

Selly Oak Link Road, Selly Oak, Birmingham

Cultural Heritage Assessment

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Selly Oak Link Road, Selly Oak, Birmingham: Cultural Heritage Assessment

1.0: SUMMARY

An archaeological assessment was carried out as part of an environmental impact assessment ahead of construction of the proposed Selly Oak Link Road, which mainly forms a loop to the west of the Bristol Road (A38) in Birmingham. A branch of the proposed road would run north towards the University Hospital ('Hospital Link'). The main effects upon the sites identified include land-take within the civilian settlement associated with Metchley Roman forts, a site of national importance, and effects upon the forts' setting. Other effects include the demolition of two industrial building complexes, and land-take within areas of potential for prehistoric, and post-medieval archaeology.

2.0: INTRODUCTION

This archaeological assessment has been prepared by Birmingham University Field Archaeology Unit (BUFAU) as part of an environmental impact assessment of the proposed Selly Oak Link Road. The assessment has been prepared for Mott Macdonald, consultants to Birmingham City Council. The location of the proposed new road is shown on Fig. 1 and the new route and the main identified sites (excluding the Hospital Link) are shown on Fig. 2.

For the purposes of assessment a study area extending 50m on either side of the route centreline was chosen for assessment. The study area has been extended to include the whole of Metchley Roman fort, which includes a Scheduled Ancient Monument, and other areas of acknowledged national importance, to include the setting of standing buildings which may be affected by the new route, and also to include other sites as appropriate for the appreciation of the archaeological context of the proposed new route. The assessment adheres to the guidelines set down in the Design Manual for Roads and Bridges (DMRB Volume 10, June 1993, as amended), the *Standard and Guidance for Archaeological Desk-Based Assessments* (Institute of Field Archaeologists 1999) and is written in accordance with Birmingham City Council's Guidance on Sources for Archaeological Desk-Based Assessments.

Archaeological fieldwork, such as trial-trenching or geophysical survey, was outside the scope of this assessment.

3.0: STUDY AREA LOCATION (Figs. 2 and 3)

The proposed Link Road runs parallel with the Bristol Road (A38) from Edgbaston Park Road (involving widening to the Bristol Road), and crosses the A38 opposite the entrance to Arley Road. The proposed road then follows the southern bank of the Bourn Brook, running westwards. A tunnel would be constructed to carry the proposed road beneath the railway and the Worcester and Birmingham canal to a new roundabout on the western side of the railway (hereafter Zone A). From the roundabout, one branch of the road forms a new link road north to the University Hospital site (Zone B, 'Hospital Link', and two adjoining routes, to the east and west),

and another branch runs to the southwest through allotment gardens to a further new roundabout at the proposed junction with Harborne Lane (Zone C). A new roundabout is also planned on Chapel Lane, and improvements to the existing layout of Harborne Lane and Bristol Road include re-landscaping and new footpaths (Zone D).

4.0: OBJECTIVES

The objectives of this assessment were to:

- Identify any potential archaeological constraints (above and below-ground archaeology), find-spots and sites of historical or archaeological association within the study area.
- Map all identified archaeological constraints as far as is possible from existing information.
- Determine the likely survival and significance of archaeological remains within the study area.
- Assess the likely effects of the route upon the archaeological remains, taking into account the agreed mitigation measures.

5.0: METHODOLOGY

A site inspection of the study area was carried out, and documentary research of primary and secondary records and maps held at BUFAU, the University of Birmingham Library, and Birmingham Reference Library was undertaken. Birmingham Sites and Monuments Record, the primary source of known archaeological information for the city, was consulted. The results of earlier archaeological fieldwork at Metchley Roman forts, and other investigations within the study area, have been included. All sources consulted are listed below.

Section 7.0 describes the early archaeological background to the study area, and Section 8.0 provides a review of the archaeological and historical evidence within each of the four zones (A-D, see Section 2.0 and Figs. 2-3). The standing buildings are assessed at the end of each zone description. Section 9.0 describes site significance, and the effects of the proposed route and section 10.0 details the mitigation measures proposed.

This assessment includes consideration of both above and below-ground archaeology. The National Archive Record terminal date of 1945 has been employed for this study. For simplicity, the sites are numbered in a numerical sequence beginning with 1 (Figs. 2-3).

6.0: GEOLOGY AND TOPOGRAPHY

Selly Oak and Northfield form a small part of the Northfield-Dudley plateau, which constitutes part of the South Staffordshire Uplands, and lie within an L-shaped ridge of high ground. There are deposits of 'erratics,' large ice-borne boulders, clay, and glacial sands and gravels in the district. Gravel pits were quite common in the Selly

Oak area and can be seen on the early Ordnance Survey maps. The underlying geology comprises Trias or New Red sandstone with Mercia Mudstone (formerly Keuper marl) at the top underlain by Keuper sandstone and Bunter sandstones beneath this, into which deep wells were sunk to supply Birmingham with water before the Elan Valley aqueduct was constructed. Examples of such wells occur at Selly Oak and Longbridge (Leonard 1933).

7.0: ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

7.1: Prehistoric

A few stray struck flints have been found in Selly Oak, although none derive from within the study area. A sherd of Iron Age pottery and a piece of worked flint were discovered during a watching brief at Selly Park recreation ground (SMR 20352, not illustrated).

Neolithic/Bronze Age burnt mounds (SMR 01682, Site 27, Fig. 3; see below) have been excavated within the grounds of the existing Queen Elizabeth Psychiatric Hospital, to the west of the proposed Hospital Link (Jones 1988, 1989). They were located in a small valley bisected by marshy ground along the infilled former course of a small stream. A rectangular trough was cut into the natural gravels, shallow scoops were filled with burnt stone, and there was an extensive spread of fire-reddened soil sealing a layer of burnt stone, set in a fired soil, which represents a hearth. Excavation revealed parts of two further burnt mounds. Burnt mounds have been interpreted as being either cooking or bathing sites. These discoveries highlight the potential for survival of this type of feature, especially in locations close to watercourses, which also occur elsewhere within the study area, and along the Bourn Brook (Site 1, Fig. 2).

7.2: Roman

Some chance find-spots of Roman coins have been made within the study area, although none are recorded within the corridor of the proposed road, coin finds being generally recorded further to the south.

The major Roman monument within the study area is Metchley Roman fort and associated civilian settlement (SMR 02005 and 20140; West Midlands Scheduled Ancient Monument No. 1; Site 2, see Fig. 9), fully discussed in Section 8.2.3 below

There is much speculation about the alignment of Roman roads in the area, and their relationship to the fort. Oak Tree Lane was possibly a part of Ryknield Street. Analysis has attempted to identify the line of the Roman road that led from Droitwich to Metchley Roman fort within the Selly Oak-Edgbaston-Harborne area. It has been observed that there is a clear line of sight through the gap in the Lickey Hills (to the south of Birmingham) to Metchley Roman fort, and other findings from the Birmingham Roman Roads Project have suggested that the road was re-aligned at this point to sight on Metchley (Leather 1999).

Resistivity survey carried out at Selly Park in 1995 (SMR 20428; Leather 1995) did not produce results supportive of a theory that a north-northeast aligned route ran through Selly Park to Sutton Park, but did appear to identify an irregular northwest-southeast running feature. This may possibly relate to an alternative course for a direct line between Stirchley and Farquhar Road (see Site 14 below).

A surveyor observed what was then interpreted as a short section of Roman road in the corner of the allotment grounds to the northeast of the Harborne Lane Bridge (Site 30, SMR 5676; Robert Turley Associates n.d.). This stretch of road approached Metchley Fort from the southwest and would also align with a linear earthwork shown on the early Ordnance Survey maps (see below, Site 14). However, an archaeological field evaluation undertaken in November 2001 (Patrick *et al.*, 2001) did not find any trace of the Roman road in the area of allotments to the east of Harborne Lane. The suggested alignment of the Roman road between Droitwich and Metchley (Site 28) within the vicinity of the study area is shown on Fig. 2.

7.3: Anglo-Saxon

Selly Oak is twice referred to in the Domesday Book as *Escelie*, where its value is assessed at four hides. The manor of Escelie was held by Fitz Ansculf, whose castle was at Dudley; belonging to the manor was a berewick (outlying estate) of Berchelei, now known as Bartley Green.

Despite the old tradition that Selly Oak is named after the massive oak tree which stood at the junction of Oak Tree Lane and Bristol Road, to the southwest of the study area, on which it was said a witch called Sarah (later shortened to Sally) was hanged, the element *Selly* probably derives from the Old English *scelf*, meaning shelf, and *leah* meaning wood or clearing, later pasture or meadow. 'Shelf' can refer to a broad, level, or very gently sloping, piece of land, more likely to occur at a low altitude than a high one (Gelling 1984). This shelf of land could be surrounded by hills, projecting from higher ground, or on the lower slopes of a hill. The topography of Selly Oak does contain gently sloping hills, and, the University of Birmingham campus, to the immediate north of the study area, is built on higher ground which had to be terraced when it was built. Selly Oak and Northfield form part of the Northfield-Dudley plateau, which constitutes part of the South Staffordshire Uplands. The element Oak is likely to be an addition which does relate to the oak tree formerly at Oak Tree Lane. The tree was removed in 1909 as it was considered a hindrance to pedestrians and traffic.

Other suggestions for the derivation of the name have been proposed, such as *sel*, meaning salt, and *leah*, therefore a saltway through the meadow (Leonard 1933). Selly Oak was indeed an important through-route for the transportation of salt. Certainly in the early 18th century, the road from Bromsgrove to Worcester, around which Selly Oak first developed, became almost impassable due to the heavy trade in the commodity, as well as trade in iron and coal (Saunders n.d.).

7.4: Medieval

Two water mills and a fishery were recorded within the manor in 1272-1273 and in 1338. By 1368, Selly was a tithing of the chief manor of Weoley or Dudley; at this

time there were three mills, a fishery and two fishponds. It is not possible to tell whether or not these fishponds were in the same location as the later-named Kirby's Pools (see below). Stubbe Cross (SMR 2989, Site 29), a possible wayside cross, which stood on Harborne Lane, may imply a medieval date for the line of this road. The road was formerly a holloway.

8.0: BASELINE CONDITIONS

The assessment results are discussed by zone, approximately from north to south. The listed buildings are considered at the end of the relevant zone description.

8.1: Zone A

8.1.1: Introduction (Fig. 2)

The line of the proposed new road follows the Bristol Road, and passes through a petrol station and Tesco-Express mini-supermarket, and then an old works site and Westley's Gun Factory (Site 9, Plates 1-2), which consists of very long workshop ranges extending back from the Grange Road frontage along the Bourn Brook. From here, the proposed road would run parallel to a section of Dale Road, through the site of a recently-demolished factory (formerly Ariel Cycle Works, occupied until recent demolition by George Morgan's works). Between Dale Road and the Bourn Brook are other factory buildings (former cycle factory) within the route of the proposed new road (Site 3). The Bourn Brook flows west-east to the north of the proposed road and, to its north is the University of Birmingham campus, including sports pitches on the site of an earlier rifle range. Just north to the west of the Birmingham-Worcester canal crossing of the proposed new road is an earthwork feature (Site 26), shown on the modern maps, presumably related to the canal and running parallel with its alignment. Site 26 comprises a ditch, with traces of a brick revetment along part of its eastern side. This feature was probably associated with the canal, perhaps forming a feeder-channel.

8.1.2: Mid-19th century

The Northfield parish tithe map from around 1838-40 (Fig. 4) shows the area south of the Bourn Brook. Selly Oak at this time was still predominantly rural in character, with little development of a residential nature. However, the Birmingham and Worcester Canal had been in operation since the late 18th century, and there were various lime wharves where it met the Dudley No. 2 canal (Site 15). There was also some manufacturing industry alongside the canal to the south of the study area. The railway had not yet been built. Zone A, however, was dominated by meadow, arable fields and a very large 'dogleg'-shaped pool (Site 4, Fig. 2), which was fed by one of two courses of the Bourn Brook, running east from Harborne Reservoir. Where the brook divided into two there was a weir by 1890, and the southerly course rejoined the northerly course close to another weir. The northerly course had a much more meandering line than that at present, implying that it was straightened/canalised between 1840 and 1884. All the land within Zone A to the south of the brook was owned and occupied by James Kerby, along with other arable, pasture and meadow land to the west of the canal.

The northwest corner of the zone was occupied by rough land, with meadows to the east. One of these, called *Forge Meadow*, a forge and yard (Site 5) at the northern tip of the pool. The eastern part of the zone, against Bristol Road, was also a meadow, containing a smaller plot in which stood the Bell and Shovel Inn, later the Bournbrook Hotel. This was occupied by James Kerby who, according to Leonard (1933), had constructed the pool as a 'pleasure pool.' South of the pool was a field named *Barrack Piece*, which may be related to the rifle range known to be in use from 1855, just north of the Bourn Brook.

A further large pond lay on the opposite side of the Bristol Road, with a smaller field to the northeast, against the Bristol Road, both outside the study area. The picture of the area at this time is one of a small rural settlement, perhaps a place of recreation outside Birmingham for those wanting to escape the city, over fifty years prior to its relatively sudden expansion into a settlement characterised by industry and its associated housing.

Leonard (1933) drew up a map depicting Selly Oak in 1850 (Fig. 5), which shows the prominent features of the village at that time. It depicts a mill on the south bank of the Bourn Brook in Zone A, and refers to this site as 'the old silver rolling mill,' which was owned by Mr. Spurrier. Leonard states that it was very similar to 'the old mills at Edgbaston Pool, Pebble Mill, Dog Pool and Harborne Mill. The mill on the Bourn Brook (SMR 03206 (Site 6, Plate 3)) was associated with the metal industry from the beginning of the 18th century. The SMR records the position of the mill as being at the two large fishponds, contrasting with its position given on the 1850 sketch (both possible locations are marked on Fig. 2). The mill pond is recorded as being used as a boating lake by 1873 but had been filled in by 1908, so the millpond was presumably Kirby's Pools. If the pools were associated with Bournbrook Mill, this would give them an earlier date than the 19th century. In 1908 the mill was occupied by Henry and Frederick Spurrier, metal rollers. It was occupied by industrial premises into the late 20th century. The 1850 map also shows a toll gate over the Bristol Road, suggesting the probability that there was an adjoining toll house (Site 7), possibly a building known to have been recently demolished.

