels. Digital images have been subject to managed quality control and curation processes to ensure long term accessibility of the image set.



4.4 Artefactual and environmental strategies

General

- 4.4.1 Appropriate strategies for the recovery, processing and assessment of artefacts and environmental samples were in line with those detailed in the WSI (ECUS 2019b). The treatment of artefacts was in general accordance with the *Guidance for the collection, documentation, conservation and research of archaeological materials* (ClfA 2014b).

4.5 Monitoring

- 4.5.1 Senior Archaeological Officer David Hunter, monitored the watching brief and excavation on behalf of the LPA.

5 STRATIGRAPHIC RESULTS

5.1 Introduction

Summary of archaeological features and deposits

- 5.1.1 The archaeological remains excavated were predominantly structural remains of railway buildings and turntables that can be identified on the 1846 Ordnance Survey map of Normanton (**Fig. 2**). Other structural remains recorded reflect late 19th-century development of the railway sidings (**Fig. 3**).
- 5.1.2 The remains of the 1846 engine house (group 2050), gas works (group 2137), platform (1005 and 1013) and turntables of varying size (groups 1020 and 2118, and contexts 206 and 505 from the evaluation) were uncovered across both Areas 1 and 2. The foundation walls mostly survived in good condition, with only the remains of the gas works (group 2005 and structure 2186) subject to heavy truncation from a later turntable (group 2119).
- 5.1.3 Evidence of late-19th- and 20th-century development was uncovered in Area 2 consisting of several structures relating to the gas works (group 2005 and structure 2186) and multiple iron pipes, a large stone-built turntable (group 2119) and surviving track beds (1010, 1012 and 2040).

Methods of stratigraphic assessment and quantity of data

- 5.1.4 All digital, hand written and drawn records from the watching brief and excavation have been collated, checked for consistency and stratigraphic relationships. The majority of textual records were made digitally and have automatically been related in a database accessible via a series of spreadsheets. The excavation has been preliminary phased using stratigraphic relationships and historic mapping. **Table 1** (below) provides a quantification of the records from the watching brief and excavation.

Table 1 Quantification of excavation records

Type	Quantity
Context records (digital)	230
Context registers (paper)	9
Timber record (paper)	1
Brick records (paper)	4
Sketch plans (paper)	5
Graphics (A4 and A3 drafting film)	9
Graphics registers (paper)	1
Photographic registers (paper)	21
Digital photographs	1043



5.2 Soil sequence and natural deposits

- 5.2.1 The natural geology was mudstone ranging from grey to white and orange in colour. The upper surface had been modified by exposure to the elements (1003, 2002). The natural was found between 33 m and 32.50 m aOD.
- 5.2.2 In Area 1, a levelling layer (1002) had been laid down prior to the construction of the observed archaeological features. Layer 1002 consisted of a mix of mid-greyish yellow coarse gravel and sand, and was 0.25 m thick.
- 5.2.3 A layer of made-ground overburden covered the entire site (1001, 2001). This layer was between 0.1 m and 0.5 m deep. Further localised overburden deposits were identified relating to the demolition and backfilling of the various features as they went out of use.
- 5.2.4 No soils or subsoils were encountered, the site having been levelled to natural geology prior to construction of the sidings, and no soils had yet formed following the abandonment of the site.

5.3 Structures evidenced on 1846 Ordnance Survey map

Area 1

- 5.3.1 Area 1 targeted the station platform and a large turntable shown on the 1846 map (**Fig. 2**) both excavated in part during the evaluation which recorded a stone foundation and a cut for a large turntable (Wessex Archaeology 2019).

Platform

- 5.3.2 The full extent of the 148 ft long (45 m) curved outer wall of the station platform was exposed (1004 and 1013; **Fig. 4**). The wall ran roughly from north-east to south-west and contained a central gap (dividing context 1004 from 1013). Each end turned to the south-west defining the ends of the platform. The walls were 0.46 m wide and generally survived as two courses (0.47 m) of large blocks of roughhewn stone (**PI. 1**). The 3 m-wide central gap between walls 1004 and 1013 contained two smaller brick structures (1006 and 1008). Both were rectangular structures built of unfrosted red brick bonded with lime mortar and appeared to be access points for the eastern end of a drainage culvert (1017).
- 5.3.3 The culvert (1017) was 0.5 m wide and ran north-west to south-east within construction cut 1015 (**PI. 2**). The culvert was at least 0.5 m wide and built from unfrosted red brick bonded with a white lime mortar and capped with a pinkish brown mortar. During the watching brief it was visible running for 5.6 m with the cut visible for a further 8.1 m. Several bricks of the culvert (1017) were stamped 'DRAIN' (**PI. 3**), dating the construction to between 1839 and 1850, as during this time bricks marked and used for drainage were exempt from the brick tax (Harvey 1976). Although no direct relationship between the culvert and the platform edge (1004 and 1013) was seen during the watching brief, the two features appear to have been contemporary and suggest the culvert provided drainage for the 1846 station.

Turntable

- 5.3.4 The remains of a large turntable (1020) were seen during the watching brief in the west of Area 1 (**PI. 2**). The turntable consisted of two concentric brick rings (1019, 1021, 1026 and 1030), a third curved brick surface (1024), and a square brick-built central pivot point (1027).
- 5.3.5 The outer ring was heavily truncated but survived in two parts (1019 and 1021), both built of six skins of red brick laid in a header bond and bonded with a white lime mortar. One brick was observed with a square frog and a stamp of the initials 'JGS'. The surviving



sections were 3.9 m (1019) and 1 m (1021) in length and both measured 0.8 m in width (4 ft). The cut (1018) for the structure was visible for almost its full 11.9 m (39 ft) external diameter.

- 5.3.6 The inner ring (1026) was constructed of at least one course of seven skins of red brick, bonded with lime mortar. A second course (1030) survived on the southern half of the ring with fragments of slate levelling course visible on the surface and bonded to the brick with white lime mortar. The ring (1026 and 1030) was 0.9 m (3 ft) wide and had a 3 m (10 ft) internal diameter.
- 5.3.7 A central square brick platform (1027) measured 1.8 m (6 ft) square. The feature was under water for the duration of the watching brief but its position within the turntable suggests it formed a base for supporting the central pivot mechanism.
- 5.3.8 A 3.6 m-length of a brick surface (1024) survived in the west half of the turntable. The surface was laid on a bed of sand (1023) and consisted of a single course of 12 skins (1.06 m or 3 ft 6 in wide) of unfroged red bricks laid on end in an arc.

Area 2

- 5.3.9 Area 2 targeted the engine shed and gas works and other associated features of the 1846 station sidings (**Figs 5–7**).

Gas works

- 5.3.10 A series of small walls and a flue system (group 2137; **Figs 5–7**; **Pl. 4**) were recorded in the watching brief area in the centre of Area 2. They correspond to an approximate location external to the gas holder as seen on the 1846 map (**Fig. 2**) and were heavily truncated by later development (turntable 2119 etc.).
- 5.3.11 The three interconnected arched flues (2143, 2144 and 2145) were constructed of voussoir-shaped firebricks bonded with lime mortar; the surviving sections measured 0.5 m (1 ft 7 in) wide and between 2 m and 0.9 m in length. The firebrick voussoirs were heavily heat affected and vitrified on the edge internal to the flue. The central point where the flues connected was capped by stone slabs (2146), and two further single skin walls (2159 and 2160) connected the flue system to the remains of a stone and brick base (2148 and 2149) which probably supported a heat exchanger.
- 5.3.12 The firebrick flues were bounded by supporting unfroged red brick walls, one skin thick (2139, 2140, 2141 and 2142) and were butted by the remains of a stone wall foundation (2138). Wall 2138 correlates with a building depicted on the 1846 map (**Fig. 2**) which probably formed part of the gas works.

Engine house

- 5.3.13 The foundations and below-ground remains of the engine house present in 1846 were excavated in the north-eastern part of Area 2 (2050; **Figs 5–7**). The engine house was on a north-east to south-west alignment and measured 42.7 m (140 ft) by 10.30 m (34 ft). The north-east corner of the south-eastern exterior wall (2183) had been truncated, however the north-east (2048), north-west (2060 and 2067) and south-west (2067, 2185 and 2182) wall foundations were well-preserved. The four walls were constructed with unfroged red brick bonded with lime mortar and had up to three courses surviving.
- 5.3.14 The north-west wall (2060 and 2067) was constructed in two parts with an opening for a 3.20 m (10 ft 6 in) wide doorway 8.5 m (29 ft) from the south-west corner of the building. The north-eastern part of the north-west wall (2060) was four skins thick and the southern



- part (2067) was five skins thick. The two ends of the walls marking the doorway were supported by pyramidal brick piers (2061 and 2065) increasing in width towards the base.
- 5.3.15 The south-west wall had two entrances for engines (in line with the inspection pits discussed below) each 2.13 m (7 ft) wide between walls 2067 and 2182 and a central brick support (2185). These were all constructed from unfrogged red brick and bonded with lime mortar. The supporting section (2185) was four skins thick and a single course remained measuring 1.2 m (4 ft) by 0.57 m (2 ft).
- 5.3.16 The interior of the engine house was dominated by the remains of two parallel inspection pits (groups 2090 and 2190), each consisting of two rectangular brick-lined pits connected by a 2 m (6 ft 6 in) long central drain (2108) at the south end. The four individual pits had brick retaining walls (2083, 2096, 2170 and 2176) at least two courses high and four skins wide, the floor of the pits comprising a slightly concave surface of red bricks laid on edge.
- 5.3.17 The two north-western pits (group 2090) were 8.57 m (28 ft) long and approximately 2.20 m (7 ft) wide, with the internal floor surfaces (2084 and 2097) measuring 7.63 m (25 ft) long and 1.2 m (4 ft) wide. The floor surface of the southern pit (2097; **PI. 5**) had a shallow 'H'-shaped drainage channel (2199) in the surface, defined by laying the bricks flat rather than on edge. This drain connected on its eastern side to a section of drain (2108) from the eastern inspection pits, and continued to the west (2111) within the building and then externally beyond this (as 2191) for at least 8 m (group 2110).
- 5.3.18 Two notable features in inspection pit group 2090 were two parallel structures butting wall 2096. The two structures (2103 and 2105) were 2.2 m (7 ft) apart, 0.4 m (1 ft 4 in) high and 0.38 m (1 ft 3 in) wide. They were constructed from five courses of unfrogged red brick, four skins wide, bonded with lime mortar. Against the south-eastern of the two structures (2105) and fixed to wall 2096 with large iron pins (2106) was a wooden sleeper (2107; **Figs 6 and 8, section 1; PI. 5**). The sleeper was degraded and only partially survived: at its largest point the remains were 2.15 m (4 ft) long, 0.18 m (7 in) wide and 0.3 m (1 ft) high. The sleeper had three evenly-spaced sub-rectangular joist holes (89 mm by 114 mm or 3.5 in by 4.5 in), suggesting it once supported a secondary structure. The western structure (2103) had four matching iron pins (2104) but was missing its wooden sleeper.
- 5.3.19 The north-western inspection pit (2083; part of group 2090) was butted at its north-east end by a brick-built curvilinear drain (2051/2052) running to the north. The drain extended to the north-east wall of the engine house (2048) and consisted of two parallel single skin brick walls, three courses high and bonded with lime mortar. The drain ran for approximately 5.6 m and the two walls narrowed from 0.3 m apart at the northern end, to 0.19 m at the point they butted the inspection pit.
- 5.3.20 The south-eastern inspection pit (2176; part of 2191; **PI. 6**) had been damaged in places but the remains of the southern pit measured 7.91 m long and 2.2 m (7 ft) wide, with the truncated southern end revealing a cross section of the inspection pit (**Fig. 8, section 2**). This section showed the bedding sand (2184) for the concave brick surface (2177) laid directly onto the natural bedrock (2002). A short section of drainage channel, marked by bricks laid flat, fed into drain 2108 and the western inspection pit (2096) at its southern end.
- 5.3.21 The north-eastern pit (2170; part of 2190) was excavated in its entirety and was shorter than the other three (2083, 2096 and 2176), measuring 4.75 m (15 ft 7 in) long and 2.2 m (7ft) wide. At the northern end of the outer wall (2170) there was a brick step (2171; **PI. 7**) measuring 0.9 m (3 ft) long, 0.6 m (2 ft) wide and two courses high, allowing for entry and exit from the inspection pit. Within the inspection pit was a circular pit feature (2197; **PI. 7**)



built into the northern end of brick surface 2172. It was centrally placed and was 0.50 m (1 ft 8 in) in diameter. The cut (2197) had vertical sides, a flat base, was 0.27 m (11 in) deep and contained the remains of a small iron tank (2200; **Fig. 8, section 3**). The tank was filled with deposit 2198 which comprised mid-grey ashy sand with frequent mortar and charcoal inclusions. The purpose of the tank may have been to catch oil or as a reservoir.

- 5.3.22 The northern end of the engine house had two truncated walls (2056 and 2058) at right angles to one another forming a small room or chamber in the north corner of the building. The room would have been 5.5 m (18 ft) by 3 m (10 ft) in size, the walls constructed of four skins of unfrogged red brick bonded with lime mortar.