Leonard (1933) refers to three ponds (upper, middle and lower) being laid out as pleasure pools in the grounds of the Malt Shovel, later the Bournbrook Hotel, and much later a running track was constructed with a cricket enclosure, marked as 'Bournbrook Grounds' on the 1890 Ordnance Survey map. The grounds were apparently a popular resort for Birmingham people and, curiously, the first Australian cricket team to come to England suffered a rout here at the hands of the Pickwicks (Leonard 1933). In 1850, the owners of the inn were Mr. Kirby and Mr. North, and the pools were known as Kirby's Pools. Mr. North also constructed a private road to the inn which started just past the iron bridge over the Bourn Brook and before the toll gate over Bristol Road, following the course of the brook (the precursor to Grange Road). Visitors to the pleasure grounds could thereby escape paying tolls.

The land to the southeast of the Bristol Road consisted of large enclosed fields with isolated large dwellings further to the southeast. At this time, Selly Oak appears to have remained little more than a hamlet. The main focus for the (albeit small) settlement was at the junction between Harborne Lane, Bristol Road and Oak Tree

Lane further to the south. This junction comprised the village green in 1850 and earlier, and is named *Roundabout* on the tithe map.

8.1.3: Late 19th century

Towards the end of the 19th century, Selly Oak was still largely undeveloped and, although the grid of streets to the east of Bristol Road had been laid out, they were not as yet fully built up, containing some small blocks of terraced housing, which appear to have been built in a rather unsystematic way. The north and northwestern parts of the village were still very much characterised by water. The Bourn Brook ran beneath Bristol Road and westwards where it passed beneath the Birmingham and West Suburban Branch railway, which had been constructed in the 1870s, and the Worcester and Birmingham Canal. Against the eastern side of the canal a further pond had been added, both ponds now marked as fish ponds. Various sluices formed part of a water management system that involved the watercourses, some perhaps canalised, in the area. A map from 1877 (Fig. 6) shows that the railway had by this time been constructed, with a station off Heeley Road. The Bournbrook Hotel was then known as the Malt Shovel Inn. The Selly Oak pumping station, part of the Birmingham Corporation waterworks, had been built against the railway adjoining a viaduct off Bristol Road.

The First Edition Ordnance Survey map from 1890 (Fig. 7) shows a possible tree-lined avenue, perhaps partly associated with an earthwork feature (Site 8), perhaps a holloway, which appears to be a shallow-ditched linear rather than a banked feature, running northeastwards from the tramway stables to Bourn Brook. The relationship between this earthwork and the mapped field boundaries is not clear, although the earthwork could define part of the line of a pre-toll road. Running parallel to the northern edge of the earthwork is another watercourse, presumably feeding from the larger fish pond to the Bourn Brook. The tree-filled enclosures to the east contained a couple of fairly large buildings, and a further building lay against the western edge of the brook where it flows beneath the Bristol Road. This may perhaps correspond with a brick-built structure that was only recently demolished/possible toll house (Site 7). The brook appears to have been straightened-out somewhat since the mid-19th century.

At first glance, the topography, the large number of planted trees and the presence of large fish ponds in the area bordered by Bristol Road, Bourn Brook, and the canal, suggests that there may have been an earlier house set within ornamental grounds here. This supposition is perhaps supported by the deviation of the Bristol Road through Selly Oak, approximately opposite the Bournbrook Hotel, the change in alignment possibly respecting an existing earlier boundary, or a pre-toll road, although this theory is necessarily speculative.

Tram-tracks ran down the centre of Bristol Road up to Dawlish Road and then turned up the former private road to Bournbrook Grounds (approximately along the present Grange Road) to a tramway stables, which sat within the south part of the Grounds. To the north of the Bourn Brook was a long piece of land oriented east-west, used as a rifle range, its targets at the western end, against the canal embankment. The range was used between 1855-60 by the 1st Volunteer Battalion Royal Warwickshire Regiment for practice at 100, 200, 300, 400, 500, 600, and 1000 yards. They also used

several wooden towers just to the north of Bristol Road in association with the range. By means of these, the marksmen could use the longest range possible. To the north of the range were large and fairly irregular enclosed fields, part of the Calthorpe estate, one containing a gravel pit. To the northwest, on both sides of the canal, the surviving earthworks of Metchley Roman fort are labelled 'Supposed Roman Camp'.

The mill on the Bourn Brook is not marked on the 1890 map, although it is known to have been in operation at this time.

About the same time the Ordnance Survey First Edition was compiled, Kirby's Pools, the fish ponds in the area behind the Bournbrook Hotel, were filled in and the area turned over to industry. This was the final development in Selly Oak's transformation from a rural to an urban area. Lovett's Directory of 1901 states, 'Now the pools and gardens are built on, the whole neighbourhood bids fair to become a large centre of manufacturers.' This site in fact became the industrial heart of Selly Oak, particularly focusing on the manufacture of cycles.

8.1.4: 20th century

In the space of 14 years, between 1890 and 1904 (Fig. 8), a great deal of change had been effected in the village. The area north of the Bristol Road had been developed; three new streets, Grange Road, Ascot (now North) Road, Dale Road and George Road had been laid out, and the former tree-lined enclosures to the east of Grange Road had also been built over, although the earlier plot boundaries were generally respected. The possible avenue feature had been removed, along with most of the trees in the area, and a Gun and Rifle Factory had been built against the Bourn Brook. This factory still stands today, owned by Westley Richards and Co. Ltd. (Site 9), a company founded in 1812. The manufacture of guns in Selly Oak reflects the importance of the industry in Birmingham at this time. Gun-making was firmly established in the town by the end of the 17th century, and its growth was nurtured by early colonialism, the slave trade, and war in Europe. By the end of the 18th century, Birmingham was said to be the world's biggest producer of firearms (Birmingham City Council 2001). The village had the factory, a rifle range, and The Gun Barrels Inn at the eastern end of the rifle range.

A large cycle works had been built against the Bourn Brook and the canal embankment. This stood on the site of one of the former fish ponds and the Bournbrook Grounds. The southernmost of the two fish ponds had been built over with streets, although one area remained open and contained a sand pit. Another area of sand quarrying lay beneath the present railway and canal. The tramway stables was presumably out of use as such by this time because the tram lines no longer came up the track that had become Grange Road. A new tramway depot had been built between Tiverton and Dawlish Road, with an entrance off Dawlish Road. A new enclosure had been added against the eastern edge of the brook by Bristol Road, which may possibly have been associated with the Bournbrook Mill. To the north of the rifle range, a new east-west road had been laid out as part of the works for the new University of Birmingham Campus.

This relatively sudden expansion of residential building in Selly Oak was to accommodate workers in the new large industries that had settled in the village, such

as the Selly Oak metal works, the gun factory and the cycle works. By 1917, Selly Oak had seen continued residential expansion to the south. The main physical change in the area was to the north of the Bourn Brook where Birmingham University had been built. The building was begun in 1900 and included the construction of Chancellor's Court and the Clock Tower, and the terracing of the land south from the Court to create level sports fields just to the north of the Bourn brook.

Where the possible avenue feature had opened off Bristol Road was now a timber yard, and there was a picture theatre on Grange Road. The old tramway stables were in use as a cycle works, with the earlier cycle works now occupied by Ariel Cycle Works (Site 3).

8.1.5: Standing buildings

Electricity sub-station (Site 25 , Grade 2 listed, SMR No. 02284)

Selly Oak electricity sub station is a late 19th century building in a Gothic style, in which mid-13th century detailing predominates. It is built of red brick (English bond) and terracotta with stone dressings and a tall, hipped, plain tile roof with crested ridge tiles. Rectangular in plan, the building is aligned northeast-southwest, facing southwest. It is three stories high, the walls being articulated horizontally by window sill strings, and crowned by a billet-moulded and bracketed eaves cornice. One of the most striking aspects of the building is that it appears to be of great height in relation to its ground plan, an impression that is accentuated by the high roof. A narrow entrance front incorporates a flight of steps which lead to a double-leaved door with a three-light blind window above. Both door and window are recessed beneath a high segmental arch and flanked by a pair of square buttresses. At second floor level is a blind, three lancet light window with continuous hood mould and foliated spandrels. There are moulded window strings. The south-east elevation has an apsidal projection to the right with high conical roof and two tiers of windows. The lower windows are tall and have Caernarvon arch heads, whereas the shorter upper windows have rounded trefoil heads. To the left is a full height stair turret with three tiered lancets at first floor level, a two-light window at second floor level and a stone coped gable. The main block has a blind pointed window at first floor level and three similar at second floor level, the outer of two orders being carried on colonettes with idiosyncratic crocket capitals.

Former cycle factory (Site 3), Dale Road

This factory and office building dates from the early 20th century though there have been numerous later alterations. Built of red brick, it is plastered to the front and painted white. It is a high three-storey building, with moulded floor bands and plain parapet, the proportions reducing from bottom to top. Eight bays of large iron framed casements are articulated by plain pilaster buttresses. A number of large roller doors, and other openings have been inserted at ground level.

Westley's Gun Factory, Dale Road (Site 9, Plates 1-2)

Westley's Gun Factory is a late 19th/early 20th century structure, with many later alterations. It is constructed of red brick (English bond) on dark brick plinth and has a

sealed slate roof. A triple pile range is aligned east-west facing south. Towards the road the long single-storey building is articulated by a series of blind panels recessed between plain flat buttresses. Towards the right hand end is a large projection with high double-leaved sliding door and plain parapet breaking through the eaves line. There are several blocked windows with chamfered brick sills and concrete lintels. Behind the street frontage is a yard, and beyond that a 3-storey brick range with segmental-headed windows.

Westley Richards and Co. Ltd, Grange Road (Site 9)

Early 20th century factory and offices built in brown brick (English bond), with sealed slate roof, raised brick verges, and brick end stack. The building is aligned north-south, and facing west. It comprises a 2½-storey main block of 3:1:3:1:3 bays articulated by two gabled entrance bays that break through the eaves line; to the left (north) is a 1½ storey, two bay annexe of contemporary build. The windows are small-pane fixed lights and casements with cavetto moulded sills, convex quarter round moulded surrounds and semi-circular heads. The two entrance arches are in a matching style. The three-bay sections each have a central gabled dormer set back from the eaves line.

Birmingham University Great Hall (Site 32, Grade II listed, Plate 4, not illustrated)

Built as the main university building between 1900 and 1909 to the designs of Sir Aston Webb and Ingress Bell, the Great Hall was only partially completed to its original arched plan facing the semi-circular courtyard to the north. The hall itself was designed to bisect the complex on a north-south axis. The building is constructed of red brick with stone and buff terracotta dressings and blends Italian Renaissance motifs with late English Gothic.

The main feature of the north front is a square entrance block immediately in front of the Great Hall with projecting square corner turrets, two of which frame the front elevation. It has three doorways with raised keystones, and a row niches over, containing statues of artists, scientists and philosophers. Above these is a giant panel-traceried window with semi circular arch and sub arches, but essentially Perpendicular in inspiration. In the spandrels are coats of arms, and above, a frieze in relief. A bracketed eaves cornice supports a plain parapet, behind which rises a polygonal superstructure carrying a large hemi-spherical ribbed dome with cupola in the centre. Domes also cap the corner turrets.

Two-storey, six-bay ranges arch forward to link the entrance block to three square pavilions two to the right but only one to the left, in which direction the building remains unfinished. The links have mullioned and transomed windows and are articulated with semi-polygonal buttresses. An openwork parapet projects forward on a bracketed cornice. The pavilions have mullioned ground floor windows and above, a frieze by Anning Bell, and an openwork parapet projecting forward on bracketed cusped arches. Each main block has round domed corner turrets, and is surmounted by a polygonal superstructure, lit by Diocletian windows, and carrying a dome with cupola above.

The interior of the *vestibule* is surrounded with scagliola Corinthian columns. There is a circular gallery at first floor level, with decorative iron balustrade, and a second gallery at the base of the dome. The interior of the dome is divided into panels by two series of curving intersecting ribs. The Great Hall has arcades opening to ground level aisles and upper galleries. Corinthian pilasters support the ribs of the tunnel-vaulted nave. The vault is divided into panels between the ribs and decorated with coats of arms in relief. At the south end is a giant window containing stained glass by T. R. Spence.

There are no other listed buildings within Zones B-D, or elsewhere affected by the scheme on present information.

8.2: Zone B (Hospital Link and associated roads)

8.2.1: Introduction (Figs. 3 and 9)

After the proposed new road emerges from beneath the canal and railway, the route turns to the north, crossing an area of heavily contaminated wasteland. This area may also have some potential for the survival of prehistoric burnt mounds, due to the proximity of the Bourn Brook and other former water channels (Site 1). The proposed road then passes alongside the University Hospital energy plant, which adjoins the proposed site of a roundabout, with three exits. The first turns to the west through an area of rough scrubland, which may also have potential for the survival of remains of prehistoric burnt mounds. However, this area is known to have a great depth of made ground created by dumping and, in some places, the natural subsoil is up to 4m below the surface (Jones 1999a). The proposed Hospital Link road turns to the northwest of the roundabout, through an area partially excavated in 2000-1 (Jones 2001 and in preparation a).

To the north of Vincent Drive the proposed Hospital Link road would pass just to the west of a Scheduled Ancient Monument (West Midlands SAM No. 1), partly including the northwestern, recently reconstructed corner of the northern annexe of Metchley Roman fort (Fig. 9). The proposed Hospital Link road then continues north to join Metchley Park Road.

8.2.2: Prehistoric

Prehistoric activity in the study area and its environs is represented by chance finds of flint artefacts, and by three Bronze Age burnt mounds identified during salvage recording to the north of Vincent Drive (SMR No. 1682, Site 27). These features comprise mounds of charcoal-rich soil containing quantities of heat-shattered pebbles, sometimes surviving as above-ground features. These mounds are variously interpreted as being associated with cooking or bathing. A notable attribute of burnt mounds is their clustering, as here, adjoining stream-courses (Jones 1988 and 1989). Burnt mounds form the principal sites of the prehistoric period in the Birmingham area. Some potential exists for the identification of further burnt mounds along the remainder of the proposed route, together with associated waterlogged deposits which may provide data concerning their contemporary environment.

8.2.3: Roman; Metchley Roman forts and associated civilian settlement

Introduction and planning background

The complex of Metchley Roman forts (SMR No 2005, 20140, Site 2, Fig. 9) and associated features are approximately centred upon the Vincent Drive roundabout to the east of the proposed hospital Link Road, and are mainly located within the campus of the University of Birmingham. The forts are a nationally-important site for the study of the Roman military archaeology of the 1st century AD, as well as being one of the most important sites of Roman date within the midlands. For this reason the Roman military and associated civilian archaeology is described in detail in this assessment. The degraded Roman earthwork defences were first identified in the 18th-century as above-ground earthworks from antiquarian descriptions and map sources (Jones 2002, 10-12). Archaeological fieldwork from 1934-7 to 2001 (St Joseph and Shotton 1937; Webster 1954; Jones 2002; Jones in preparation a and b) has identified the main defensive circuits, and most notably provided details of the layouts and functions of the internal buildings which were all of timber-framed construction. The internal layouts of these buildings can be reconstructed from negative features, such as beam-slots cut into ground surfaces. Part of the northwestern corner of the northern fort annexe, including a recent reconstruction of the defences, is a Scheduled Ancient Monument (West Midlands SAM No. 1), and other areas within the fort complex have been identified as being of national importance (Jones 1999b-c).

The forts occupy a gently-sloping northwest-southeast aligned plateau, mainly composed of sands and gravels, and surrounded by boulder clay. The northwestern, reconstructed angle of the fort defences, immediately to the east of the proposed hospital Link Road, occupies the highest land within the fort complex, providing partly-obstructed views to the south and west. A band of woodland following part of the line of the fort's western defences provides a visual 'marker' of the fort's extent on this side.

The most recent archaeological assessments, evaluations (trial-trenching) and excavations have been undertaken within the context of proposed developments within the University of Birmingham, the University Hospital Birmingham NHS Trust and the Queen Elizabeth Psychiatric Hospital, making the fort complex one of the most extensively investigated early Roman military sites in the midlands. This most recent fieldwork has identified evidence for the continued Roman use of the complex from around AD 50 until the end of the 2nd century. The most notable discoveries adjoining the western side of the fort defences include a western annexe (not illustrated on Fig. 9), and a civilian settlement dating to the 1st century AD, established under military control, adjoining the western fort entrance. Recent excavation has also identified defended annexes on the eastern and southern sides of the fort, continuing in use until the later 2nd century AD at which time the complex may have been in use as a hostel or for a change of horses for the Roman Imperial Postal Service.

Recent work at the fort complex has involved archaeological assessments (Jones 1999c-d) in advance of the formulation of development proposals. Supporting archaeological environmental impact statements have been prepared in connection with the University Hospital and associated Psychiatric Hospital development (Jones

1997, 1999e, and 2000a), and an archaeological section of the supporting Statement of Principles has also been prepared. Archaeological evaluations have been sponsored by the University of Birmingham (Jones 1999f) and the University Hospital (Jones 1999a-b) to provide details of the survival, extent and significance of archaeological remains within areas potentially affected by development proposals. The evaluation results have highlighted the particular importance of certain areas within the fort complex, designated as being of national importance, excluded from the scope of development proposals and are identified as meriting preservation *in situ*. Within other areas there is a requirement for preservation by record (excavation and publication of the results in advance of development, e.g. Jones 1999b-c and 2001).

Fort Phase 1 and contemporary civilian settlement (40s/50s AD)

The earliest in the sequence of forts (fort Phase 1) was roughly square in plan, enclosing approximately 4 ha. It was defended by double ditches cut into the subsoil and by a turf revetted rampart surviving in places as an above-ground feature. The left *retentura* (located to the north of Vincent Drive, and to the west of the roundabout) contained parts of two excavated barrack-blocks. The southernmost barrack-block comprised pairs of rooms, comprising the men's quarters, adjoining part of the officer's quarters, which were located towards the western defences. The northernmost barrack-block was a 'double barrack' composed of two barrack-blocks constructed back-to-back, an arrangement usually adopted as a space-saving measure in early Claudian forts. The most completely excavated part of this building contained a total of 16 rooms, divided into four rooms along both its width and length. This suite of rooms formed the accommodation of two *turma* (cavalry) units, each comprising a total of 32 men, with eight men sharing each pair of rooms. The men's accommodation was separated by corridors from further rooms located towards the two ends of this building. These outer ranges of rooms could have formed the officers' quarters, although the innermost rooms could have housed a small workshop.

Overall, the double barrack-block could have accommodated the four *turmae* of a *cohors quingenaria equitata*, in which case the remaining contingent of the unit, comprising six infantry centuries (comprising 80 men each) could have been housed elsewhere in the fort. Alternatively, assuming a similar double barrack-block was located in the left *retentura*, a total of eight *turmae* could have been accommodated, amounting to half of the complement of 16 *turmae* in an *ala quingenaria*, comprising a total of 512 men.

Excavation in 1968 and 1999 immediately to the north and south of Vincent Drive (Jones in preparation b), within the left side of the fort's central range, usually reserved for mainly administrative buildings, identified parts of two timber-framed granaries, one located on each side of the modern road. The excavated remains of these buildings comprised beam-slots cut into the subsoil, supporting raised floors. The right *praetentura* of the fort, located within the University campus, contained part of an excavated workshop, associated with large pits, probably used for the repair and small-scale manufacture of tools and weapons, and a store-building. A possible western annexe, represented by two parallel ditches and the base of a turf rampart, contemporary with the Phase 1 fort, was identified by excavation to the south of Vincent Drive (Jones 2001; Fig. 10), although this feature could not be identified to the north of Vincent Drive, possibly because dense tree cover limited the areas

available for trial-trenching or test-pitting (Jones 2000b). Accordingly, it is not known if the annexe extended along the full length of the western fort defences, although this might possibly be expected. This western annexe may have been used for storage, the grazing of horses, or small-scale industrial activity such as ironworking.

Trial-trenching (Jones 1999a) followed by area excavation (Jones 1999g, Jones 2001 and in preparation a) has provided the first excavated evidence of a civilian settlement or *vicus* associated with military occupation at Metchley (Figs. 10-12). This settlement would have been occupied by traders, and camp-followers. It is particularly important as the earliest village of any date to be archaeologically-excavated in the Birmingham area. Civilian occupation was strung out along a road crossing a raised plateau, and leading between the west gate of the fort, and the mainly north-south aligned stream to the west. The Roman settlement was represented by yard surfaces probably used for storage, by timber-framed buildings and spreads of occupation deposits. The settlement was established following the abandonment and deliberate levelling of the ditches and rampart belonging to the Claudian western fort annexe. A total of six buildings were identified within the settlement (Fig. 11), of which five were timber-framed, the other example being represented by a spread of gravel overlying the natural subsoil. Open-fronted timber-framed buildings located on either side of the road would have formed shops, with domestic accommodation to the rear. A further building, located further to the rear of the road frontage, provided evidence of rebuilding, and successive clay and pebble floor surfaces were recorded. In places, the occupation deposits were sealed by colluvium, which will have provided protection from later disturbance. The pottery dating suggests that the settlement was contemporary with the earliest, Phase 1 fort. The full extent of the settlement could not be excavated in 2000-1 because of surrounding tree preservation orders.

Fort Phase 2A (50s/60s AD)

The fort was later extended during its continued use by the addition of annexes on its northern, eastern and southern sides. Like the forts, and the Phase 1 western annexe, the Phase 2A annexes were defended by double ditches and a rampart. The northern annexe was slightly mis-aligned with the forts, and the eastern annexe was more markedly so. The eastern annexe was also notable for being the smallest annexe, and also for containing a number of hearths or ovens used for breadmaking or small-scale ironworking. No traces of buildings have been identified within the annexe interiors, and no internal features have been found within the northern and southern annexes. It may be that these annexes provided no more than a defended area for open storage, or the tethering and exercise of horses.

A number of the fort Phase 1 buildings provide evidence of internal adaptation, possibly contemporary with this phase, including possible evidence for a reduction in barrack-block accommodation, following at least partial conversion of buildings for storage. Such re-arrangement suggests a reduction in the size of the garrison, a greater need for covered storage, or both.

Fort Phase 2B, military stores depot (50s/60s AD)

Following dismantling of the main timber buildings, the remaining structures within the Phase 1 fort interior were deliberately burnt to the ground, although the defences of the earlier fort continued to be maintained. In places this destruction deposit survives to a depth of 5cm, overlying the remains of the Phase 1 fort. This destruction was a preliminary to the layout of new, small and irregularly-arranged temporary timber-and-wattle-framed buildings, including sheds and fenced compounds, which did not conform with the usual regular fort layout. The excavated northern part of the fort interior (to the north of Vincent Drive) contained a store-building with a raised floor adjoining a fenced compound, possibly originally intended for livestock or stabling, and later re-used for ironworking. Other traces of ironworking survive, in the form of pits cut into the ground surface, and spreads of burnt clay representing the remains of demolished hearths or ovens constructed wholly above-ground level. The southeastern corner of the fort interior (within the University campus) contained a small sub-divided building which may have formed a stable or a combined store and grooms quarters, and a circular structure which was a possible livestock compound. The absence of barrack-type accommodation suggests that the garrison in this phase was only a small 'caretaker' force.

Following abandonment of the civilian settlement to the west of the Phase 1 fort defences, a series of ditches associated with the herding of livestock or horses, were laid out in this area (Fig. 12). The main feature was a paired ditch arrangement, forming a 'funnel', probably used to herd livestock into the western gate of the fort. Gulleys and post-holes associated with this 'funnel' may have formed a function associated with 'sorting' livestock, as may have a second, more truncated group of features, located further to the east. These two feature groups were separated by a further ditched arrangement. Originally, this comprised a single ditch interrupted by an entrance causeway approximately 8m wide, with a pair of curvilinear gullies to the rear of the ditches, defining palisades. Later, the ditch was re-cut without an entry-gap.

This phase may represent the re-use of the fort and the area of the former civilian settlement to the west as a military stores depot, here principally concerned with livestock and/or horse herding. The marked irregularity of the structures could reflect the need for rapid construction during an ongoing campaign. Although there are a number of parallels in a Romano-British rural civilian context for the temporary buildings of this Phase, the presence of civilians within a fort would have contravened normal Roman military practice. A stores-depot could possibly have involved the use of civilians, for example for the movement of supplies.

These temporary structures were also destroyed by burning prior to the military abandonment of the site, resulting in the accumulation of a destruction deposit in places within the fort interior. The fort and annexe defences were also partially levelled at abandonment.

Fort Phase 3 (to AD 75)

A smaller, rectangular-shaped fort enclosing 2.6 ha. was built in the interior of the earlier, Phase 1-2 fort during the final military re-occupation of the site. The ditched

defences of the Phase 1-2 fort were re-cut to provide additional protection, and a gravel causeway was also laid across the partly infilled eastern annexe ditches at this time.

The reconstruction of the earlier turf-revetted rampart with frontal timber revetment on the western and northern sides, and in the form of a 'box rampart' on the remaining sides suggests that the military occupation in this Phase was not short-lived. However, extensive excavation within the fort interior has failed to identify traces of barrack-type accommodation, which suggests that the garrison could have been accommodated in tents, which would have been unusual. The contemporary buildings identified by excavation comprise a granary and a cook-house. The fort defences were partly levelled prior to possibly the latest military abandonment of the site. There was no evidence for a re-occupation of the area of the former settlement to the west of the fort.

Phase 4 (AD 75-200)

Trial-trenching (Jones 1999f-g) and excavation (Jones in preparation a) identified re-cuts of the backfilled Phase 1 ditches and trial-trenches in 1999 dug across the line of the Phase 1-3 western fort defences has identified a further line of fort defences, comprising a single ditch and rampart located between the Phase 1-2 fort, and the Phase 3 fort. This newly-identified possible fort cannot be related chronologically to the other military occupations of the site. Excavation during 1999 to the south of the Phase 1 fort identified short lengths of military defensive ditches, one associated with a partially-surviving rampart, cut on different alignments to the Phase 1-3 forts, and therefore, presumably later in date. These ditches could belong to one or more practice camps. It is also possible that this later occupation of the fort site could be associated with its use as a hostel (*mansio*) or staging point for the change of horses (*mutatio*), associated with the Roman Imperial Postal Service (*cursus publicus*), particularly given the proximity of the site to the important junction of roads leading to Droitwich and Alcester to the south and Wall (near modern Lichfield) to the north.

Conclusion

The remains of the successive military occupations are complex - both in terms of the defences of the forts and associated annexes, which were often re-cut during a single period of occupation (most notably the eastern annexe ditch) - and of the internal features. Excavation has also provided evidence for garrison forts (Phases 1 and 3), evidence for the conversion of the site to a stores depot in Phase 2B, and of an associated civilian settlement. Metchley was one of a network of forts established during the Roman military advance in the west midlands in the mid-1st-century, and was sited at a crossroads of routes from Wall (to the north), and Droitwich and Alcester (to the southwest and southeast respectively). The finds and structural evidence suggests that Metchley may have been built by, if not partly occupied by a *vexillation* (detachment) from *Legio XIV*, also possibly garrisoned at Wall, Mancetter and Wroxeter. This further emphasises the importance of the site for the studies of Roman military deployment in the west midlands and beyond. A wider comparison can also usefully be made between the form and economy of the newly-discovered civilian settlement at Metchley and other such settlements dependant upon the military for their economic lifeblood, located at Wall, Kinvaston, Greensforge and

Mancetter. Having been abandoned at the end of the 1st century the Metchley settlement is unusual in preserving a comparatively early civilian layout.

Within the fort interior, large-scale investigation has provided detailed layouts of the internal buildings, notably the barrack-blocks, and also tantalising hints at their subsequent adaptation.

Archaeological evidence from the forts and associated features is not limited to the surviving above, and below-ground structures. The fills of negative features have provided charred plant remains, pollen and insect remains which can assist in reconstructing changes in the contemporary environment. The finds, principally pottery, are not solely of use as a dating tool - they also provide important information concerning the patterns of early military supply, including evidence for the first establishment of trading patterns between the military and the 'native' economy, represented at Metchley by finds of Malvernian cooking pots.