Small turntable 2118

- 5.3.23 A small turntable (group 2118; **Figs 5 and 6**) was located 3.4 m (11 ft 2 in) south of the south-west wall of the engine house (2050). The turntable (2118) comprised an outer brick ring (2132) and a square central stone pivot point (2130). The outer ring (2132) was built of unfrogged red brick bonded with lime mortar but was truncated on the east side by a later drain (2135). The outer ring was five skins wide (0.6 m; 2 ft) and had a diameter of 4.88 m (16 ft) with a small brick drain 0.3 m wide (1 ft) through its north-western side. The central stone measured 0.92 m square (3 ft) and had a height of at least 0.15 m (6 in).
- 5.3.24 The small size of turntable 2118 suggests it may have been used to direct wagons, and its location suggests association with the engine shed. One possibility is that it may have been used to direct tenders, another possibility (based on the 1846 map evidence; see **Fig. 2**) is that it could have been linked to the gas works to the north-west, perhaps for bringing in coal/coke and removing spent fuel.

Pond/water tank

- 5.3.25 There was a large subcircular cut (2053, **Fig. 7**), approximately 11.6 m (38 ft) in diameter, in the centre of the Area 2 watching brief and to the east of the engine house (group 2050). This cut corresponded with a pond or water tank shown on the 1846 map (**Fig. 2**). A wall (2055) was exposed in the north-west quadrant of the feature (**Pl. 8**), however rapidly rising ground water prevented further excavation. The exposed section of wall was two skins thick, constructed of red brick and bonded with a pinkish white lime mortar. Fifteen courses were visible laid in a stretcher bond. The wall (2055) followed the line of the cut (2053) and was slightly concave in plan, corresponding with the shape depicted on the 1846 map (see **Fig. 2**). The pond/water tank was at least 2.5 m deep, and was later backfilled with a dark grey silty clay (2054) which had common clinker and brick fragments.

5.4 Mid- to late 19th century

Area 2

Gas holder and gas works

- 5.4.1 Approximately half of a circular gas holder (2005) was uncovered at the north-eastern limit of excavation in the Area 2 watching brief (**Fig. 7; Pl. 9**). The gas holder comprised a red brick circular wall which was 0.9 m (3 ft) wide, four courses high and 12.8 m (42 ft) in diameter. The four courses were stepped, with the basal course five skins thick. Four irregular-shaped support stones (2004) measuring approximately 0.8 m by 0.4 m by 0.12 m high survived in the southern quarter of the structure; the beams supporting the upper structure would have rested on these as the tank of the gas holder rose and fell (see Newbiggin 1913).
- 5.4.2 The gas holder (2005) did not correspond with the location of that depicted on the 1846 map (**Fig. 2**), and does not appear on the 1890 map (**Fig. 3**), but shared similar construction

materials to the early turntables (1020, 2118). It is therefore probable that the gas holder represents an unmapped phase of development between 1846 and 1890.

- 5.4.3 In the west of Area 2 a square structure (2186; also recorded in the evaluation as context 605) measured 5.5 m (18 ft) by 5.2 m (16 ft). Seven courses of red brick bonded with lime mortar formed two rectangular chambers with a central narrow gap roughly 0.6 m wide. The structure was filled with a dark black deposit (2187) with frequent brick fragments, clinker, and contaminated with tar. The structure (2186) and deposit (2187) were recorded in plan but due to the tar contamination could not be excavated. The tar may have been waste material associated with gas production, railway fuel or similar. Structure 2186 is not depicted on the historic maps of 1846 or 1890 (**Figs 2–3**) and it is probable that it also represents an unmapped phase of development between 1846 and 1890 and, therefore, may be contemporary with the gas holder (group 2005). Structure 2186 was built adjacent to the earlier gas works complex (group 2137; see above) and thus may have overlapped in their period of use, possibly both having also been associated with the presumably earlier gas holder (of which no evidence was found) shown immediately to the north-east on the 1846 Ordnance Survey map.

5.5 Late 19th century

Area 2

Turntable 2119

- 5.5.1 By 1890 (as seen on the Ordnance Survey map published in 1892; **Fig. 3**) the station and sidings at Normanton had grown with the older buildings being replaced. A large stone-built turntable (group 2119) with evidence of associated sleeper beds (2126) was recorded in the centre of the Area 2 excavation (**Fig. 6**). Whilst the turntable is not shown on the historic mapping, it truncated gas flues 2137, suggesting a later 19th-century date. Turntable 2119 may have been constructed in the later 19th century but demolished prior to the 1890 map. The turntable (2119) consisted of two concentric stone rings, the outer (2124) measuring 1.45 m (4 ft 9 in) wide and 1.2 m (4 ft) high with a 12.8 m (42 ft) diameter. The inner stone ring (2122) measured approximately 1.2 m wide (4 ft), at least 0.4 m (1 ft 4 in) high and had a diameter of 4.72 m (15 ft 6 in). The stone blocks were mostly dressed sandstone measuring 0.60 m square (2 ft) and 0.30 m (1 ft) high, bonded with a lime mortar. Several had evidence of fixings, either rectangular recesses with two holes for metal pins or four intact metal pins arranged in a square.
- 5.5.2 The southern edge of the outer ring (2124) had an additional structure (2125; **Figs 7 and 9**) integral to the turntable and perpendicular to a set of sleeper impressions (2126) marking an entrance and exit point. Structure 2125 was 3.1 m (10 ft) long, 1.4 m (4 ft 6 in) wide and 0.7 m (2 ft) high constructed of the same dressed stone blocks as the rest of structure 2119. The remains of similar fixings were seen on the opposite side of the outer ring (2124), although there was no structure comparable to 2125 on the north-east side.
- 5.5.3 Sleeper impressions (2126) ran 13.2 m to the south-west from turntable 2119 and were 3 m (10 ft) wide. The alignment of these is as expected based on historic maps and the layout of the site which contained a dense and complex arrangement of railway sidings (**Fig. 3**).

Drains

- 5.5.4 In the centre and north of Area 2 (**Fig. 6**) were two brick-built structures (2010 and 2163) connected by a 14 m-long right-angled cast-iron pipe (2016). The northern structure (2010) consisted of two parts (2013, square, and 2014, rectangular) together measuring 4.55 m (15 ft) long and 1.73 m (5 ft 8 in) wide, built of red brick bonded with lime mortar, and visible



- up to two courses (0.2 m/8 in) high. Internal features included a red brick and lime mortared machine base with metal pins suggestive of anchoring for a machine or small engine (2015).
- 5.5.5 The southern group (2163) was defined by sub-rectangular brick structure 2154. Structure 2154 was truncated at its north-eastern end but was 3.27 m (10 ft 9 in) long and 1.2 m (4 ft) wide with a central, slightly concave brick surface (2153), the bricks laid on edge. To the south of 2163 were associated drainage structures (2150 and 2155) that truncated the remains of the earlier gas works (group 2137).
- 5.5.6 Drain 2135 ran from north-north-west to south-south-east on a different alignment to other structures. The drain was constructed in a cut (2136) and comprised a sandstone base (2134), brick sides (2135) and sandstone capstones (2133). The drain truncated small turntable 2118 and was, therefore, probably of late-19th-century date.

5.6 Undated

Area 1

Surface 1010/1012

- 5.6.1 In Area 1, a long (approximately 85 m) linear surface (1010, 1012) had been constructed in a shallow cut (1011) into the natural. Surface 1010/1012 was of an unusual type, comprising lime mortar mixed with clinker, sand and clay to create a weak dark grey brown material. The surface may represent a later track bed or have been associated with the platform depicted on the 1846 map (**Fig. 2**). If it was associated with the platform, it is likely from a different phase of activity to wall 1005/1013 described above.

Area 2

Track bed

- 5.6.2 A series of 11 sleeper impressions (group 2040) ran south-west from gas holder 2005. The sleeper impressions were typically 2.75 m (8 ft 6 in) long and 0.36 m (10 in) wide and would probably have accommodated standard railway sleepers. The sleepers were aligned in the north-east to south-west direction expected for tracks from historic maps (**Fig. 3**) and the layout of the site.

Postholes

- 5.6.3 The watching brief identified four square or sub-square postholes (2044, 2071, 2075 and 2076) in the north-west of Area 2 forming a linear alignment running north-east to south-west. The postholes were typically 1.11 m long and 0.88 m wide, and one contained the remains of a wooden post (2073) measuring 0.35 m by 0.4 m. All four postholes were cut into the natural (2002), had no stratigraphic relationships with any other features and were devoid of datable finds. The alignment of the postholes followed the alignment of rail tracks as depicted on historic maps.

6 ARTEFACTUAL EVIDENCE

6.1 Introduction

- 6.1.1 A very small assemblage of finds was recovered during the investigations, consisting of animal bone, clay pipe and glass.
- 6.1.2 All finds have been quantified by material type from each context, and the results are presented in **Table 2**.

Table 2 All finds by context (number / weight in grammes)

Context	Animal bone	Clay pipe	Glass
1022	–	–	1/106
2020	2/6	4/11	1/5

6.2 Animal bone

6.2.1 Two fragments of animal bone were recovered from context 2020 (the fill of a tank). Neither bone is in good condition. One fragment is bird, a right humerus of unidentified small fowl. Both proximal and distal regions are absent, possibly due to predator action. Rodent gnawing is present on the proximal end, on the posterior medial region. The second bone is a partial right sheep/goat rib.

6.3 Clay pipe

6.3.1 There are four clay pipe stem fragments from context 2020. All are plain undecorated stems, one of which is damaged along the length. The external diameters range from 7–8 mm. These are not particularly closely datable but are likely to be 18th-century or later.

6.4 Glass

6.4.1 The glass assemblage consists of two items, the base of a vessel (from context 1022, fill of a construction cut) and a small fragment of industrial waste (from 2020).

6.4.2 The vessel is an aqua glass round-bottomed torpedo or Hamilton soda bottle with hinge moulding. The embossed lettering ‘_ & Co/_OR’ can be seen, possibly belonging to a J. Scheppe & Co bottle reading ‘Genuine Superior’. The first torpedo bottles appeared at the end of the 18th century in order to contain carbonated drinks, although they were most common in the 19th century, and they were used until around 1914.

6.5 Wood

6.5.1 A wood sample was taken from context 2107 for species identification if required.

7 STATEMENT OF POTENTIAL

7.1 Summary of potential

7.1.1 The excavation and watching brief, as well as the preceding evaluation (Wessex Archaeology 2019), at Station Road, Normanton have revealed significant remains of the mid-19th-century railway station depicted on the 1846 Ordnance Survey map. The early engine house is of particular significance, but the remains also include turntables, gas works and other structures relating to the development of the site throughout the 19th century.

7.2 Stratigraphic potential

7.2.1 The archaeological sequence uncovered during the excavation and watching brief was relatively simple and is well understood. There is little further scope to interrogate the stratigraphic data.

7.3 Finds potential

7.3.1 The finds assemblage from both the excavation and previous evaluation (Wessex Archaeology 2019) is small, largely 19th and 20th century in date and confirms the use of the area at the height of the railway's importance.



- 7.3.2 The wood sample taken from context 2107 has the potential to add to our understanding of the materials used in mid-19th century railway construction. It is recommended that analysis is undertaken to determine the species of wood and, therefore, contribute to the understanding of the development of the early railway within the site.

7.4 Overall research potential

Reappraisal of the project objectives

- 7.4.1 The general aims of the excavation, as stated in the WSI (ECUS 2019b) and in compliance with the ClfA's *Standard and guidance for archaeological excavation* (ClfA 2014a), are given in the Aims and Objectives section above.
- 7.4.2 It has been possible to largely fulfil all but one of the research objectives. In this respect it can be noted that there were no original track lines or switching points uncovered on site. However, the engine house, turntables, platform arrangements, gas works and other mid-19th-century structural remains have been fully characterised in line with the scope of the objectives and results.
- 7.4.3 Further documentary research is necessary to compare the development of the early railway on the site to other national examples of early railway archaeology, and to compare the turntables to other national examples of early railway and rolling stock traffic management.

8 UPDATED PROJECT DESIGN AND RECOMMENDATIONS

8.1 Introduction

- 8.1.1 Further work is required to better place the site within its local, regional and national context and to draw comparisons between the early railway development and on-site traffic management and other national examples of early railway archaeology. A stage of analysis and publication will allow the results of the fieldwork to contribute to the relevant established research aims and questions.

8.2 Recommendations and proposed methodologies for analysis

Context

- 8.2.1 A detailed literature review concentrating on national examples of early railway and rolling stock traffic management will be carried out to identify suitable comparator sites. Once identified, any relevant grey literature will be consulted allowing detailed comparisons to be made between these and the on-site evidence of early railway and rolling stock traffic management.
- 8.2.2 The following sources have been identified as a starting point. Further sources will be identified during the course of the literature review.
- Biddle, G and Simmons J 1997 *The Oxford Companion to British Railway History*;
 - The Railway Heritage Register Turntable Survey Project
<http://www.tt.rhrp.org.uk/ts/tsearch.asp>
 - Boyes, G 2016 Early Progress Towards Common Standards for Britain's Railways, in Cross-Rudkin, P (ed), *Early Main Line Railways*, 30–47;



8.7 Management structure

- 8.7.1 Wessex Archaeology operates a project management system. The team will be headed by a Project Manager, who will assume ultimate responsibility for the implementation and execution of the project specification as outlined in the Updated Project Design, and the achievement of performance targets, be they academic, budgetary, or scheduled.
- 8.7.2 The Project Manager may delegate specific aspects of the project to other key staff, who will both supervise others and have a direct input into the compilation of the report. They may also undertake direct liaison with external consultants and specialists who are contributing to the publication report, and the museum named as the recipient of the project archive. The Project Manager will have a major input into how the publication report is written. They will define and control the scope and form of the post-excavation programme.
- 8.7.3 The Project Manager will be assisted by the Senior Research Manager and the Senior Publications Manager, who will help to ensure that the report meets internal quality standards as defined in Wessex Archaeology's guidelines.

9 STORAGE AND CURATION

9.1 Museum

- 9.1.1 The archive resulting from the excavation is currently held at the offices of Wessex Archaeology in Sheffield. It is recommended that the project archive resulting from the excavation be deposited with Wakefield Museum, although that organisation is not currently accepting archives. Should the opportunity arise, the archive will be deposited under an accession number to be agreed.

9.2 Preparation of the archive

- 9.2.1 The archive, which includes paper records, graphics, artefacts, ecofacts and digital data, will be prepared following the standard conditions for the acceptance of excavated archaeological material by Wakefield Museum, and in general following nationally recommended guidelines (SMA 1995; ClfA 2014c; Brown 2011; ADS 2013).

9.3 Selection policy

- 9.3.1 Wessex Archaeology follows national guidelines on selection and retention (SMA 1993; Brown 2011, section 4), with the aim of retaining only those finds which are considered to have further research potential, or which fulfil other criteria within the Museum's collecting policy.
- 9.3.2 In this instance, the assemblage was of a very small size. With the exception of the wood, which has been retained in the short term should species identification be required, all finds have been recorded to an appropriate archive level, and no further analysis has been proposed as part of the current project. These finds are considered to have little or no further research potential, and no retention for long-term curation is recommended.

9.4 Security copy

- 9.4.1 In line with current best practice (eg, Brown 2011), on completion of the project a security copy of the written records will be prepared, in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.



9.5 OASIS

- 9.5.1 An OASIS online record (<http://oasis.ac.uk/pages/wiki/Main>; wessexar1-374054) has been initiated, with key fields and a .pdf version of the final report submitted. Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service ArchSearch catalogue.

10 COPYRIGHT

10.1 Archive and report copyright

- 10.1.1 The full copyright of the written/illustrative/digital archive relating to the project will be retained by Wessex Archaeology under the *Copyright, Designs and Patents Act 1988* with all rights reserved. The client will be licenced to use each report for the purposes that it was produced in relation to the project as described in the specification. The museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the *Copyright and Related Rights Regulations 2003*. In some instances, certain regional museums may require absolute transfer of copyright, rather than a licence; this should be dealt with on a case-by-case basis.
- 10.1.2 Information relating to the project will be deposited with the Historic Environment Record (HER) where it can be freely copied without reference to Wessex Archaeology for the purposes of archaeological research or development control within the planning process.

10.2 Third party data copyright

- 10.2.1 This document and the project archive may contain material that is non-Wessex Archaeology copyright (eg, Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which Wessex Archaeology are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of *the Copyright, Designs and Patents Act 1988* with regard to multiple copying and electronic dissemination of such material



REFERENCES

- ADS 2013 *Caring for Digital Data in Archaeology: a guide to good practice*. Archaeology Data Service and Digital Antiquity Guides to Good Practice
- Biddle, G and Simmons J 1997 *The Oxford Companion to British Railway History*
- British Geological Survey online viewer <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> (accessed 11/2019)
- Brown, DH 2011 *Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation* (revised edition). Archaeological Archives Forum
- CIfA 2014a *Standard and Guidance for Archaeological Excavation*. Reading, Chartered Institute for Archaeologists
- CIfA 2014b *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials*. Reading, Chartered Institute for Archaeologists
- CIfA 2014c *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives*. Reading, Chartered Institute for Archaeologists
- ECUS Ltd 2019a *Station Road, Normanton, West Yorkshire – Archaeological Desk-Based Assessment*. Unpublished client report ref. 13025
- ECUS Ltd 2019b *Station Road, Normanton, West Yorkshire WSI for Archaeological Mitigation*. Unpublished client report ref. 13025
- ECUS Ltd 2019c *Station Road, Normanton, West Yorkshire – Method Statement*. Unpublished client report
- English Heritage 2010 *English Heritage Thematic Research Strategies: a thematic research strategy for the historic industrial environment*. Swindon, English Heritage
- Gommersall, H 2005 *West Yorkshire Archaeology Advisory Service Research Agenda – Industrial Archaeology*
- Harvey, N 1976 *Fields, Hedges and Ditches*. Shire Album 21. London: Shire Publications
- Kinchin-Smith, R 2014 *Historic Railway Buildings and Structures: overview of development pressure and review of significance*. Historic England draft report
- Newbiggin, T 1913 *Manual for Gas Engineers and Managers*
- SMA 1993 *Selection, Retention and Dispersal of Archaeological Collections*. Society of Museum Archaeologists
- SMA 1995 *Towards an Accessible Archaeological Archive*. Society of Museum Archaeologists
- Wessex Archaeology 2019 *Station Road, Normanton. West Yorkshire Archaeological Evaluation* Unpublished report ref. 221560.02



APPENDICES

Appendix 1 Context list

Area 1			
Context Number	Type	Category	Fill of/Filled With
1001	Fill	Made ground	n/a
Mid-blackish brown ashy clinker silt with frequent CBM, crushed mortar, slag fragments, industrial debris inclusions			
1002	Layer	Made ground	n/a
Light greyish yellow sand and coarse sub angular gravels with frequent gravel pieces inclusions			
1003	Layer	Natural	n/a
Mid blueish grey mudstone			
1004	Masonry	Foundation	1005
L-shaped foundation aligned S-N with straight sides and a flat base. Constructed from large blocks of roughhewn masonry and bonded with lime mortar. Maximum height: 0.47 m.			
1005	Cut	Construction cut	1002, 1004
Curvilinear construction cut and a flat base. Length: >48.00 m. Width: 4.20 m. Depth: 0.46 m.			
1006	Masonry	Access hole	1007
Rectangular access hole aligned N-S with straight sides and a flat base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.20 m.			
1007	Cut	Construction cut	1006
Rectangular construction cut with vertical, straight sides and a flat base. Length: >15.00 m. Width: 0.50 m. Depth: 0.20 m.			
1008	Masonry	Access hole?	1009
Possible rectangular access hole aligned N-S with stepped sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.20 m.			
1009	Cut	Construction cut	1008
Rectangular construction cut. Length: 0.90 m. Width: >0.70 m.			
1010	Layer	Made ground	n/a
Dark grey brown clinker, lime and clay			
1011	Cut	Uncategorised	n/a
Sub-rectangular uncategorised. Length: 35.50 m. Width: 2.87 m.			
1012	Fill	Track bed	1011
Very dark grey loamy sand with 50% abundant clinker inclusions			
1013	Masonry	Foundation	n/a
Foundation.			
1014	Cut	Uncategorised	n/a
Uncategorised.			
1015	Cut	Construction cut	1016, 1017
Linear construction cut with vertical, straight sides. Depth: 1.20 m.			
1016	Fill	Tertiary fill	1015
Dark grey with yellow clay with common clinker inclusions			
1017	Masonry	Culvert?	1015
Possible linear culvert aligned W-E with convex sides and an unknown base. Constructed from red brick, some to all brick type a, stamped as 'Drain' to avoid brick tax and bonded with lime mortar, capped with a pinkish brown mortar. Maximum height: 0.40 m.			
1018	Cut	Construction cut	1019, 1021, 1022
Circular construction cut. Diameter: 11.90 m.			
1019	Masonry	Foundation	1018
Curvilinear foundation aligned SW-NW with straight sides and an unknown base. Constructed from red brick, at least one of the brick type b and bonded with lime mortar. Maximum height: 0.36 m.			
1020	Group	Turntable	n/a



Area 1			
Context Number	Type	Category	Fill of/Filled With
Foundation for a railway turntable, an inner brick ring 1026 and machine base 1027 would have held the machinery, while an outer brick ring 1019 and 1021 would have supported the superstructure and trains on top, a brick surface exists between the two rings 1024. 34-foot internal diameter of outer ring, internal diameter of inner ring is 10 foot			
Group components: 1018, 1023, 1024, 1025, 1028			
1021	Masonry	Foundation	1018
Curvilinear foundation aligned SW-NE with straight sides and an unknown base. Constructed from red brick and bonded with lime mortar.			
1022	Fill	Tertiary fill	1018
Mid grey silty clay with very common clinker, rare brick rubble. concentration of stone masonry rubble in the north west inclusions			
1023	Layer	Made ground	n/a
Dark orange brown sand with c0very common small angular gravel inclusions			
1024	Masonry	Surface	n/a
Curvilinear surface aligned N-S with straight sides and a flat base. Constructed from red brick and bonded with dark brown clay. Maximum height: 0.10 m.			
1025	Cut	Construction cut	1026, 1029
Circular construction cut. Diameter: 4.90 m. Depth: >0.20 m.			
1026	Masonry	Foundation	1025
Circular foundation with straight sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.20 m.			
1027	Masonry	Base	1028
Square base with straight sides and an unknown base. Constructed from reb brick and bonded with lime mortar.			
1028	Cut	Construction cut	1027
Square construction cut. Length: 1.80 m. Width: 1.80 m.			
1029	Fill	Tertiary fill	n/a
Mid brown to dark grey sand with common clinker and common brick frags inclusions. Archaeological components: Glass			
1030	Masonry	Surface	1025
Circular surface with straight sides and a flat base. Constructed from slate tiles and lime mortar and bonded with lime mortar. Maximum height: 0.04 m.			

Area 2			
Context Number	Type	Category	Fill of/Filled With
2001	Layer	Topsoil	n/a
Very dark grey silt with common clinker and coal dust inclusions			
2002	Layer	Natural	n/a
Orangey yellow clay with mudstone with moderate angular cobbles inclusions			
2003	Masonry	Foundation	2006
Circular foundation aligned N/a with straight sides. Constructed from red brick and bonded with pink hydraulic lime mortar. Maximum height: 0.60 m.			
2004	Masonry	Foundation	2006
Irregular foundation aligned N/a with irregular sides. Constructed from 2 x sandstone block and bonded with white lime mortar. Maximum height: 0.32 m.			
2005	Group	Tank	n/a
Gasometer\gas holder tank. Foundation of a gas holder, a tank with water to allow for the rising and falling of the gasometer. Group components: 2006			
2006	Cut	Construction cut	2003, 2004, 2007, 2008
Circular construction cut with vertical, straight sides. Diameter: 12.80 m.			
2007	Fill	Deliberate backfill	2006
Dark grey clay with common clinker, coal dust and brick fragments inclusions			
2008	Masonry	Alcove	2006
Curvilinear alcove aligned W-E with irregular sides. Constructed from stone masonry and bonded with lime mortar. Maximum height: 0.11 m.			



Area 2			
Context Number	Type	Category	Fill of/Filled With
2009	Masonry	Turntable foundation	n/a
Circular turntable foundation aligned N/A with straight sides. Constructed from ashlar stone and bonded with infill made up of clinker and other industrial material.			
2010	Group	Structures	n/a
Two small brick structures, with their internal features. These include a machine base and a long cast iron pipe			
Group components: 2011, 2014, 2015, 2016, 2019			
2011	Masonry	Turntable foundation	n/a
Circular turntable foundation. Constructed from stone and bonded with unknown.			
2012	Masonry	Structure	2019
Square structure aligned N/A with straight sides. Constructed from red brick and bonded with lime mortar. Maximum height: 0.20 m.			
2013	Masonry	Structure	2019
Rectangular structure aligned NE–SW with straight sides. Constructed from red brick and bonded with lime mortar.			
2014	Masonry	Unknown interpretation	n/a
Unidentified feature.			
2015	Masonry	Machine base	n/a
Sub-square machine base aligned N/A with stepped sides. Constructed from red brick and 3 large cylindrical ferrous pins and bonded with lime mortar. Maximum height: 0.20 m.			
2016	Masonry	Pipe	n/a
L-shaped pipe aligned NE–SW then SE–NW. Constructed from cast iron 6-inch pipe and bonded with n/a. Maximum height: 0.24 m.			
2017	Masonry	Land drain	2018
Linear land drain aligned W–E with straight sides. Constructed from red brick and stone slabs and bonded with lime mortar. Maximum height: 0.50 m.			
2018	Cut	Construction cut	2017
Linear construction cut with vertical, straight sides and a flat base. Length: 1.10 m. Width: 0.50 m. Depth: 0.50 m.			
2019	Cut	Construction cut	2010
Rectangular construction cut. Length: 4.50 m. Width: 1.60 m.			
2020	Fill	Tertiary fill	2006
Very dark grey sandy clay with 10% moderate subangular cobbles, 20% common brick, 30% very common clinker inclusions. Archaeological components: Rare clay pipe, rare bone			
2021	Cut	Pit or construction cut	2022
Sub-rectangular pit or construction cut. Length: 2.75 m. Width: 0.36 m.			
2022	Fill	Tertiary fill	2021
Very dark grey silt with clinker with brick frags inclusions			
2023	Cut	Construction cut	2024
Sub-rectangular construction cut. Length: 2.75 m. Width: 0.36 m.			
2024	Fill	Tertiary fill	2023
Very dark grey silt with clinker with brick frags inclusions			
2025	Cut	Construction cut	n/a
Construction cut.			
2026	Fill	Unknown interpretation	2025
2027	Cut	Unknown interpretation	n/a
Unidentified feature.			
2028	Fill	Unknown interpretation	2027
2029	Cut	Unknown interpretation	n/a
Unidentified feature.			
2030	Fill	Unknown interpretation	n/a
2031	Cut	Unknown interpretation	n/a
Unidentified feature.			