8.2.4: 18th century

Deeley's map of 1701 (Fig. 13) depicting the manor of Edgbaston, shows this zone of the study area to have been then contained within 'Michely Parke,' (Metchley Park), a hunting park of medieval or post-medieval origin belonging to the manor of Edgbaston, probably enclosed by an embanked pale (Conway 2000). The area became part of the manor in the mid-16th-century when the Middlemore family purchased it from the manor of the de Bermingham family. In 1717 it was sold to Sir Richard Gough, whose family were known as Calthorpe from the late 18th century. Until the end of the 19th century, the Metchley Park area retained its largely rural character, which saw major change with the construction of the University of Birmingham campus in the early 20th century and the Queen Elizabeth Hospital, which opened in 1938. From the late-19th to the mid-20th century, housing developed along the roads bordering the park, including Metchley Lane, Metchley Park Lane and Harborne Lane.

The map of 1701 shows a Hunting Lodge (Site 10) within Metchley Park. A possible line of paling around the park's boundaries is shown, the southernmost boundary line (Site 11) still being visible as a boundary on modern maps, which would be crossed by the line of the proposed road. Enclosures within the park mainly lay in a strip formation, following the eastern park boundary, with a few additional enclosures within the southwestern corner of the park. All these enclosures belonged to Richard Reeve. The Lodge had presumably been demolished between the 1720s and 1780s, the park having been entirely subdivided into fields by at least 1787 (Conway 2000).

Sparry's map of the same area in 1718 (Fig. 14) shows the same pattern of enclosure, and also shows the Lodge in more detail within rectangular earthworks corresponding to a simplified outline of Metchley Roman forts (see above). Two springs are shown with watercourses, the westernmost of which is shown on the 1890 Ordnance Survey map (Fig. 7), and part of the easternmost. Trial-trenching to the north of Vincent Drive identified a probable gravelled trackway (Jones 1988), which could have been associated with the lodge.

The Birmingham and Worcester canal (Site 12) was cut through the area of the park in the late 1780s. Occupying a steeply-sloping embankment facing the University of Birmingham campus, the canal is a dominant feature of the post-medieval landscape.

8.2.5: Early-mid 19th century

The 1821 tithe map for Edgbaston (Fig. 15) shows the zone to have included pasture, arable, some meadow, and potato fields. Metchley Park Farm (Site 13) and its outbuildings and access road had been built by the early 19th century.

The 1852 tithe map shows much the same pattern of enclosure. The name *Lodge Hill* appears on the tithe maps, presumably in relation to the Hunting Lodge that stood here.

The railway was cut through the area in the 1870s.

8.2.6: Late 19th century

The 1890 map (Fig. 7), as mentioned above, shows a watercourse running approximately northwest-southeast. Where it joins the Bourn Brook is the site of a proposed roundabout. Further to the west are mill leats associated with Harborne Mill (Site 31, not illustrated). The proposed new road would run northward from the roundabout, and then up through Metchley Park farm. To the northeast of the fort, roughly in line with the proposed eastern branch of this section of the new road, is shown a stretch of linear embankment (Site 14) running northeast-southwest following a line similar to that of Farquhar Road, which it has been suggested defines part of the route of a Roman road that led to the fort. However, it has also been proposed, through analysis of the alignment of former field boundaries (Conway 2000), that a Roman road may have run on a different alignment, crossing the line of the canal (Conway 2000).

Selly Oak electricity sub-station was built around 1890 (SMR 02284, (Site 25)), a Grade II listed building, built in a Gothic style of brick and terracotta.

8.2.7: 20th century

By 1904 (Fig. 8), the Elan Aqueduct had been constructed running across the line of the new road route. By 1917 (Fig. 16), a strip of land along the former southern boundary of the park had been subdivided into allotment gardens. A number of field boundaries had been removed, creating larger enclosures to the north of the allotments.

8.3: Zone C

8.3.1: Introduction

This section of the proposed new road runs southwest to a new roundabout at Harborne Lane. The new road would cross an area of contaminated land, allotments, and a watercourse. The topography of this area of land has been altered by waste dumping (Plate 5).

An evaluation to the south of the Bourn Brook (Patrick *et al.*, 2001) found remains of the backfilled channels of former watercourses in this area. These contained deposits of waterlogged organic material. It was suggested that the surrounding environment at the time of deposition of these organic deposits was largely marshy or damp scrubland, much as it is today. Occasional fragments of post-medieval brick, tile and pottery were present in a layer of undated alluvium covering one of the former watercourses. Large quantities of slag had also been dumped in the watercourse from the Birmingham Battery and Metal Company.

8.3.2: Prehistoric

Watercourses mapped by the Ordnance Survey (Figs. 7-8 and 16) within the vicinity of Bourn Brook (Site 1) could have been associated with prehistoric burnt mounds, although none are presently recorded within the vicinity.

8.3.3: Dudley No. 2 Canal (Site 15)

A short section of this canal from its junction with the Birmingham and Worcester Canal at Selly Oak, to the bridge at Harborne Park Lane (SMR 05676 (Site 16)) has been entirely infilled and now comprises privately-owned wasteland.

Work began on the canal, which ran from Halesowen to the Birmingham and Worcester canal in Selly Oak, in 1794. It had problems operating, with the Lapal Tunnel to the west in Woodgate Valley being closed twice, in 1801 and 1805, due to subsidence. A journey time of four hours through the tunnel, the fourth longest in England, severely restricted the flow of trade down the canal, and a tramroad between Netherwood Collieries and Selly Oak to counter these problems, was planned in 1815 but was never undertaken (Hewitson 1999). However, the canal continued to be used for trade throughout the 19th century, predominantly for moving coal from the Dudley and Netherton collieries, but also iron from the Severn and Stourbridge area.

The Dudley Canal merged with its rival the Birmingham Canal in 1846, forming the Birmingham Canal Network. Within a year it had been taken over by the London and North Western Railway company. Eventually, the railways induced a decline in the available trade markets and the canal fell increasingly out of use from the beginning of the 20th century onwards. The stretch of the canal between Halesowen and Selly Oak fell out of use, with the majority of its eastern end was infilled in the 1950s (Hewitson 1999).

8.3.4: Mid 19th century

Zone C around 1840 (Fig. 4) was characterised by large enclosures containing a mix of arable, pasture and meadow land. An area of rough pasture adjoined the canal. The Bourn Brook and its tributary flowed across the zone from approximately west to east. The proposed new road would cross these and would also pass through a field named *Saw Pit Piece*, alluding to the preparation of timber by hand in this field, perhaps for the boatyard that lay just over the canal bridge. The field was owned by John Moor and was occupied by Harford Millington at this time. The adjacent field to the northwest was named *Holloway Piece*, presumably a reference to the once-sunken nature of the stretch of Harborne Lane it adjoined.

On the western side of Harborne Lane, not crossed by the route of the proposed new road, was a small, rectangular earthwork enclosure of unknown date.

The Dudley No. 2 Canal was crossed by a bridge on Harborne Lane (Site 16) and the land alongside it was owned by the Dudley Canal Company, and was occupied by a mix of interests, including a lime wharf and a boat yard (in Zone D), houses and gardens. The eastern part of the canal, before it joins the Birmingham and Worcester canal, widens out greatly and, where it narrows again to join the other canal, was crossed by a bridge.

Outside the study area stood Harborne Mill (SMR 03205, Site 31, not illustrated). A mill was first mentioned on this site in the mid-16th century, and for much of its history it had been involved in the metal trades. Thomas Millington, a steel converter, had the mill in 1855; he may have been responsible for its expansion and conversion to the use of steam power. Part of an earlier structure is supposed to remain today, built into later alterations. Traces of mill leats (not illustrated), were mapped by the Ordnance Survey in the 19th and early 20th century.

8.3.5: Late 19th century

In 1890 (Fig. 7), this area comprised enclosed fields of irregular shape, mostly dictated by several watercourses which flowed northwards and eastwards across the area. The east-flowing course branched off from the Bourn Brook and appears to have fed into the fish ponds, as it flowed beneath the western canal embankment and can be traced on the eastern side, feeding into the southern fish pond. Two smaller watercourses oriented north-south followed the same line as field boundaries noted on the 1840 tithe map. The new roundabout on the western edge of the railway lies close to or on the line of a former hunting park boundary (the southern limit of Metchley Park; (Site 11) just north of and parallel to the Bourn Brook. A few buildings formerly lay to the north of the Dudley No. 2 canal.

8.3.6: 20th century

Very little change had taken place in this area between 1890 and 1904 (Fig. 8). Sand-quarrying had been taking place in the corner formed by the two canals and there had been some widening of the railway embankment, and associated removal of a small watercourse that appeared, on the 1890 map, to be of man-made origin due to its very angular course. Another canal basin (Site 21) had been built from the Dudley canal into the complex owned by the Battery and Metal Works, across the canal from the basin to the south that was constructed in the late 19th century (Site 22).

8.4: Zone D

8.4.1: Mid-19th century

The land bordered by Chapel Lane, Dudley No. 2 Canal, and the Bristol Road contained mostly pasture land, and some meadow in 1840 (Fig. 4). On the site of the later Battery Works were three houses and gardens occupied by William Harford and others. To the north and west of these was William Summerfield's lime wharf (Site

17), which ran along this side of the canal up to the bridge at Harborne Lane (Site 16). Across the road was James Price's boat yard (Site 18). In 1845, the boat yard was owned by William Monk. The 1840 tithe map (Fig. 4) shows a basin running to the yard from the canal. The company became William Monk and Sons in 1870, and came under the ownership of John Jones by 1880. It appears to have gone out of business soon afterwards, possibly from competition from William Henry Hetherington who owned a boat yard with two wharves adjoining the Birmingham and Worcester canal (Hewitson 1999). Selly Oak Wharf (Site 19) was located on the opposite bank of the canal to Monk's Wharf, and may have been in existence since the early history of the canal. A coal dealer (James Whitehouse) and two lime dealers were operating from the wharf around 1840.

Harford Millington occupied a house and garden fronting onto Chapel Lane. The piece of land south of Chapel Lane, now known as the Selly Oak Triangle, formed the original focus of settlement in Selly Oak and was in fact the village green, known as the Roundabout in 1838-40 (Fig. 4) and was used for grazing. It was owned by James Tomlinson and tenanted by Edward Shrewsbury. Three houses and gardens, occupied by Richard Church and others, stood in the eastern corner of the triangle, and a house, garden and shop occupied by Thomas Allbutt stood in the southern corner next to a long, narrow strip of land known as *Tree Leasow*. Various cottages, gardens and a shop fronted onto the western side of Harborne Lane. A toll house (Site 20) fronted onto the eastern side of Bristol Road just before its junction with Oak Tree Lane.

East of the triangle, against the Birmingham and Worcester Canal, were a wharf, the Vitriol Works and yard, a manufactory and yard.

The only major industry in Selly Oak in 1850 was Sturge and Albright's chemical works on the west bank of the Birmingham and Worcester canal, southeast of the triangle. It originally manufactured citric acid but, in 1845, it began manufacturing phosphorus. In 1853, it was sold to Elliott's Patent Sheathing Metal Co. Ltd. (Saunders, n.d.), the site having been chosen for its proximity to the canal. For a long time, this was the largest industrial site to be established in Selly Oak. At the time, accommodation had to be specially provided for the firm's workforce, as the village was so scarcely populated (Dowling *et al.* 1987).

8.4.2: Late 19th century

The 1877 map (Fig. 6) shows two chapels which gave Chapel Lane its name. One chapel stood on the eastern side of Bristol Road opposite the turning into Chapel Lane, and the other stood on the western side of Bristol Road, north of Chapel Lane. The two chapels were Wesleyan and Primitive Methodist chapels. By this time, the houses and gardens, just to the south of the Dudley No. 2 Canal, which had been occupied by William Harford and others, had been replaced with a Battery Works, and the railway had been built, running alongside and crossing the Birmingham and Worcester canal.

In the years between 1840 and 1882, development had continued apace, which saw the former village green entirely built over with terraced housing and what appears to have been back-to-backs housing. A major transformation had taken place in the northern part of the zone, as Selly Oak metal works now occupied a large piece of

land against the canal, associated with a canal basin that extended some 40m to the south of the canal (Site 22). The Birmingham Battery and Metal Company was originally founded in Digbeth in 1836, but moved to Selly Oak in 1871 so that they could expand. They bought the freehold of the land off Bristol Road and began construction of the factory in 1873 (Site 23). In 1877, a new copper refinery was built and, by 1884, a chimney shaft had also been built. An assessment carried out by Hewitson (1999) noted the survival of a series of late 19th-century red brick industrial factories, including two chimneys on the site. The building still standing on the Bristol Street frontage (now disused) was used as offices for the company.

There was an extensive railway sidings off Heeley Road as well as the main line. A large copper and metal works lay to the immediate southeast of the zone where a basin came off the Birmingham and Worcester canal.

Large wharves ran alongside the Dudley canal and there was an 'Old Brick Yard' adjacent to the Selly Oak metal works. To the west of this was Oak Tree Tannery (Site 23) at the angle between the canal and Harborne Lane. The 1889 trade directories show the tannery to have been owned by Judge Williams and Sons, who also owned a tannery at 54 Bissel Street in Birmingham. The trade directories show that they operated a tannery on the Harborne Lane site since the early 1880s. The last reference to a tannery being here comes from trade directories of 1900.

A smithy fronted onto the western side of Harborne Lane.

8.4.3: 20th century

By 1904, the Oak Tree tannery had been converted into a mattress works and a Brass and Copper works had joined the metal works. A stop-lock is shown on the Dudley canal (Site 24). The Ordnance Survey map from 1917 (Fig. 7) shows that the Battery and Metal Works had expanded across the Dudley Canal, where another basin had been added. Beyond the lock to the west was a footbridge, presumably connecting the two works complexes.

In 1928, Elliotts Metal Works was taken over by the Imperial Metal Industries. The works were later demolished.