Area 2			
Context Number	Type	Category	Fill of/Filled With
2032	Fill	Unknown interpretation	n/a
2033 Unidentified feature.	Cut	Unknown interpretation	n/a
2034	Fill	Unknown interpretation	n/a
2035 Unidentified feature.	Cut	Unknown interpretation	n/a
2036	Fill	Unknown interpretation	n/a
2037 Unidentified feature.	Cut	Unknown interpretation	n/a
2038	Fill	Unknown interpretation	n/a
2039 Unidentified feature.	Cut	Unknown interpretation	n/a
2040 Sleeper pits, showing a row of 11 sleepers to the SW of 2005 and SE of 2010, this represents a line of track running roughly N-S toward the gas holder 2005 Group components: 2021, 2023, 2025, 2027, 2029, 2031, 2033, 2035, 2037, 2039, 2042, 2069	Group	Pit	n/a
2041	Fill	Unknown interpretation	n/a
2042 Unidentified feature.	Cut	Unknown interpretation	n/a
2043	Fill	Unknown interpretation	n/a
2044 Irregular uncategorised with irregular, irregular sides and an irregular/undulating base. Length: 1.24 m. Width: 0.92 m. Depth: 0.07 m.	Cut	Uncategorised	2045
2045 Very dark grey sandy clay with 40% abundant clinker inclusions	Fill	Deliberate backfill	2044
2046 Linear construction cut.	Cut	Construction cut	2047, 2048
2047 Dark grey silty clay with common clinker inclusions	Fill	Tertiary fill	2046
2048 Linear unidentified feature aligned SE–NW with straight sides. Constructed from red brick and bonded with lime mortar. Maximum height: 0.36 m.	Masonry	Unknown interpretation	2046
2049 Square base aligned with straight sides. Constructed from red brick and bonded with lime mortar. Maximum height: 0.20 m.	Masonry	Base	2046
2050 NE–SW rectangular building on the SE of site, with a base on the NE end. Contains sleeper scars and possible inspection pits Group components: 2046, 2056, 2057, 2058, 2059, 2062, 2064, 2185	Group	Building	n/a
2051 Curvilinear conduit or channel aligned N–S with straight sides. Constructed from red brick and bonded with lime mortar. Maximum height: 0.30 m.	Masonry	Drain	2052
2052 Curvilinear construction cut with vertical, straight sides and a flat base. Length: 5.80 m. Width: 0.36 m. Depth: 0.30 m.	Cut	Construction cut	2051
2053 Sub-circular construction cut with steep, straight sides. Diameter: 12.50 m. Depth: 2.50 m.	Cut	Construction cut	2054, 2055
2054	Fill	Tertiary fill	2053



Area 2			
Context Number	Type	Category	Fill of/Filled With
Dark grey silty clay with common clinker and brick frags inclusions. Archaeological components: Pot			
2055	Masonry	Wall of cistern or tank	2053
Curvilinear wall of cistern or tank aligned E–W with straight sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 1.20 m.			
2056	Masonry	Foundation	n/a
Linear foundation aligned SW-NE with straight sides and an unknown base. Constructed from brick and bonded with lime mortar. Maximum height: 0.07 m.			
2057	Masonry	Wall	n/a
Linear wall aligned SW-NE with straight sides and a flat base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.09 m.			
2058	Masonry	Wall	n/a
Linear wall aligned SE-NW with straight sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.37 m.			
2059	Masonry	Internal wall	n/a
Rectangular internal wall aligned W-E with straight sides. Constructed from red brick and bonded with lime mortar. Maximum height: 0.20 m.			
2060	Masonry	Wall	2062
Linear wall aligned SW–NE with straight sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.20 m.			
2061	Masonry	Foundation	2062
Rectangular foundation aligned SW–NE with stepped sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.50 m.			
2062	Cut	Construction cut	2060, 2061, 2063
Linear construction cut. Length: 16.20 m. Width: 1.54 m. Depth: >0.30 m.			
2063	Fill	Tertiary fill	2062
Dark grey silty clay with common clinker inclusions			
2064	Cut	Construction cut	2065, 2066, 2067, 2068
Linear construction cut. Length: 10.70 m. Width: 1.90 m. Depth: >0.20 m.			
2065	Masonry	Foundation	2064
Linear foundation. Constructed from red brick and bonded with lime mortar.			
2066	Fill	Tertiary fill	2064
Dark grey silty clay with common clinker inclusions			
2067	Masonry	Wall	2064
Linear wall aligned SW–NE with straight sides and a flat base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.10 m.			
2068	Masonry	Pier or wall	2064
Rectangular pier or wall aligned NW–SE with stepped sides and a flat base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.20 m.			
2069	Cut	Construction cut	2070
Sub-rectangular construction cut. Length: 2.70 m. Width: 0.50 m.			
2070	Fill	Tertiary fill	2069
Dark grey silty clay with common clinker, brick frags inclusions			
2071	Cut	Pit	2072
Square pit. Length: 1.20 m. Width: 1.20 m.			
2072	Fill	Tertiary fill	2071
Light yellow clay with common stone frags inclusions			
2073	Cut	Pit	2074, 2075
Square pit. Length: 1.20 m. Width: 1.20 m.			
2074	Fill	Tertiary fill	2073
Mid grey with yellow mottles silt and clay with common clinker and stone frags inclusions			
2075	Masonry	Post	2073
Rectangular post with straight sides and an unknown base. Constructed from timber and bonded with 2074 clay and silt. Maximum height: 0.40 m.			
2076	Cut	Pit	2077
Rectangular pit. Length: 0.37 m. Width: 0.25 m.			
2077	Fill	Tertiary fill	2076



Area 2			
Context Number	Type	Category	Fill of/Filled With
Mid grey silty clay with common clinker, brick frags inclusions			
2078	Cut	Pit	2079
Square pit. Length: 1.20 m. Width: 1.20 m.			
2079	Unexcavated	Tertiary fill	2078
Mid grey- red with yellow mottles silty clay with common clinker and brick dust inclusions			
2080	Group	Pit alignment (modern)	n/a
Modern alignment of square pits all roughly 1.2x1.2 m apart from 2076 which is smaller. Roughly north to south			
Group components: 2044, 2071, 2073, 2076, 2078			
2081	Masonry	Pipe	n/a
Linear pipe aligned NW–SE. Constructed from 3-inch cast iron pipe and bonded with none. Maximum height: 0.10 m.			
2082	Masonry	Pipe	n/a
L-shaped pipe aligned NW–SE. Constructed from 6-inch cast iron pipe and bonded with none.			
2083	Masonry	Foundation	2086
Rectangular foundation aligned NE–SW with unknown sides and an unknown base. Constructed from unfrogged red brick and bonded with white lime.			
2084	Masonry	Surface	n/a
Rectangular surface aligned NE– SW with concave sides and an unknown base. Constructed from red brick and bonded with fine clay with dark ash mix.			
2085	Fill	Unknown interpretation	2086
Orange brown sand			
2086	Cut	Construction cut	2083, 2085
Rectangular construction cut. Length: 8.84 m. Width: 2.25 m.			
2087	Masonry	Pipe	n/a
Linear pipe aligned W-E with unknown sides and a concave base. Constructed from 3-inch-wide lead pipe and bonded with lime mortar bonded with 2083.			
2088	Masonry	Pipe	n/a
Curvilinear pipe aligned W-E with unknown sides and a concave base. Constructed from 3-inch-wide lead pipe and bonded with lime mortar bonded with 2083. Maximum height: 0.08 m.			
2089	Cut	Construction cut	2001, 2088
Curvilinear construction cut with vertical, straight sides. Length: >2.00 m. Width: 0.10 m. Depth: >0.30 m.			
2090	Group	Inspection pits	n/a
Two inspection pits inside 2050. On western side of the engine house. Various drains and conduits included, drained by 2110. 64 foot long, 7 foot 6 inches wide. Includes track supporter/adjuster at SE end.			
2091	Cut	Construction cut	2092, 2093, 2094
Rectangular construction cut. Length: 2.00 m. Width: 0.70 m.			
2092	Masonry	Drain	2091
Linear drain aligned SW–NE with unknown sides and an unknown base. Constructed from red brick and bonded with lime mortar.			
2093	Masonry	Drain	2091
Linear drain aligned SW–NE with unknown sides and an unknown base. Constructed from red brick and bonded with lime mortar.			
2094	Fill	Tertiary fill	2091
Mottled yellow brown sandy silt with common clinker, lime mortar and brick fragments inclusions			
2095	Cut	Construction cut	2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107
Rectangular construction cut. Length: 8.80 m. Width: 2.20 m. Depth: 0.50 m.			
2096	Masonry	Foundation	n/a
Rectangular foundation aligned SW–NE with unknown sides and an unknown base. Constructed from red brick, with some slate in areas and bonded with lime mortar. Maximum height: 0.30 m.			
2097	Masonry	Surface	2095
Rectangular surface aligned SW–NE with straight sides and a concave base. Constructed from red brick and bonded with black sandy silt with ash.			
2098	Fill	Bedding	2095



Area 2			
Context Number	Type	Category	Fill of/Filled With
Mid orange brown sand			
2099	Masonry	Drain	n/a
Linear drain aligned SW–NE with unknown sides and an unknown base. Constructed from red-brick and bonded with black silty clay with ash.			
2100	Masonry	Surface	2095
Rectangular surface aligned SW–NE with unknown sides and an unknown base. Constructed from concretion of clinker and rust.			
2101	Masonry	Drain	n/a
Linear drain aligned SW–NE with straight sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.20 m.			
2102	Masonry	Drain	2095
Irregular drain aligned SW–NE with straight sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.20 m.			
2103	Masonry	Buttress	n/a
Irregular buttress aligned SW–NE with straight sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.50 m.			
2104	Masonry	Pins	n/a
Linear pins aligned SW–NE with unknown sides and an unknown base. Constructed from 4 x ferrous metal bolts and nuts and bonded with lime mortar. Maximum height: 0.33 m.			
2105	Masonry	Buttress	2095
Linear buttress aligned SW–NE with straight sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.40 m.			
2106	Masonry	Pins	n/a
Linear pins aligned SW–NE with unknown sides and an unknown base. Constructed from ferrous metal bolts and nuts and bonded with lime mortar. Maximum height: 0.33 m.			
2108	Masonry	Land drain	2114
Linear land drain aligned NW–SE with straight sides and an unknown base. Constructed from red brick 2 courses and bonded with lime mortar. Maximum height: 0.25 m.			
2109	Masonry	Surface	2114
Linear surface aligned NE–SW with straight sides and a flat base. Constructed from flagstone.			
2110	Group	Land drain	n/a
Group consists of various sections of a brick built, stone capped drain, draining the east and west engine house bays and running the entire width of Area 2.			
Group components: 2113, 2114, 2189			
2111	Masonry	Unknown interpretation	2113
Linear unidentified feature aligned NW SE. Constructed from red brick 1 course and bonded with white lime mortar. Maximum height: 0.39 m.			
2112	Masonry	Surface	2113
Linear surface aligned NW SE with straight sides and a flat base. Constructed from flagstones. Maximum height: 0.06 m.			
2113	Cut	Construction cut	2111, 2112
Linear construction cut with vertical, straight sides. Length: 0.80 m. Width: 0.57 m. Depth: 0.41 m.			
2114	Cut	Unknown interpretation	2108, 2109
Rectangular unidentified feature with vertical, straight sides.			
2115	Layer	Surface?	n/a
Black clinker concretion			
2116	Layer	Track bed	n/a
Dark brown grey clinker and silt			
2117	Layer	Made ground	n/a
Mottled yellow brown, white, black clay, silt, clinker, sand with brick fragments and lime mortar inclusions			
2118	Group	Turntable	n/a
Small turntable directly South of entrance to 2090\2050, and directly east of larger turntable 2119. Small size relates to carriage use, rather than locomotives. Includes large drain 2131\2127			
Group components: 2127, 2128, 2131			