9.0: SIGNIFICANCE AND EFFECTS

9.1: Sites of national importance and associated sites at Metchley Roman forts

9.1.1: Significance

The archaeological evidence from Bronze Age burnt mounds (Site 27, Fig. 3) – the main site of prehistoric date found within Birmingham – is not limited to the surviving above- or below-ground structures. The fills of negative features main contain charred plant remains, pollen and insect remains which can assist in reconstructing changes in the contemporary environment.

The 2001 excavation within the Roman settlement area (Jones 2001, Jones in preparation a) provided important information concerning the early military history, later civilian occupation, and subsequent use of the zone as part of the Neronian military stores depot. Since the excavation was severely restricted in extent by the requirement to preserve as much of the surrounding woodland as is possible, it was not been possible to excavate the whole area of Roman settlement and occupation outside the western side of the fort defences. Indeed, since excavation has uncovered features such as timber-framed buildings, gravelled tracks and associated drainage ditches on the limits of the area presently excavated, it is probable that these features will continue outside the limits of the currently-excavated area. Further excavation would provide the opportunity to recover the remainder of the settlement plan, which would facilitate the understanding of its early layout, later development, and possibly also of its decline. Features such as cremations or field system boundary ditches may also be recorded immediately outside the Roman settlement.

Given its relatively short occupation in the mid-late 1st century, its investigation provides a rare opportunity to examine the early settlement pattern and its economy, focussing in particular upon the evidence for patterns in pottery supply. This site is the earliest settlement uncovered by excavation in the Birmingham area, and also potentially one of the earliest settlements within the west midlands and elsewhere. The settlement evidence from Metchley could usefully be compared with more extensive settlements at Wall, Greensforge and elsewhere in the midlands, which may be distinguished from the Metchley example by their comparative longevity, as well as by their larger size.

Potential for public interpretation of the settlement remains, in the form of one or more interpretation panels also exists, particularly in the context of the broader scheme of public interpretation of the remains of the adjoining Metchley forts. The civilian settlement and forts are together the principal monuments of the Roman period in the Birmingham area.

Detailed study of the settlement remains would also contribute to the ongoing analysis of the changing patterns of military deployment and function of the Roman forts at Metchley. In particular, the settlement remains are probably contemporary with the Phase 1-2A forts, which formed part of a complex network of military deployment during the Roman military advance in the midlands during the mid 1st century. The finds and structural evidence suggest that Metchley may have been built by, if not partly occupied by a detachment from the XIVth legion, also possibly garrisoned at

Wall, Mancetter and Wroxeter. This further emphasises the importance of the site for the study of Roman military deployment in the west midlands and beyond.

9.1.2: Effects (Fig. 17)

- (A) Unexcavated parts of the Roman civilian settlement and other associated features located outside the fort, particularly those areas adjoining the excavated part of the settlement, would be taken by the Hospital Link.*
- (B) Part of the valley to the west of the forts, containing one or more stream courses would be taken for the new east-west aligned link road, and the valley would be severed. Any waterlogged deposits associated with burnt mounds could be dessicated, leading to potential loss of palaeoenvironmental information.*
- (C) The setting of the Scheduled Ancient Monument and other areas of national importance within the Metchley fort complex would be affected.*

Other effects, which cannot be defined at this stage, could be caused by advance works, service diversions and construction compounds.

Mitigation measures are detailed in Section 10.0 below.

9.2: Other sites

Details of potential feature survival, proposed effects and their level, are tabulated.

Zone A (Figs. 2 and 18)

<i>Site</i>	<i>Description</i>	<i>Survival</i>	<i>Effects pre-mitigation</i>	<i>Effects post-mitigation</i>
1	Potential survival of burnt mounds, adjoining watercourses	Good-fair	Potential sites will be taken, associated watercourses severed and any waterlogged deposits possibly dessicated	Moderate
3	Former cycle factory	Part in different use; part demolished	Building taken by the route and demolished	Low
4	19th-century Kirby's pleasure pools	Not known, may have been destroyed/disturbed by later development on the site	Land-take and possible severance	Low
5	Site of former forge and yard. 19th-century	May have been destroyed by construction of student halls of residence	Site may not extent within road corridor	Low or nil
6	Bourn Brook mill	Exact location or extent of below-ground survival, not known	Possible land-take	Low
7	Site of former toll house	Exact location unknown	Possible land-take	Low
8	Possible banked linear feature, shown on 1884 map	Not surviving as above-ground feature	Possible land-take, if feature survives below-ground	Low
9	Buildings belonging to Westley and Co. Ltd. Gun and Rifle Manufactory	Good survival – still in occupation.	Land-take and demolition	Low-moderate
26	Earthwork associated with canal	Visible earthwork, original form not known	Road to be tunnelled beneath feature	Not known, probably low
32	Great Hall, University	Above ground	Setting affected only, low level effect, particularly since main façade faces away from road, which will be constructed at/near grade	Low
25	Electricity sub station	Above ground	Setting affected only, low level effect	Low
12	Worcester and Birmingham canal	Still navigable	Road will be tunnelled beneath canal. Temporary disruption of amenity value, temporary loss of setting	Low, temporary effect only

Zone B (Figs. 3 and 18)

<i>Site</i>	<i>Description</i>	<i>Survival</i>	<i>Effects pre-mitigation</i>	<i>Effects post-mitigation</i>
27	Potential survival of burnt mounds, adjoining watercourses (See Fig. 27)	Variable	Land-take, severance of watercourses and dessication of associated waterlogged deposits	Low
10	Hunting Lodge	Not known	Not affected	N/A
11	Southern boundary of	Good	Land-take and severance	Low

	Metchley Park			
13	Metchley Park farm buildings.	Beneath hospital	N/A	N/A
14	Mapped linear earthwork bank	Beneath Vincent Drive	N/A	N/A

Zone C (Figs. 2 and 18)

Site	Description	Survival	Effects pre-mitigation	Effects post-mitigation
1	Potential survival of burnt mounds, adjoining watercourses	Variable	Land-take, severance of watercourses and desiccation of waterlogged deposits	Low
28	Droitwich-Metchley Roman road	Not known, line not identified	Land-take and severance	Low, or moderate if associated features such as cremations were found
15	Dudley No.2 Canal	Canal route visible, although mostly backfilled	Improvements to Harborne Lane may have some effect.	Not known.

Zone D (Figs. 2 and 18)

Site	Description	Survival	Effects pre-mitigation	Effects post-mitigation
16	Canal bridge	In use	Demolition	Low
17	Lime wharf	Not known	N/A	N/A
18	Boat yard	Not known	Possible part land-take	Low
19	Selly Oak Wharf	Not known	To W of Harborne Lane, no effects?	Probably no effect
20	Toll house	Not above ground	None	N/A
21	Canal basin N of Dudley No. 2 canal	Infilled	N/A	N/A
22	Early C20 canal basin south of the Dudley No.2 canal	Filled in	No direct effect	None
23	Site of late C19 Oak Tree Tannery between Dudley No.2 canal and Harborne Lane	Unknown, but subsequent land use has probably disturbed any remains.	May be some direct impact from road widening in this area	Limited
24	C19/C20 stop lock on Dudley No.2 canal	No visible survival.	No effect	None
25	Selly Oak electricity sub-station. Grade II listed building (SMR 02284)	Good	No direct effect	None

See Section 9.1 for details of the significance of the sites of national importance and the associated sites.

10.0: MITIGATION

This section of the report identifies the appropriate archaeological mitigation measures, and the residual effects of the route, taking account of mitigation measures.

10.1: Sites of national importance and associated sites at Metchley Roman forts

- (A) By design. The vertical and horizontal alignment of the proposed Hospital Link has been designed to minimise visual intrusion into the setting of the Scheduled Ancient Monument, and other areas of national importance within the fort complex, and also to exclude any land-take or other physical effects within the fort. Running roughly parallel with the fort's western side, the new road will serve to emphasise the line and location of the fort as a landscape feature. The effect upon setting would be low after construction has been completed, with a moderate effect during construction due to temporary fencing (see B below) if Heras fencing is used, or moderate to severe if solid fencing is employed.
- (B) Preservation *in situ*. The eastern edge of the proposed Hospital Link should be fenced-off and all contractors access on foot or with plant and vehicles excluded from the fort interior, to eliminate the risk of disturbance to archaeological deposits. If fencing is maintained, and all access is excluded throughout construction works the physical effects within the fort/annexe interior would be nil.
- (C) Preservation by record (excavation followed by post-excavation analysis and reporting). Two areas (A and B on Fig. 17) would be archaeologically excavated in advance of construction, and the results reported in a recognised archaeological journal. Note that it may be necessary to make an planning application to obtain permission to remove trees subject to preservation orders, which would be required as a preliminary to excavation. Excavation should not be undertaken in winter, when conditions for hand-excavation and recording would not be appropriate. Effect is moderate. Areas excavated in 2000-1 would not require further archaeological investigation.
- (D) Preservation by record (salvage recording followed by post-excavation analysis and reporting of the results). Two areas to the north of Vincent Drive (C and D on Fig. 17) would require salvage recording and reporting of the results. Area disturbed by construction of the Psychiatric Hospital are excluded from this requirement. Note that adequate provision of time should be made in the general contractors' programme to enable archaeological recording to take place. Effect is low.
- (E) Preservation by record (salvage recording followed by post-excavation analysis and reporting of the results). One area of land take (E on Fig. 17) for the construction of the mainly east-west aligned link road to Vincent Drive would require salvage recording and reporting of the results, within areas of potential for the identification of burnt mounds and associated waterlogged deposits. Effect is low.

See notes 2-4 at end of Section 10.2 below. No construction access south of Vincent Drive should be permitted outside the roadline (to be fenced off) should be permitted without the prior written approval of Birmingham City Council. Reason: to protect unexcavated archaeological deposits from disturbance. Where advance works outside the roadline are unavoidable, no construction groundworks should commence until a programme of archaeological investigation has been completed to the satisfaction of the local planning authority.

10.2: Other sites

Sites affected, the nature of the effects, and the mitigation measures agreed are tabulated below, by zone.

Zone A		
Site no. and name	Nature of effect	Mitigation
1. Burnt mounds	Land-take, severance of associated valleys, and dessication of any associated waterlogged deposits	Salvage recording
3. Cycle factory	Land-take and demolition	Rapid photographic survey
4. Kirby's Pools	Land-take	Salvage recording
5. Forge/yard	Land-take?	Salvage recording, if affected
6. Bourn Brook mill	Site not accurately located. May be taken by the route	Salvage recording, if affected
7. Toll house	May be taken by route	Salvage recording
9. Westley's factory	Land-take and demolition	Level 1 RCHME building survey and an appropriate level of internal and external building recording
26. Earthwork associated with canal	Land take if road is not tunnelled.	Trial-trenching and salvage recording before construction. May not be affected if route is tunnelled beneath canal.
32. Great Hall, University	Effects upon setting. Noise assessment notes that southern part of University will suffer increased noise levels (particularly during construction); but the effect upon this building has not been established	Effects on setting limited, road at grade
25. Electricity sub-station	Effects upon setting	Effects on setting limited, road at grade, and not visible to south of railway/canal
Zone B		
1. Burnt mounds	Land-take, severance of associated valleys, and dessication of any associated waterlogged deposits	Salvage recording
11. Boundary of Metchley Park	Taken by route, and severed.	Salvage recording.
2. Metchley Roman forts	See section 10.1 above.	
27. Burnt mounds	See section 10.1 above.	
Zone C		
1. Burnt mounds	Land-take, severance of associated valleys, and dessication of any associated waterlogged deposits	Salvage recording
15. Dudley No. 2 canal	Land-take and severance of infilled canal near Harborne Lane.	Salvage recording
16. Harborne Lane canal bridge	Effect not clear	Salvage recording, if affected

18. Boat yard associated with site 15	Land-take and possible severance	Salvage recording
Zones B-D		
28. Droitwich-Metchley Roman road	Land-take and severance. Associated features such as cremations may also be affected	Salvage recording
Zone D		
18. Boat yard	Land-take and severance	Salvage recording
30. Possible Roman road	Land-take and severance	Salvage recording
23. Tannery	Land-take	Salvage recording

NOTE:

- 1) Birmingham-Worcester canal may suffer temporary disruption during road construction, particularly during any canal closures, leading to temporary loss of amenity value, particularly through increased noise.
- 2) In areas of high chemical contamination archaeological salvage recording may not be possible due to health and safety constraints.
- 3) Salvage recording. This will involve archaeological monitoring during removal of overburden including topsoil, recording/salvage excavation of features present and an appropriate level of reporting. To enable archaeological salvage recording to be undertaken, machining depth must not exceed the first significant archaeological horizon as identified by an archaeologist on site.
- 4) Machine to be used in areas of salvage recording will be a tracked 360 degree excavator, with a toothless, ditching bucket. Adequate time must be allowed for archaeological investigation before backfilling/disturbance of machined surface.
- 5) The effects of the cycle routes (see Fig. 2) have not been assessed or mitigation proposed at this stage, since no detailed design details are available.

10.3: General

Written Schemes of Investigation, detailing the extent and level of archaeological fieldwork, and post-excavation proposals would require the prior written agreement of Birmingham City Council.

Where archaeological excavation or salvage recording is to be undertaken, particular case must be taken during preliminary site clearance to ensure that archaeological remains are not disturbed (e.g. by tree felling or demolition of buildings). Sufficient time must be allowed for the investigations within the programme of infrastructure works, between site clearance and the commencement of the road building programme. The developer will be responsible for commissioning the programme of archaeological fieldwork, and of post-excavation analysis leading to publication of the results in an appropriate archaeological journal.