Area 2			
Context Number	Type	Category	Fill of/Filled With
2119	Group	Turntable	n/a
Large stone turntable, directly west of 2118, with associated track bed 2126. Type C masonry and ferrous metal pins are common throughout. Cuts earlier gasworks features			
Group components: 2120, 2124, 2125, 2169			
2120	Cut	Construction cut	2121, 2122, 2123, 2124, 2125
Circular construction cut with vertical, straight sides. Diameter: 11.88 m. Depth: >1.00 m.			
2121	Fill	Tertiary fill	2120
Dark greyish brown silty clay with very common clinker, rare stone fragments inclusions			
2122	Masonry	Foundation	2120
Curvilinear foundation aligned N-S with straight sides and an unknown base. Constructed from dressed masonry with a single face, 6 of type c masonry blocks and bonded with lime mortar and clay. Maximum height: 0.40 m.			
2123	Masonry	Foundation	2120
Circular foundation with unknown sides and an unknown base. Constructed from large blocks of dressed masonry, 8 of which are type c and bonded with lime mortar.			
2124	Masonry	Wall	n/a
Circular wall with straight sides and a flat base. Constructed from large blocks of dressed masonry, 7 of type c and bonded with lime mortar. Maximum height: 0.60 m.			
2125	Masonry	Pier	n/a
Sub-rectangular pier with straight sides and a flat base. Constructed from large blocks of dressed masonry, 3 of which are type c plus two ferrous pins with washers and bonded with lime mortar and clay. Maximum height: 0.70 m.			
2126	Unexcavated	Track bed	n/a
Dark grey silty clay with very common clinker, rare slate, brick frags inclusions			
2127	Masonry	Land drain	n/a
Land drain aligned East West. Constructed from red brick.			
2128	Cut	Turntable	2129
Circular turntable with vertical, straight sides. Diameter: 4.88 m.			
2129	Fill	Deliberate backfill	n/a
Dark grey sandy silt loam with abundant, angular, poorly sorted inclusions. Archaeological components: Red brick, slate			
2130	Masonry	Base for turntable pivot mechanism.	2128
Square base for turntable pivot mechanism. aligned NW SE with straight sides and a flat base. Constructed from stone. Maximum height: 0.15 m.			
2131	Masonry	Land drain	n/a
Rectangular land drain aligned North South with convex sides. Constructed from red brick and bonded with white lime. Maximum height: 0.05 m.			
2132	Masonry	Foundations of turntable	2128
Circular foundations of turntable with straight sides and a flat base. Constructed from red brick and bonded with lime mortar.			
2133	Masonry	Wall capping?	n/a
Possible linear wall capping aligned N S with straight sides and an unknown base. Constructed from rough cut stone and bonded with clay.			
2134	Masonry	Pathway	2136
Linear pathway aligned North south with straight sides and a flat base.			
2135	Masonry	Foundation	2136
Linear foundation aligned N-S with straight sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.14 m.			
2136	Cut	Unknown interpretation	n/a
Linear unidentified feature with vertical, straight sides.			
2137	Group	Flue	n/a



Area 2			
Context Number	Type	Category	Fill of/Filled With
Collection of 3 flues most likely associated with the 1840s gas works, cut by g#2119 (large stone turntable) 14 foot wide, 11+ foot long			
Group components: 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2151, 2152, 2159, 2160, 2164, 2165, 2166, 2167			
2138	Masonry	Foundation	n/a
Rectilinear foundation aligned NE–SW with straight sides and an unknown base. Constructed from rough masonry and bonded with lime mortar.			
2139	Masonry	Buttress or wall	n/a
Linear buttress or wall aligned N–S with straight sides and an unknown base. Constructed from red brick, mostly unfrogged and bonded with lime mortar.			
2140	Masonry	Buttress or wall	n/a
L-shaped buttress or wall aligned S–N then NE–SW with straight sides and an unknown base. Constructed from red brick and firebrick and bonded with heat affected lime mortar.			
2141	Masonry	Wall?	n/a
Possible L-shaped wall aligned SW–NE, then E–W with straight sides and an unknown base. Constructed from fire brick and bonded with heat affected lime mortar.			
2142	Masonry	Wall?	n/a
Possible L-shaped wall aligned SW to ne then W–E with straight sides and an unknown base. Constructed from fire brick and bonded with heat affected lime mortar.			
2143	Masonry	Flue	n/a
Linear flue aligned N-S with straight sides and an unknown base. Constructed from fire brick, standard on the walls, type d on the vaulting and bonded with heat affected lime mortar. Maximum height: 0.50 m.			
2144	Masonry	Flue	n/a
Linear flue aligned NE–SW with straight sides and an unknown base. Constructed from fire brick, standard on the walls, typed on the vaulting and bonded with heat affected lime mortar. Maximum height: 0.20 m.			
2145	Masonry	Flue	n/a
Linear flue aligned W-E with straight sides and an unknown base. Constructed from fire brick, standard for walls, type d for vaulting and bonded with heat affected lime mortar. Maximum height: 0.20 m.			
2146	Masonry	Capping	n/a
Irregular capping aligned W–E with irregular sides and a flat base. Constructed from cement flags and single red half brick and bonded with none. Maximum height: 0.09 m.			
2147	Masonry	Foundation	n/a
Linear foundation aligned NE–SW with straight sides and an unknown base. Constructed from machine made red brick and bonded with lime mortar. Maximum height: 0.16 m.			
2148	Masonry	Foundation	n/a
Rectangular foundation aligned NE–SW with irregular sides and an unknown base. Constructed from rough masonry and bonded with lime mortar. Maximum height: 0.20 m.			
2149	Masonry	Chimney	n/a
Rectangular chimney aligned NE–SW with straight sides and a flat base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.34 m.			
2150	Masonry	Pipe	n/a
Linear pipe aligned N–S ish. Constructed from ceramic and bonded with none. Maximum height: 0.23 m.			
2151	Masonry	Foundation	n/a
Rectangular foundation aligned NW–SE with straight sides and an unknown base. Constructed from broken fire bricks one stamped 'ey' and bonded with lime mortar.			
2152	Masonry	Surface	n/a
L-shaped surface aligned SE–NW, then SW–NE with straight sides and a flat base. Constructed from red brick and half bricks and bonded with lime mortar. Maximum height: 0.07 m.			
2153	Masonry	surface	n/a
Linear surface. Constructed from red brick and bonded with lime mortar. Maximum height: 0.12 m.			
2154	Masonry	Wall	n/a
Linear wall aligned N–S. Constructed from red brick and bonded with lime mortar.			
2155	Masonry	Land drain	n/a
Square land drain aligned NW–SE with straight sides. Constructed from red brick and bonded with lime mortar. Maximum height: 0.23 m.			



Area 2			
Context Number	Type	Category	Fill of/Filled With
2156	Masonry	Foundation	n/a
Irregular foundation aligned SW–NE with straight sides and an unknown base. Constructed from rough masonry, reddened by heat affect and bonded with lime mortar. Maximum height: 0.15 m.			
2157	Masonry	Foundation	n/a
Linear foundation aligned NE–SW. Constructed from red brick and bonded with lime mortar. Maximum height: 0.07 m.			
2158	Masonry	Foundation	n/a
Linear foundation aligned SW–NE with irregular sides and an unknown base. Constructed from rough stone, most likely rubble and bonded with lime mortar.			
2159	Masonry	Flue	n/a
Linear flue aligned SW–NE with straight sides and an unknown base. Constructed from fire brick some stamped " ...y cliff _wartley_ leeds" and bonded with heat affected lime mortar. Maximum height: 0.12 m.			
2160	Masonry	Flue	n/a
Linear flue aligned SW–NE with straight sides and an unknown base. Constructed from fire brick and bonded with heat affected lime mortar. Maximum height: 0.14 m.			
2161	Masonry	surface	n/a
Square surface aligned square. Constructed from unfrogged red brick and bonded with lime mortar. Maximum height: 0.12 m.			
2162	Masonry	Wall	n/a
Linear wall. Constructed from red brick and bonded with sandy lime mortar. Maximum height: 0.30 m.			
2163	Group	Boiler housing and drain	n/a
Likely connected to 2016 and 2010. buildings connected to the gasworks. Larger building has a curved surface which may have held a boiler or engine, while the smaller building has a wide ceramic drain leading into 2110. This may have been where a tap drained the machinery			
Group components: 2150, 2153, 2154, 2155, 2161			
2164	Masonry	Slope	n/a
Unknown slope aligned SW–NE with straight sides and an unknown base. Constructed from fire brick, coated with slag (rough finish) and bonded with slag.			
2165	Masonry	Buttress	n/a
Linear buttress aligned SW–NE with unknown sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.07 m.			
2166	Masonry	Flue	n/a
Linear flue aligned SW–NE with straight sides and an unknown base. Constructed from fire brick and bonded with heat affected lime mortar. Maximum height: 0.16 m.			
2167	Masonry	Flue	n/a
Linear flue aligned SW–NE with straight sides and an unknown base. Constructed from fire brick and bonded with heat affected lime mortar. Maximum height: 0.09 m.			
2168	Masonry	Surface	2120
Circular surface with unknown sides and an unknown base. Constructed from stone cobbles (sub rectangular) and bonded with lime mortar.			
2169	Masonry	Surface	n/a
Surface. Constructed from large blocks of dressed masonry, 2 of which may be type c, various ferrous pins.			
2170	Masonry	Wall	n/a
Rectangular wall aligned NE-SW. Constructed from unfrogged red brick and bonded with white lime.			
2171	Masonry	step	n/a
Rectangular step with straight sides. Constructed from unfrogged red brick and bonded with lime mortar. Maximum height: 0.12 m.			
2172	Masonry	Surface`	n/a
Rectangular surface` aligned NE-SW. Constructed from unfrogged red brick and bonded with white lime mortar. Maximum height: 0.12 m.			
2173	Masonry	Wall	2179
Linear wall. Constructed from unfrogged red brick and bonded with lime mortar. Maximum height: 0.11 m.			
2174	Masonry	Unknown interpretation	n/a
Unidentified feature.			
2175	Fill	Fill	2173, 2174



Area 2			
Context Number	Type	Category	Fill of/Filled With
Mid/light greyish yellow brown clayey silt with frequent mortar frags, CBM etc inclusions			
2176	Masonry	Unknown interpretation	n/a
Unidentified feature.			
2177	Masonry	Surface	n/a
Surface.			
2178	Cut	Construction cut	n/a
Construction cut.			
2179	Cut	Construction cut	n/a
Construction cut.			
2180	Cut	Construction cut	n/a
Construction cut.			
2181	Masonry	Wall	n/a
Wall.			
2182	Cut	Construction cut	n/a
Construction cut.			
2183	Masonry	Wall	n/a
Wall.			
2184	Layer	Bedding layer	n/a
Sand			
2185	Masonry	Wall	n/a
Wall. Constructed from red brick unfrogged and bonded with white lime mortar.			
2186	Masonry	Tar pits	2188
Sub-square tar pits aligned NE–SW with unknown sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.70 m.			
2187	Fill	Tertiary fill	2188
Dark black clinker and brick fragments with tar			
2188	Cut	Construction cut	2186, 2187
Sub-square construction cut. Length: 5.50 m. Width: 5.20 m. Depth: 0.70 m.			
2189	Cut	Construction cut	2191, 2192, 2196
Linear construction cut with vertical, straight sides. Length: >4.90 m. Width: 0.50 m. Depth: >0.30 m.			
2190	Group	Unknown interpretation	n/a
Eastern inspection pits			
Group components: 2084, 2086, 2087, 2088, 2089, 2091, 2095, 2096, 2099, 2101, 2103, 2104, 2106, 2107, 2170, 2171, 2172			
2191	Masonry	Drain	2189
Linear drain aligned NW–SE with straight sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.20 m.			
2192	Masonry	Capping	2189
Linear capping aligned NW–SE with straight sides and a flat base. Constructed from rough flagstones and bonded with none. Maximum height: 0.05 m.			
2193	Unexcavated	Construction cut	n/a
2194	Masonry	Capping	2193
Linear capping aligned SE–NW with straight sides and a flat base. Constructed from rough masonry and bonded with none. Maximum height: 0.15 m.			
2195	Masonry	Drain	2193
Linear drain aligned NW–SE with straight sides and an unknown base. Constructed from red brick and bonded with lime mortar. Maximum height: 0.45 m.			
2196	Masonry	Sluice gate	2189
Rectangular sluice gate aligned SE–NW with straight sides and an unknown base. Constructed from single rusted ferrous plate and bonded with unknown. Maximum height: 0.25 m.			
2197	Cut	Posthole	2198, 2199, 2200
Sub-circular posthole with vertical, straight sides and a flat base. Diameter: 0.55 m. Depth: >40.00 m.			
2198	Fill	Unknown interpretation	2197, 2200
Mid grey ashy sand with coal and mortar inclusions			



Area 2			
Context Number	Type	Category	Fill of/Filled With
2199	Fill	Natural	2197
Grey yellow soil with clay with stone small and mid-size inclusions			
2200	Masonry	Unknown interpretation	n/a
Circular unidentified feature with concave sides and a flat base. Constructed from metal.			



Appendix 2 OASIS form

OASIS ID: wessexar1-374054

Project details

Project name	Station Road, Normanton, West Yorkshire
Short description of the project	The archaeological remains excavated were predominantly structural remains of railway buildings and turntables that can be identified on an 1846 historic map of Normanton, but also included evidence of the later 19th century development of the site into an area of sidings. The remains of an engine house present in 1846 (group 2050), contained two complex brick inspection pits (2090 and 2190). Also present in 1846 were flues, probably a heat exchanger, associated with a gas works (group 2137), a passenger platform (walls 1005 and 1013) and two turntables, one large (1020) and one small, perhaps for directing wagons (2118). The below-ground foundation walls of the structures mostly survived in a good condition. The remains of the gas works were subject to heavy truncation during construction of a later turntable (group 2119). Mid- and late-19th century redevelopment comprised a re-sited gas holder (2005) and associated structures, the stone-built large turntable mentioned above (2119) and drains. Undated features included a long surface (1010/1012), perhaps a track bed or platform, a further track bed evidenced by sleeper scars (2040) and a row of four postholes aligned with the tracks. No soils were encountered, the site having been levelled to natural geology prior to construction of the railway. Natural geology was reached across all areas of investigation. The small finds assemblage from both the excavation and previous evaluation (Wessex Archaeology 2019) was 19th and 20th century in date and confirms the use of the area at the height of the importance of the railway.
Project dates	Start: 07-10-2019 End: 30-10-2019
Previous/future work	Yes / Yes
Any associated project reference codes	221561 - Contracting Unit No.
Any associated project reference codes	18/02893/FUL - Planning Application No.
Type of project	Recording project
Site status	None
Current Land use	Vacant Land 3 - Despoiled land (contaminated derelict and ?brownfield? sites)
Monument type	ENGINE SHED Post Medieval
Monument type	RAILWAY PLATFORM Post Medieval
Monument type	RAILWAY TURNTABLE Post Medieval
Monument type	GAS WORKS Post Medieval
Significant Finds	NONE None
Investigation type	"Part Excavation", "Watching Brief"
Prompt	Direction from Local Planning Authority - PPG16

Project location



Country	England
Site location	WEST YORKSHIRE WAKEFIELD NORMANTON Station Road, Normanton
Postcode	WF6 2BG
Study area	4.5 Hectares
Site coordinates	38110 22897 38110 00 00 N 22897 00 00 E Point
Height OD / Depth	Min: 33m Max: 33m

Project creators

Name of Organisation	Wessex Archaeology
Project brief originator	ECUS
Project design originator	ECUS
Project director/manager	Milica Rajic
Project supervisor	Emily Eastwood
Type of sponsor/funding body	Developer
Name of sponsor/funding body	Strategic Team Group

Project archives

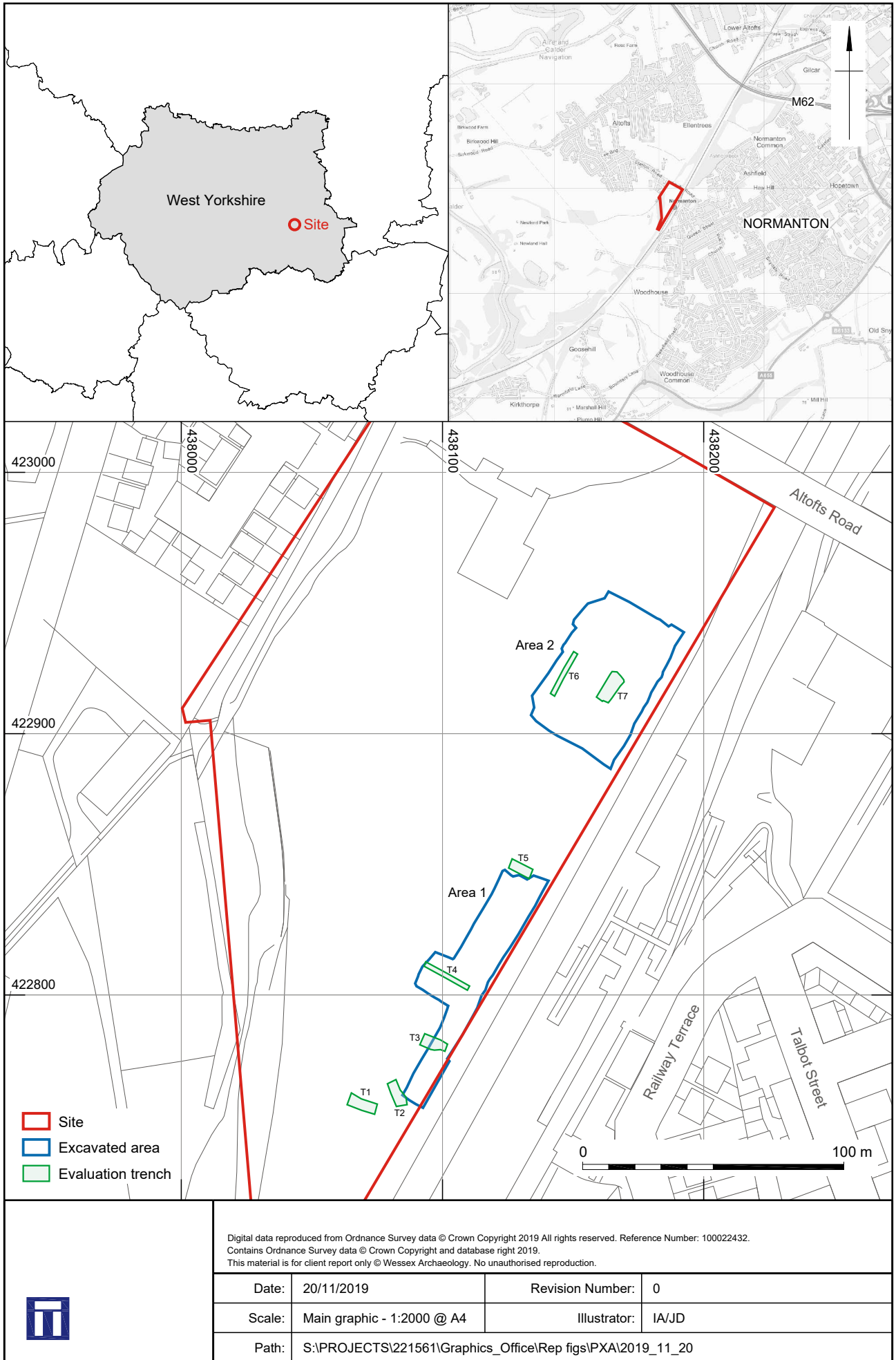
Physical Archive Exists?	No
Digital Archive recipient	West Yorkshire
Digital Contents	"none"
Digital Media available	"Database", "Images raster / digital photography", "Spreadsheets", "Text"
Paper Archive recipient	West Yorkshire
Paper Contents	"Ceramics", "Glass", "Wood"
Paper Media available	"Drawing", "Photograph", "Plan", "Report", "Section"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Station Road, Normanton, West Yorkshire: Post-Excavation Assessment and Updated Project Design
Author(s)/Editor(s)	Eastwood, E.



Author(s)/Editor(s)	Tuck, A.
Other bibliographic details	221561.03
Date	2019
Issuer or publisher	Wessex Archaeology
Place of issue or publication	Sheffield
Description	A4 laser printed report
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Entered by	Ashley Tuck (a.tuck@wessexarch.co.uk)
Entered on	12 December 2019



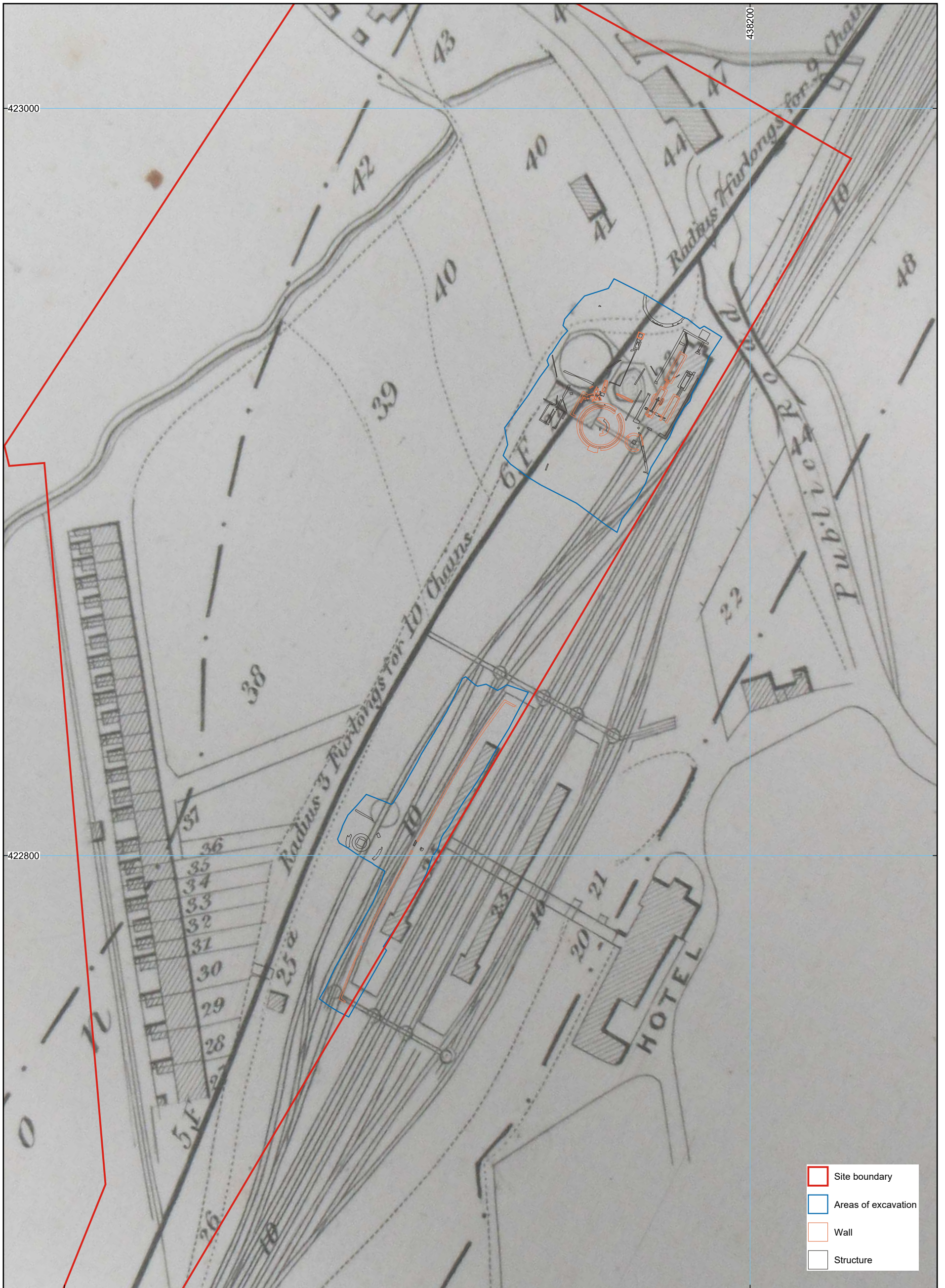
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Site and area location

Figure 1



- Site boundary
- Areas of excavation
- Wall
- Structure

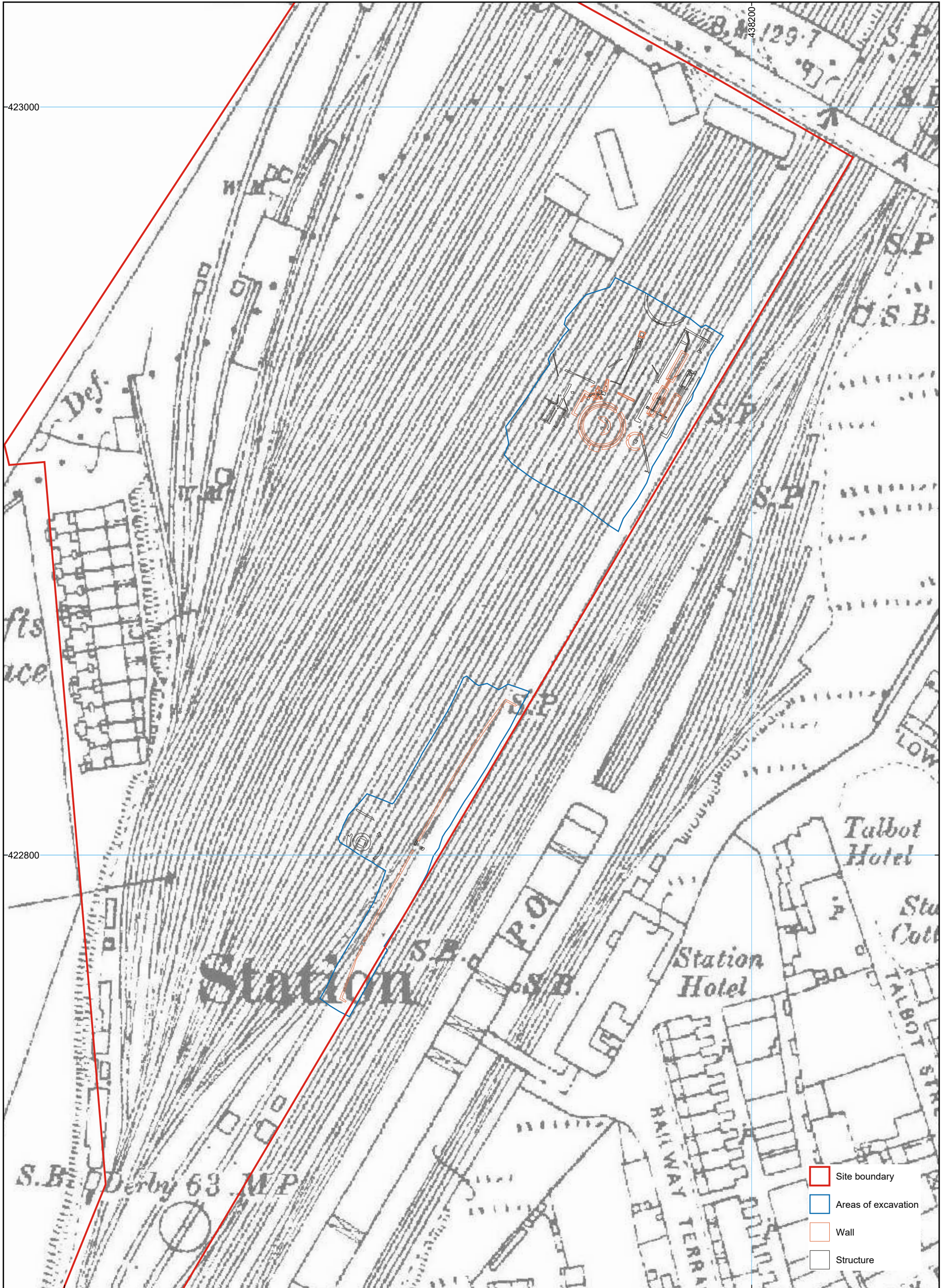


Historic plan provided by Client.
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Site plan overlaid on 1846 Ordnance Survey map of Normanton Station