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1850	Sketch map from Leonard, 1933
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1884-1890	Ordnance Survey 1st Edition Maps 1:2500
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1916-1917	Ordnance Survey 3rd Edition Maps

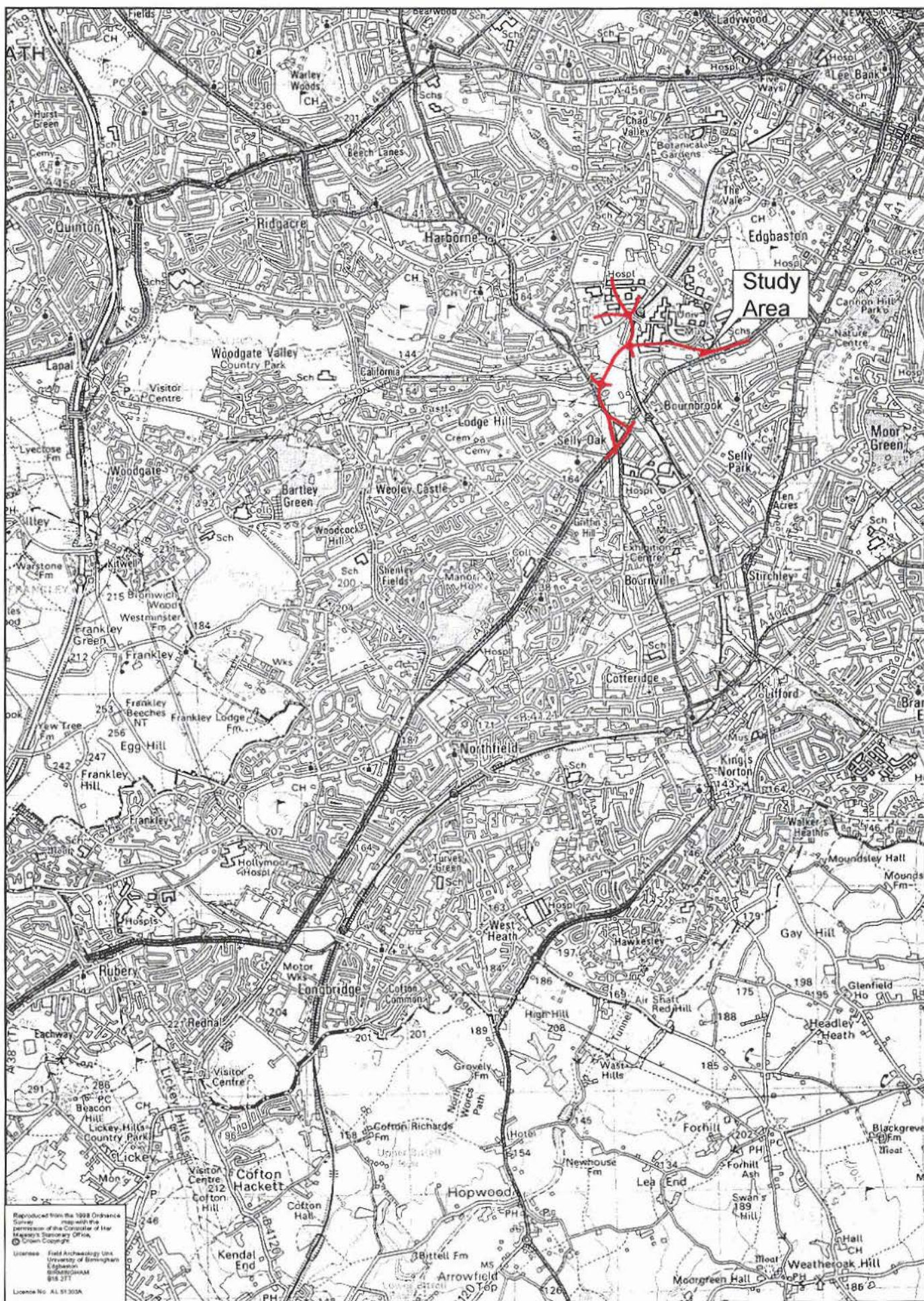


Fig.1

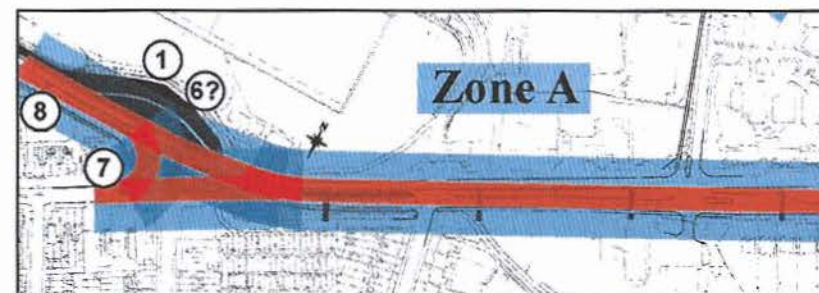
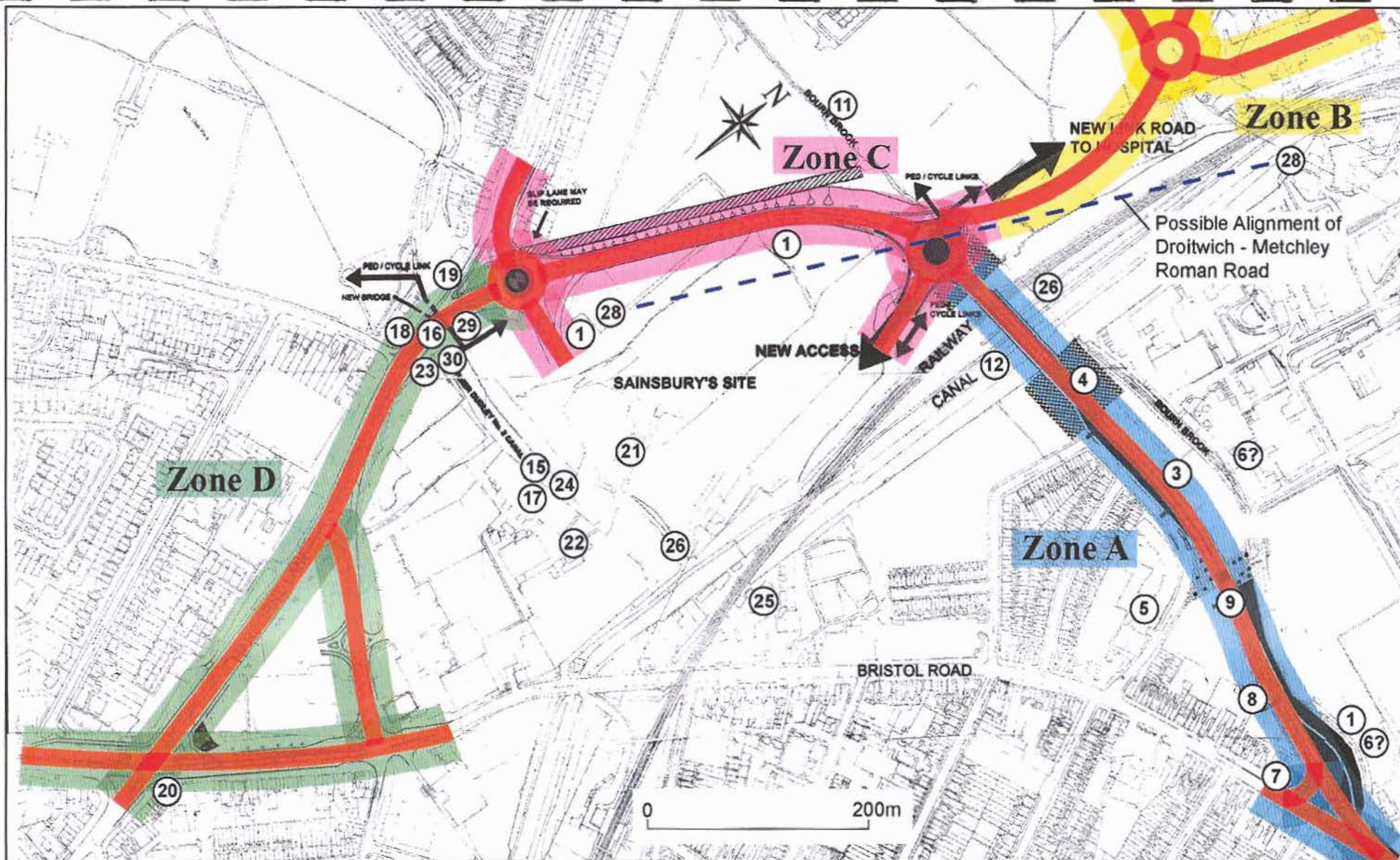


Fig.2

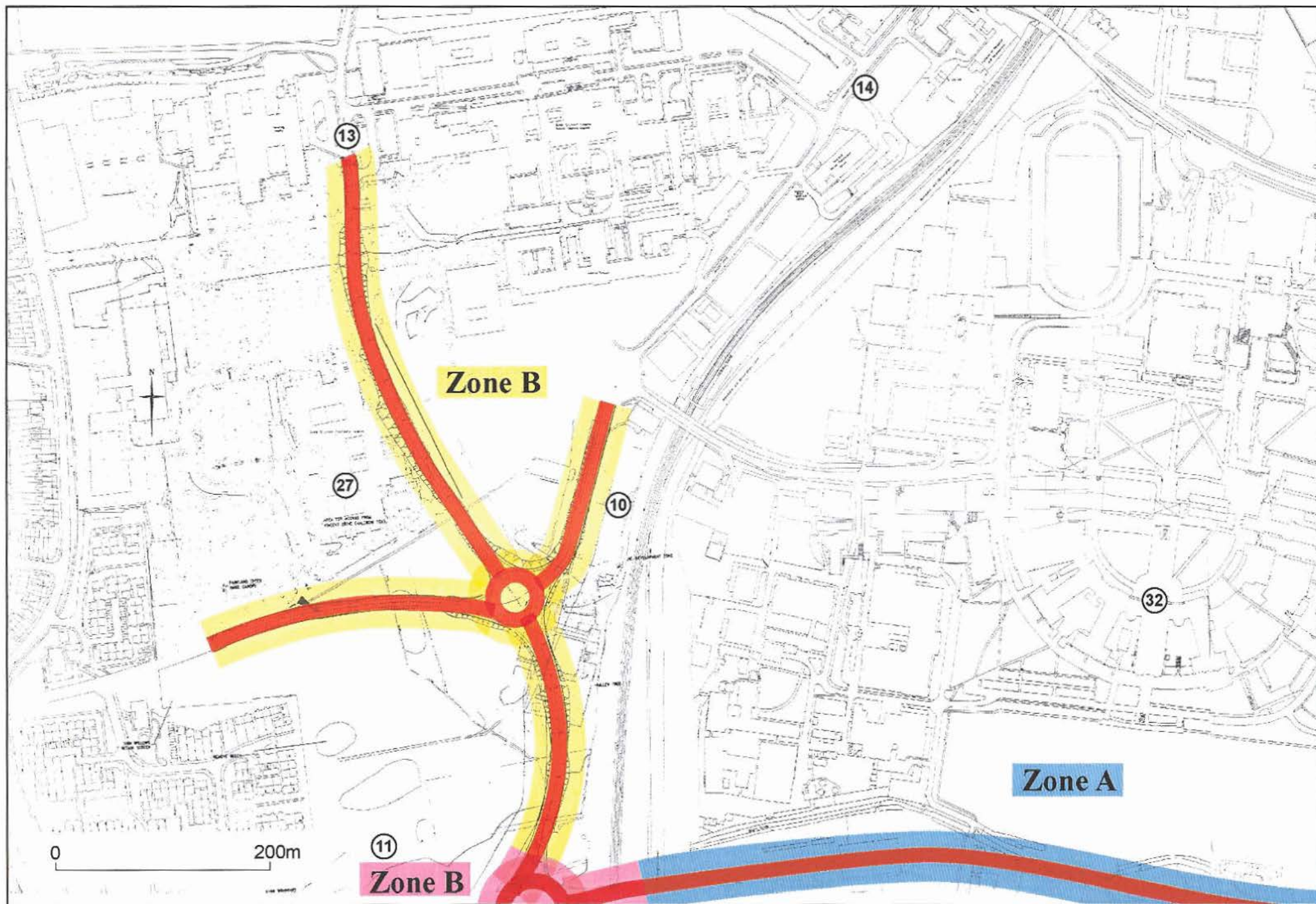


Fig.3

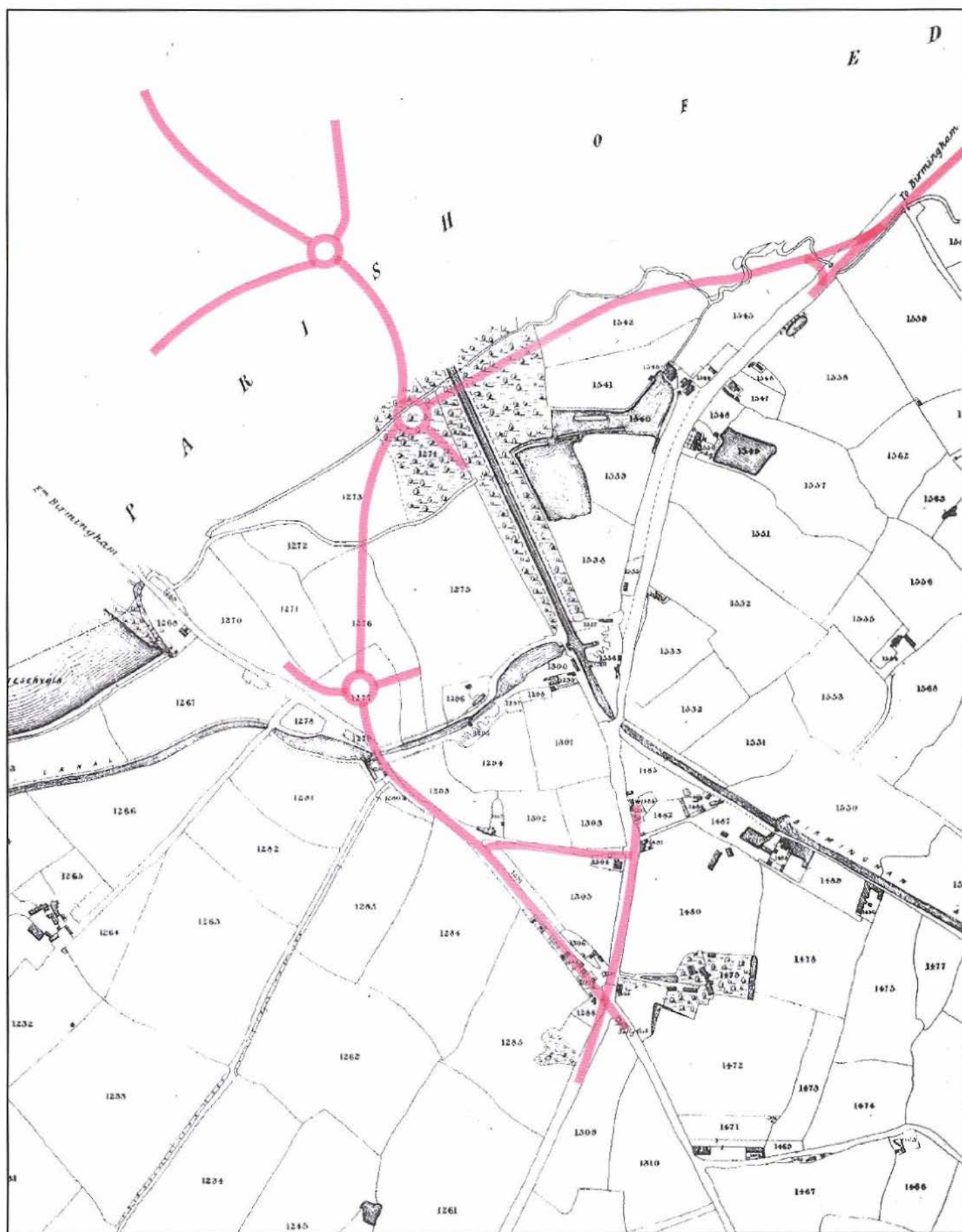


Fig.4 (1838-40)