Figure 2



- Site boundary
- Areas of excavation
- Wall
- Structure

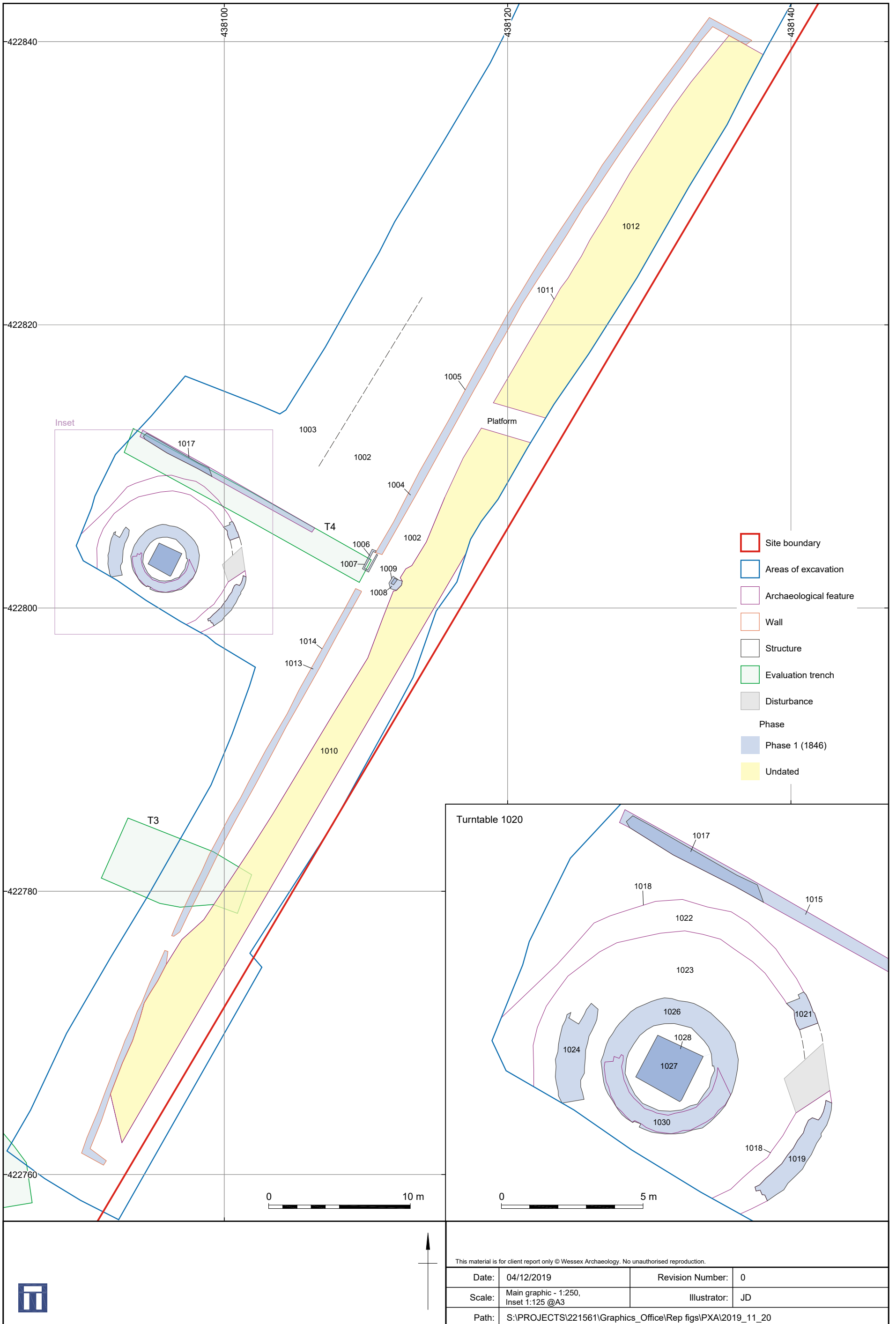


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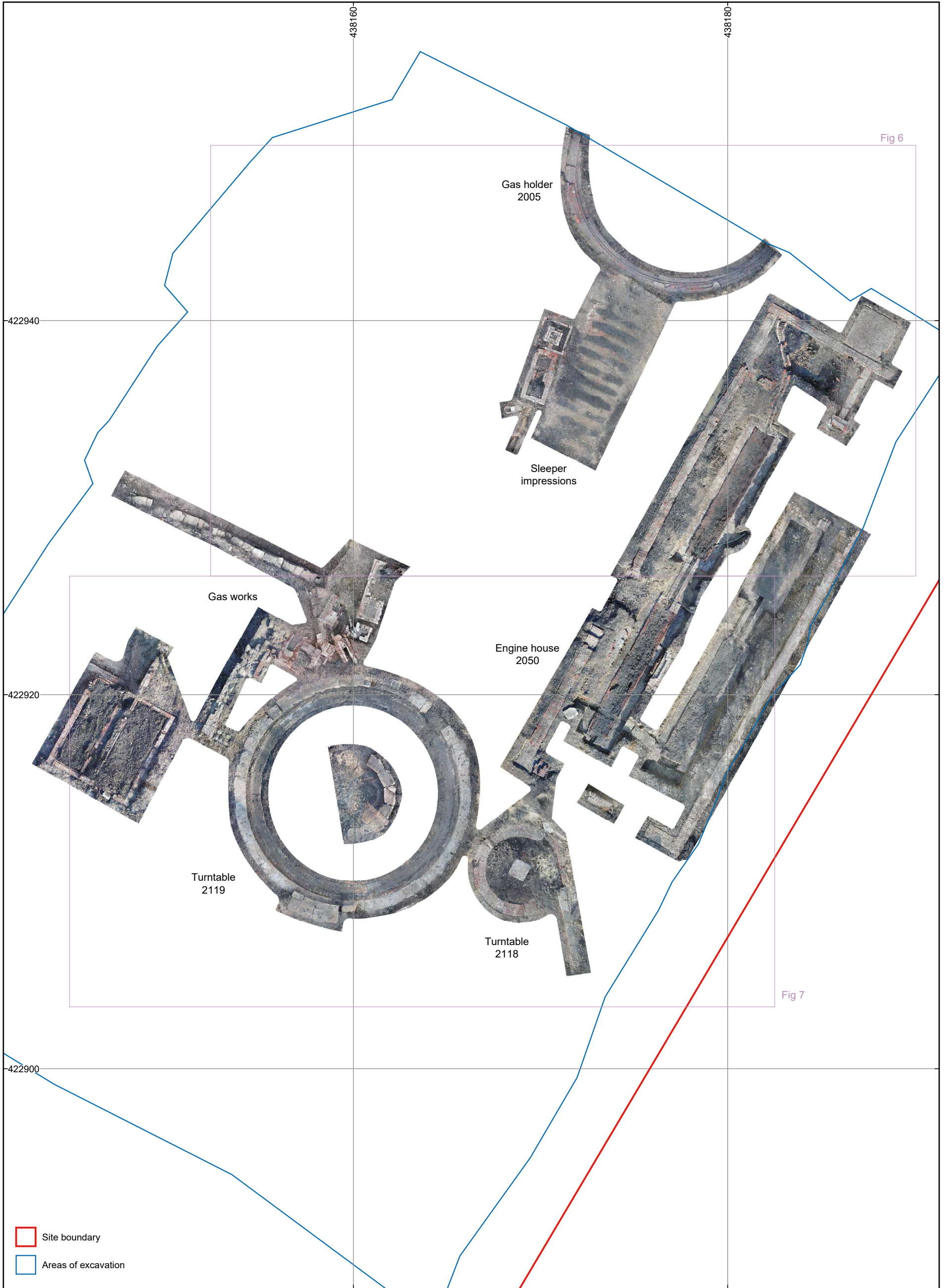
Site plan overlaid on 1892 Ordnance Survey map of Normanton Station