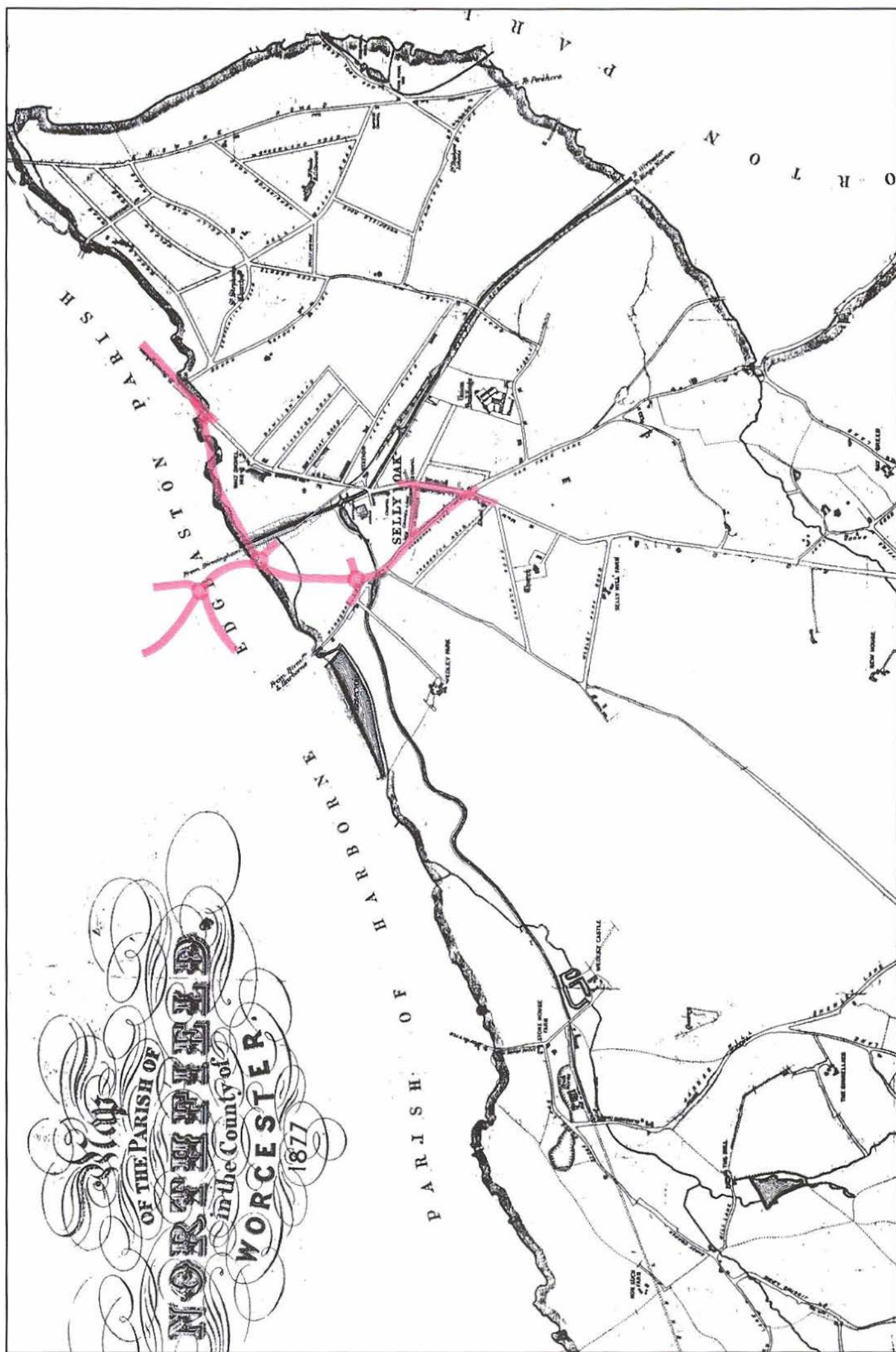


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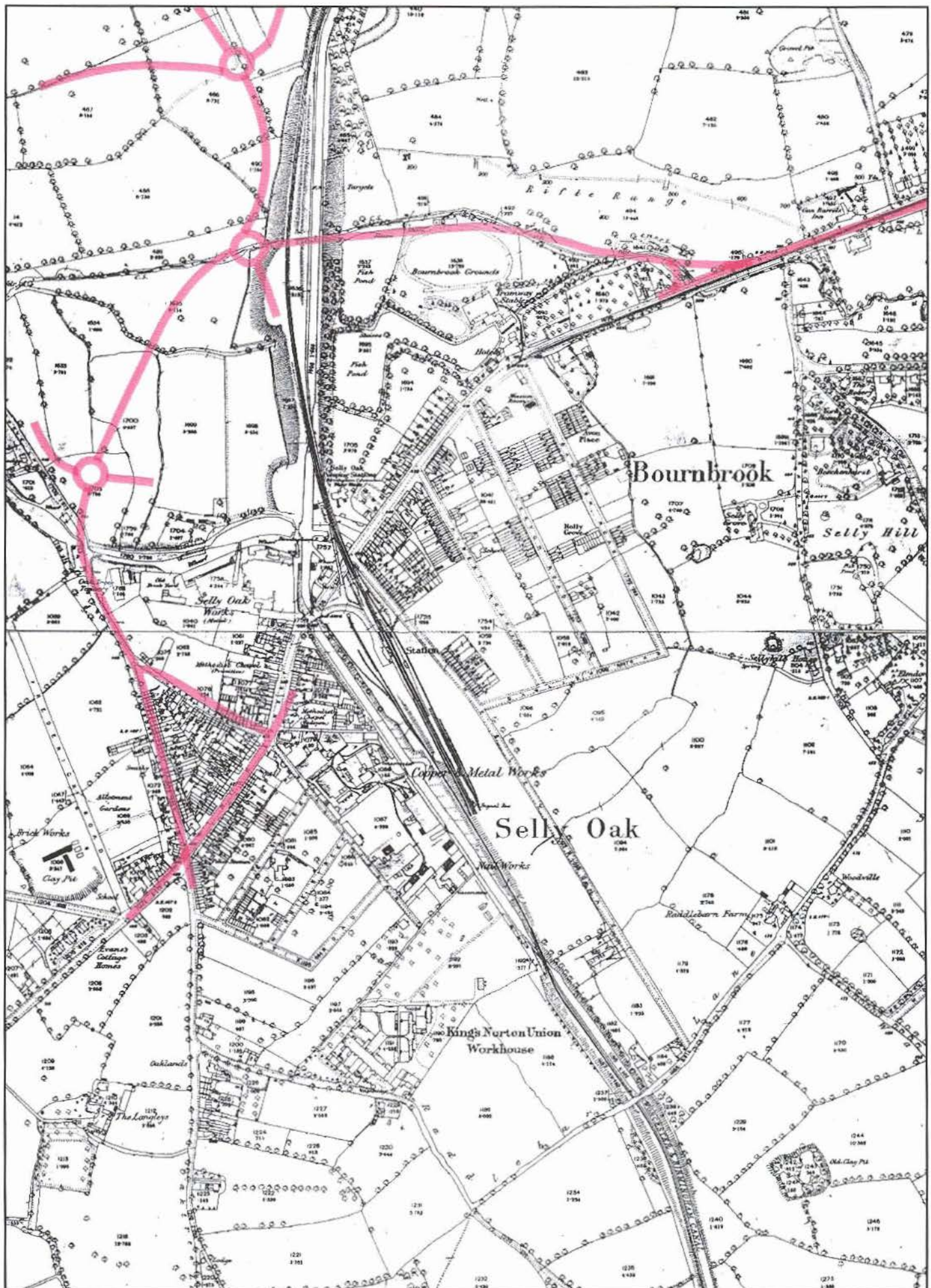


Fig.7 (1890 OS)

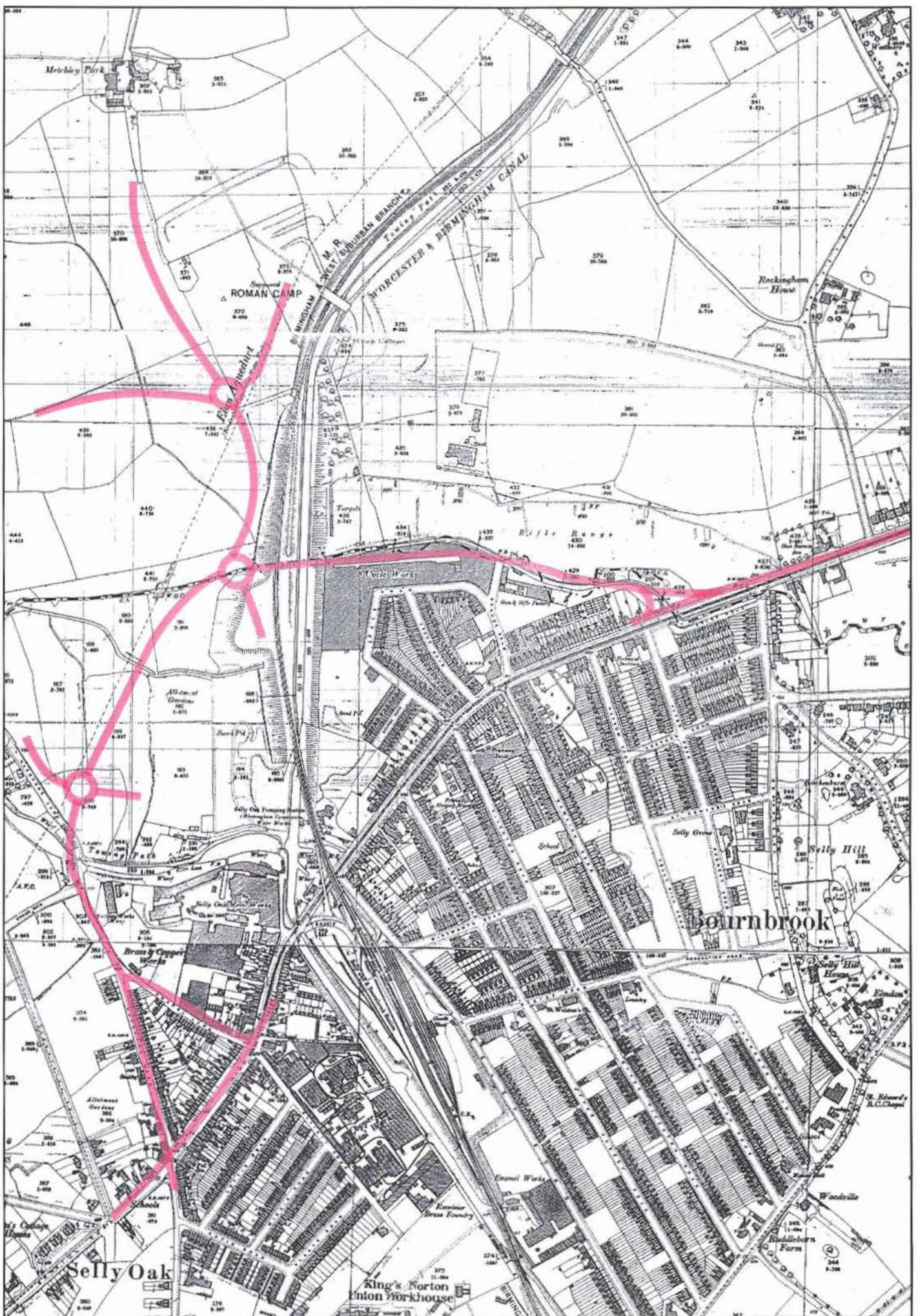


Fig.8 (1904 OS)