Figure 3



Area 1 plan

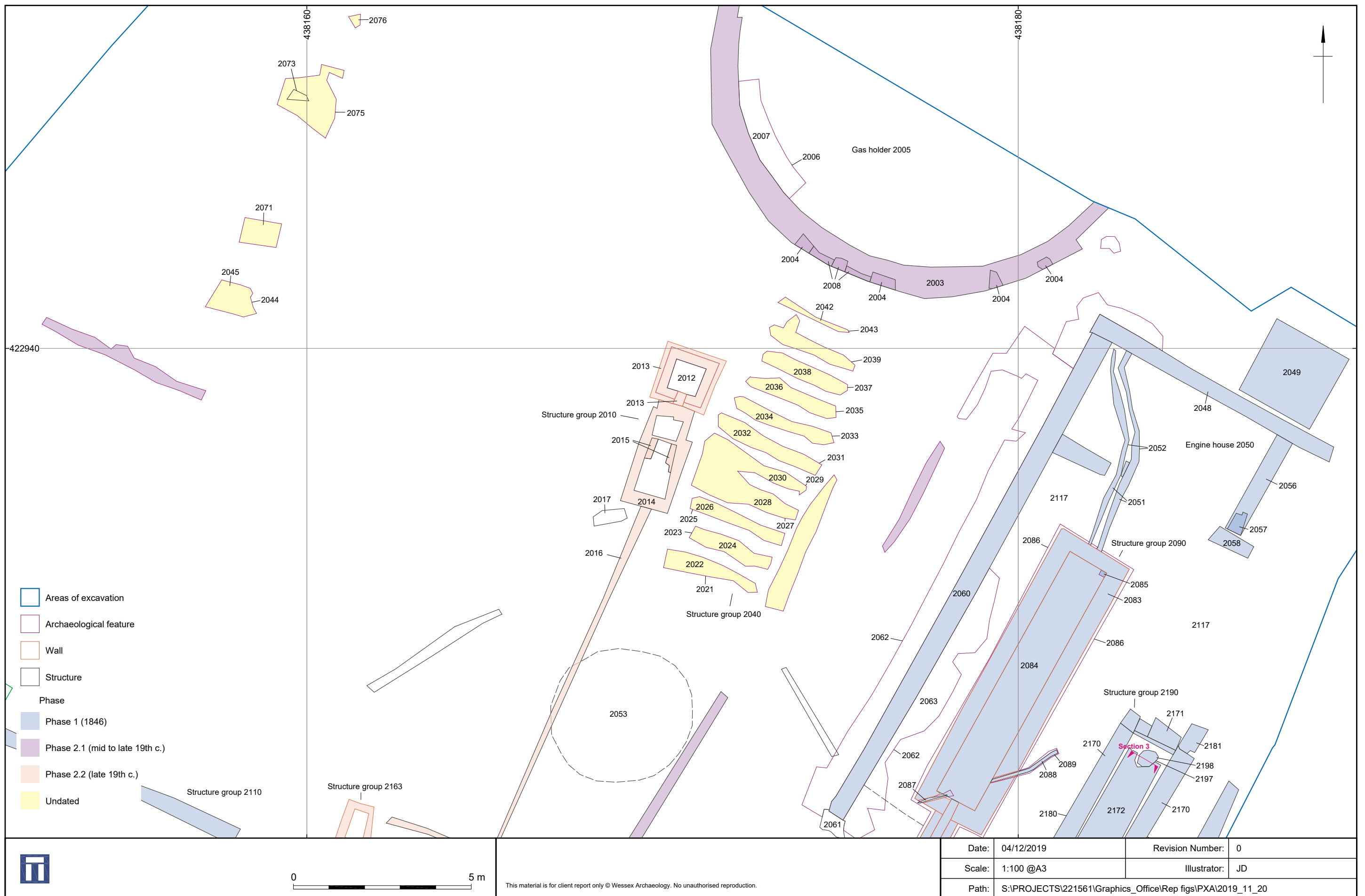
Figure 4



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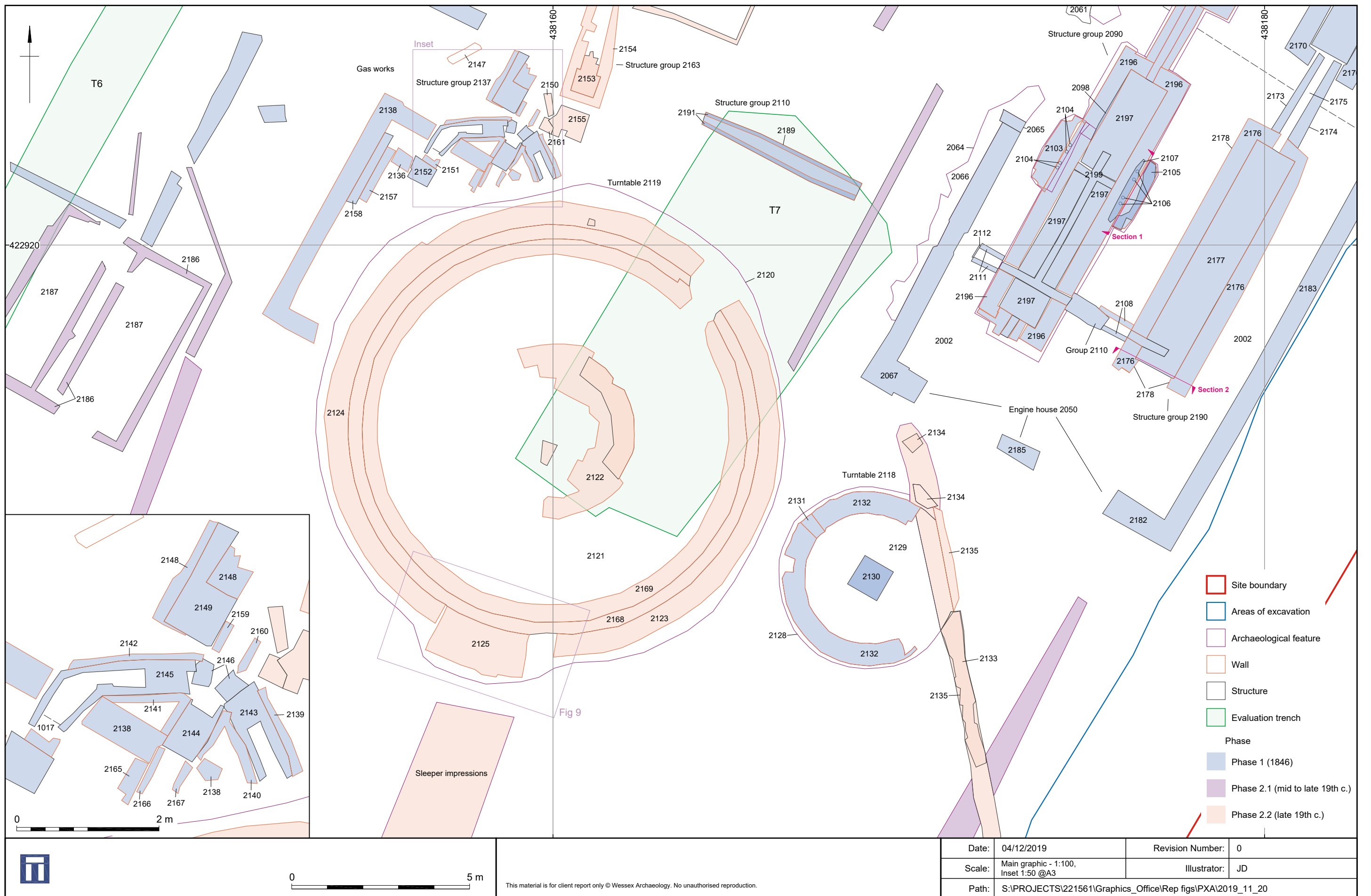
Aerial photography of Area 2

Figure 5



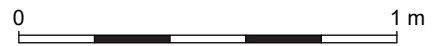
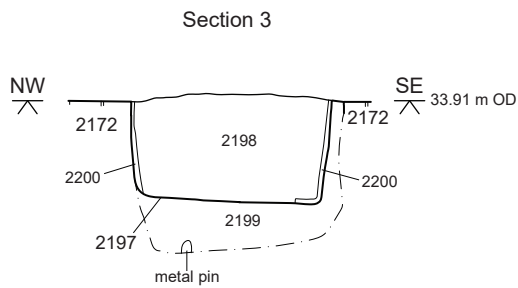
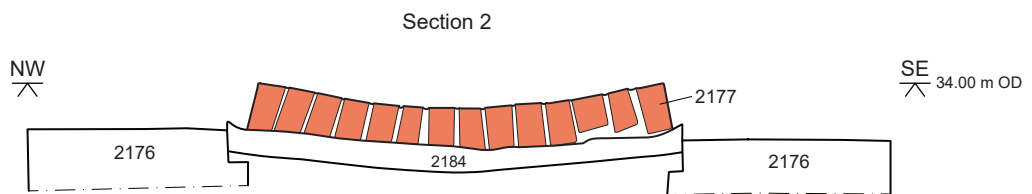
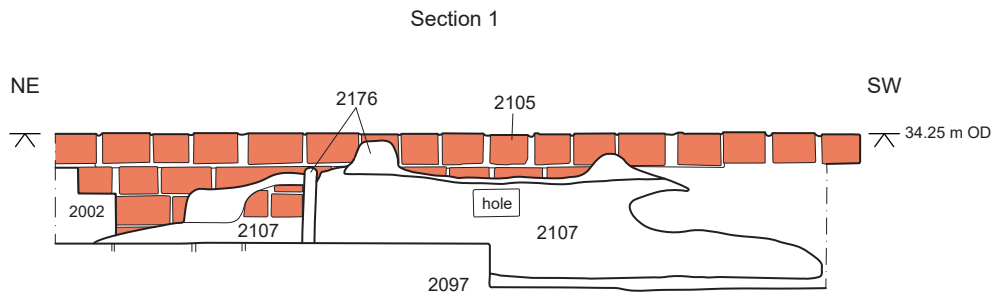
Area 2 plan (north)

Figure 6



Area 2 plan (south)

Figure 7



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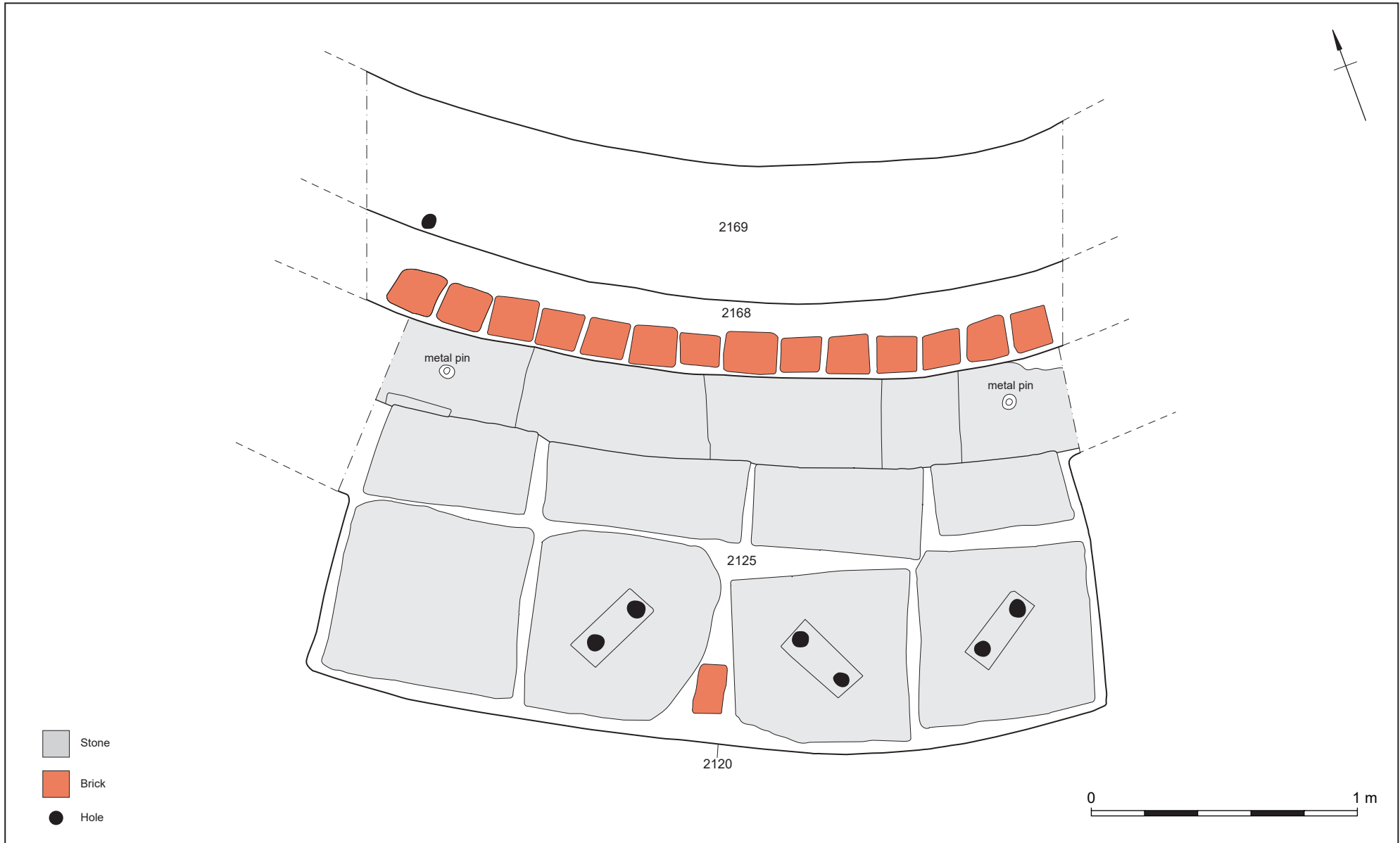
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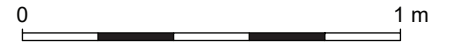
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Sections of structure groups 2190 (section 1) and 2191 (sections 2 and 3)

Figure 8



- Stone
- Brick
- Hole



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Plan of structure group 2119

Figure 9



Plate 1: Area 1 and station platform 1004 and 1013 looking south

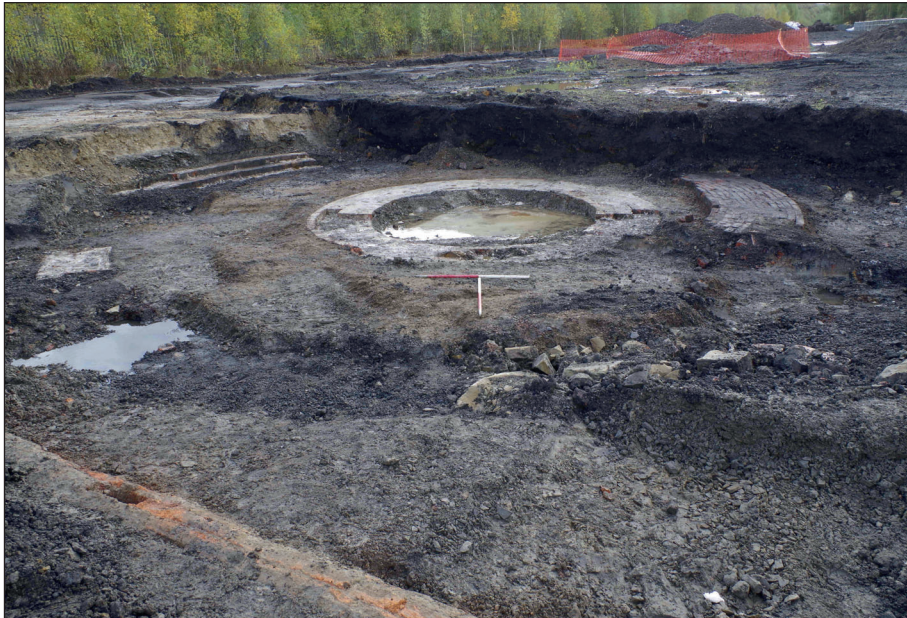


Plate 2: Structure group 1020 with culvert 1017 in foreground, looking south


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Plate 3: 'DRAIN' stamp visible on culvert 2017



Plate 4: Flue group 2137 looking south-west


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Plate 5: Inspection pit 2097 including wood and iron structure 2107 etc. looking south



Plate 6: Inspection pit group 2190 looking north-east


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Plate 7: Pit feature 2197 looking south-east



Plate 8: Wall 2055 looking north-west



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Plate 9: Gas holder 2005 looking south-east

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