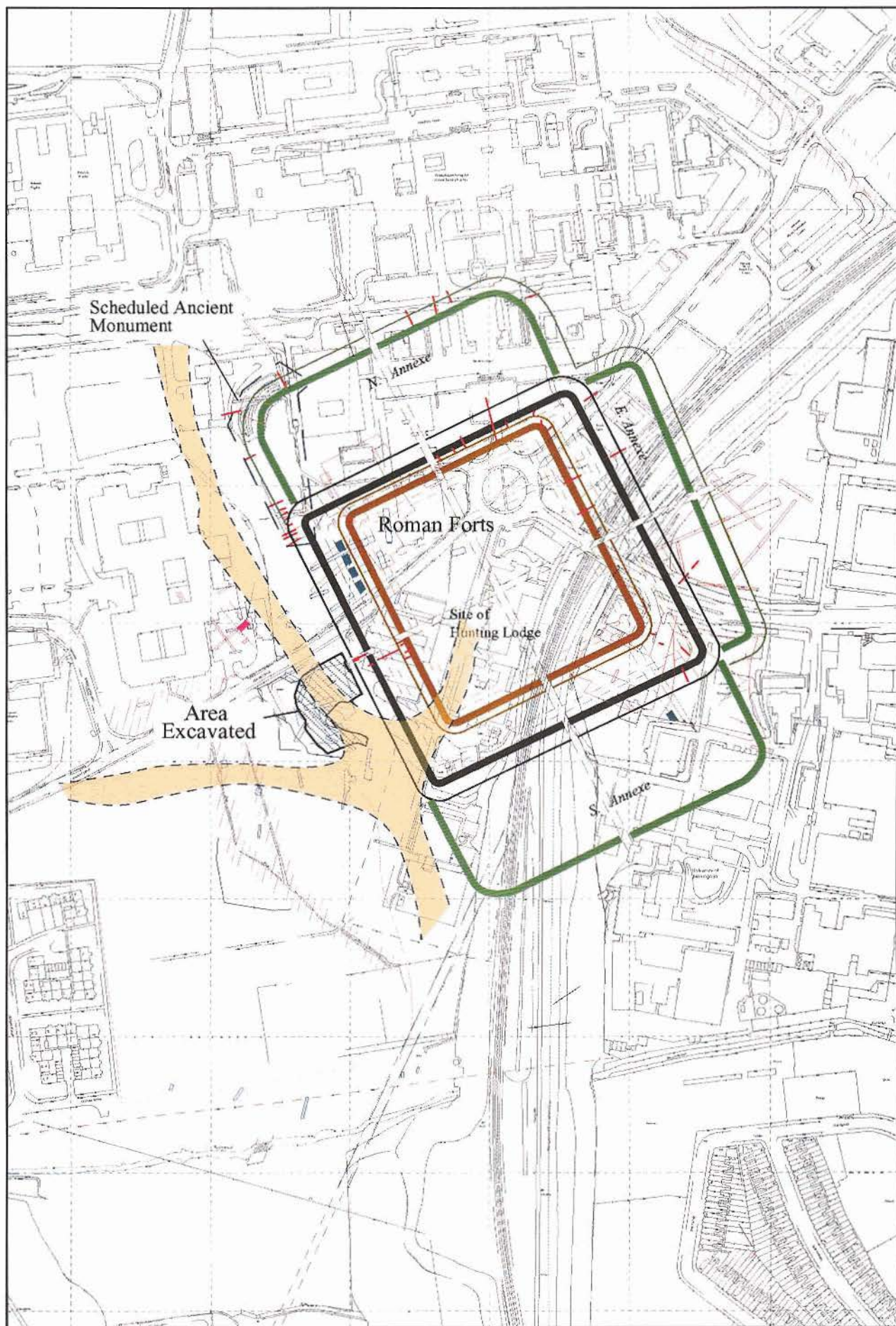


Fig.9

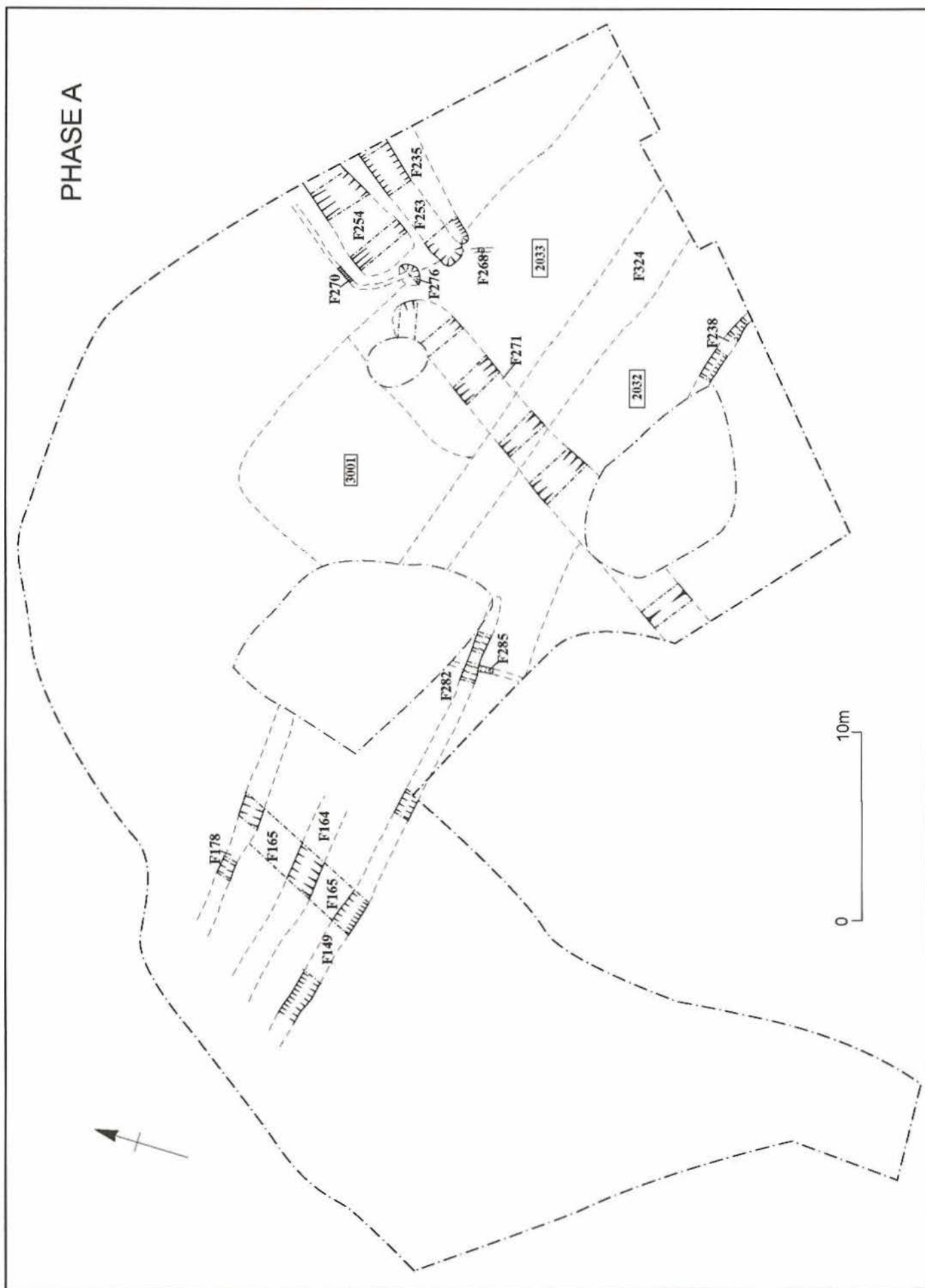


Fig.10

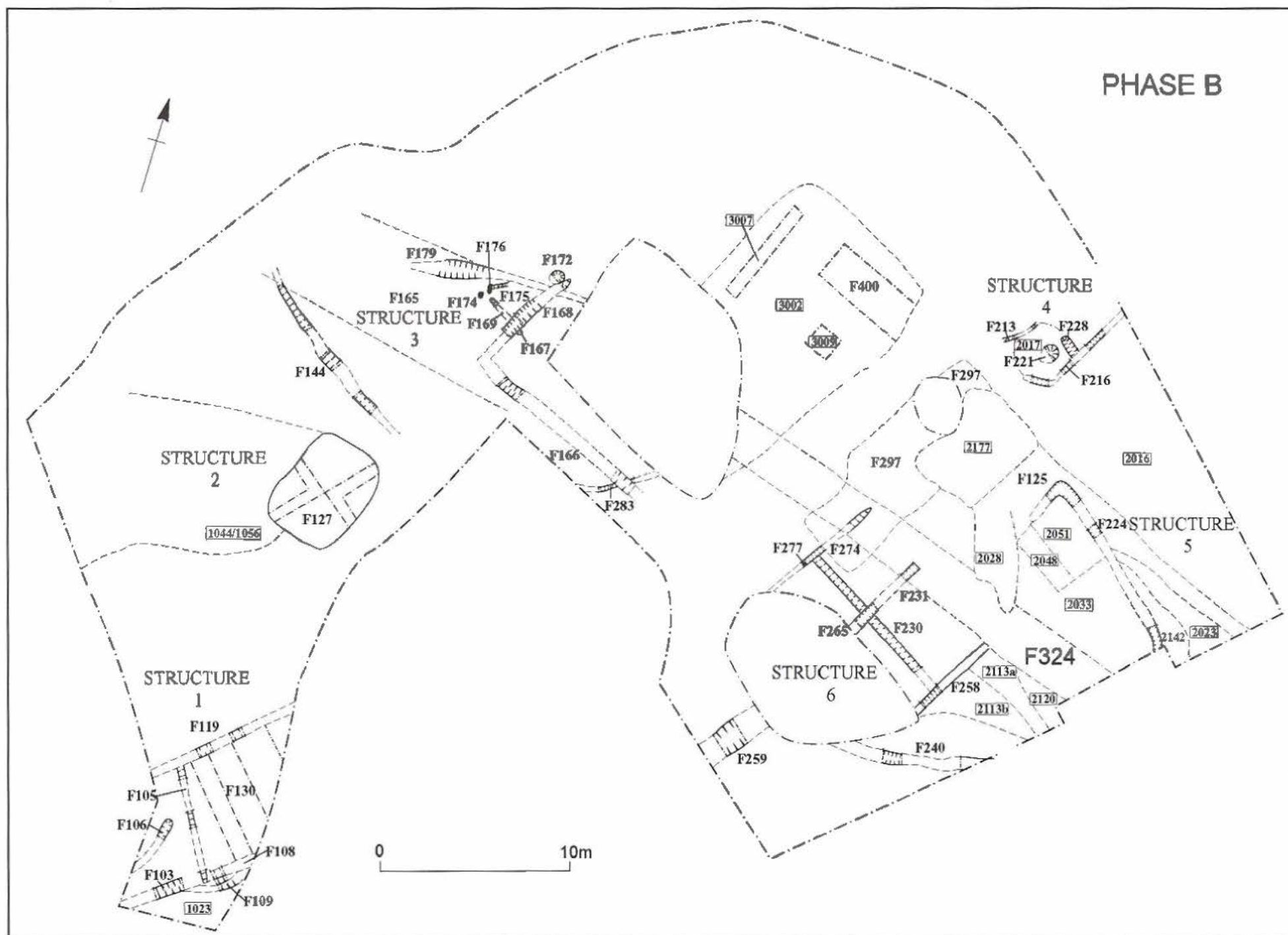


Fig.11

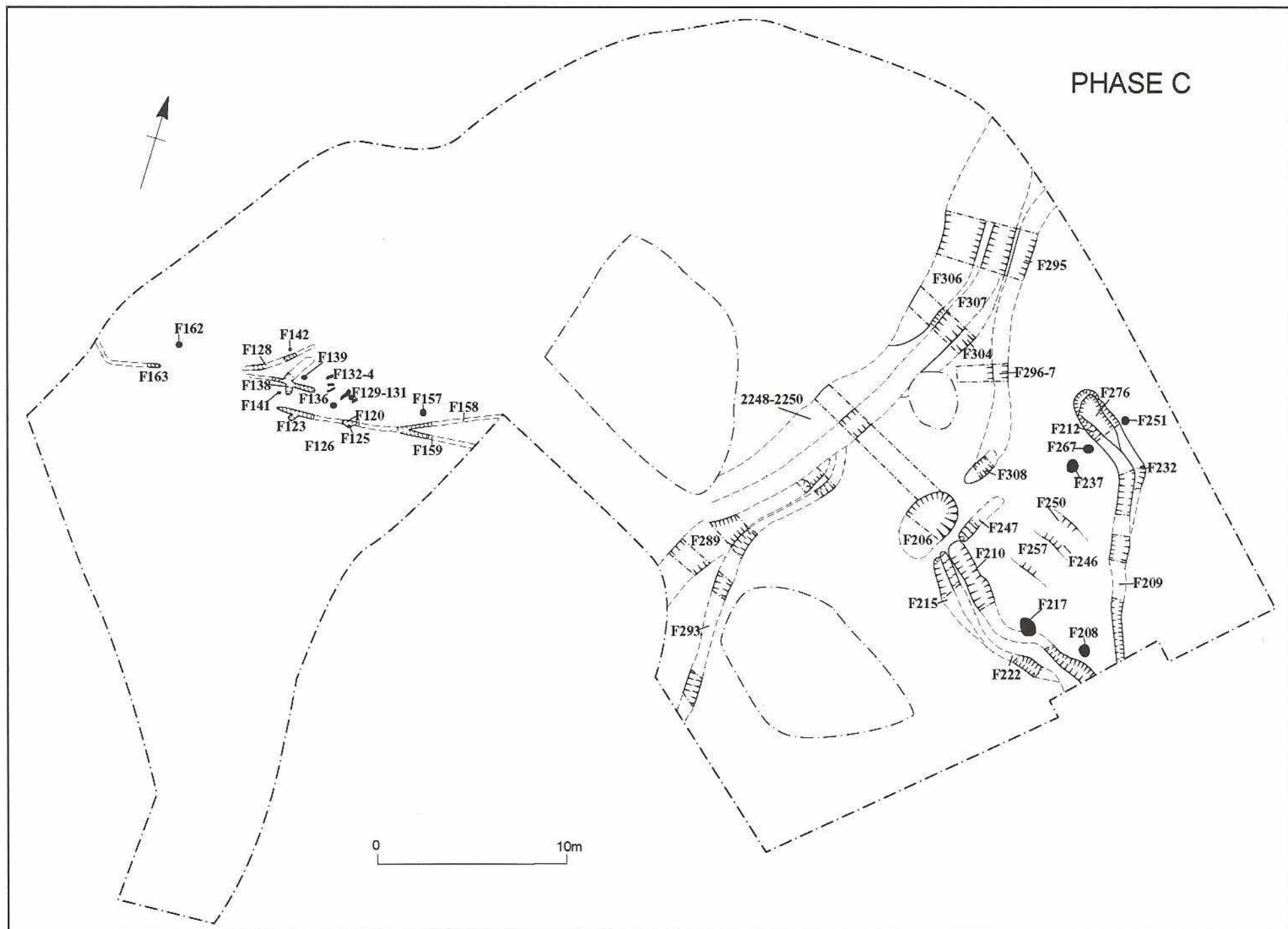


Fig.12

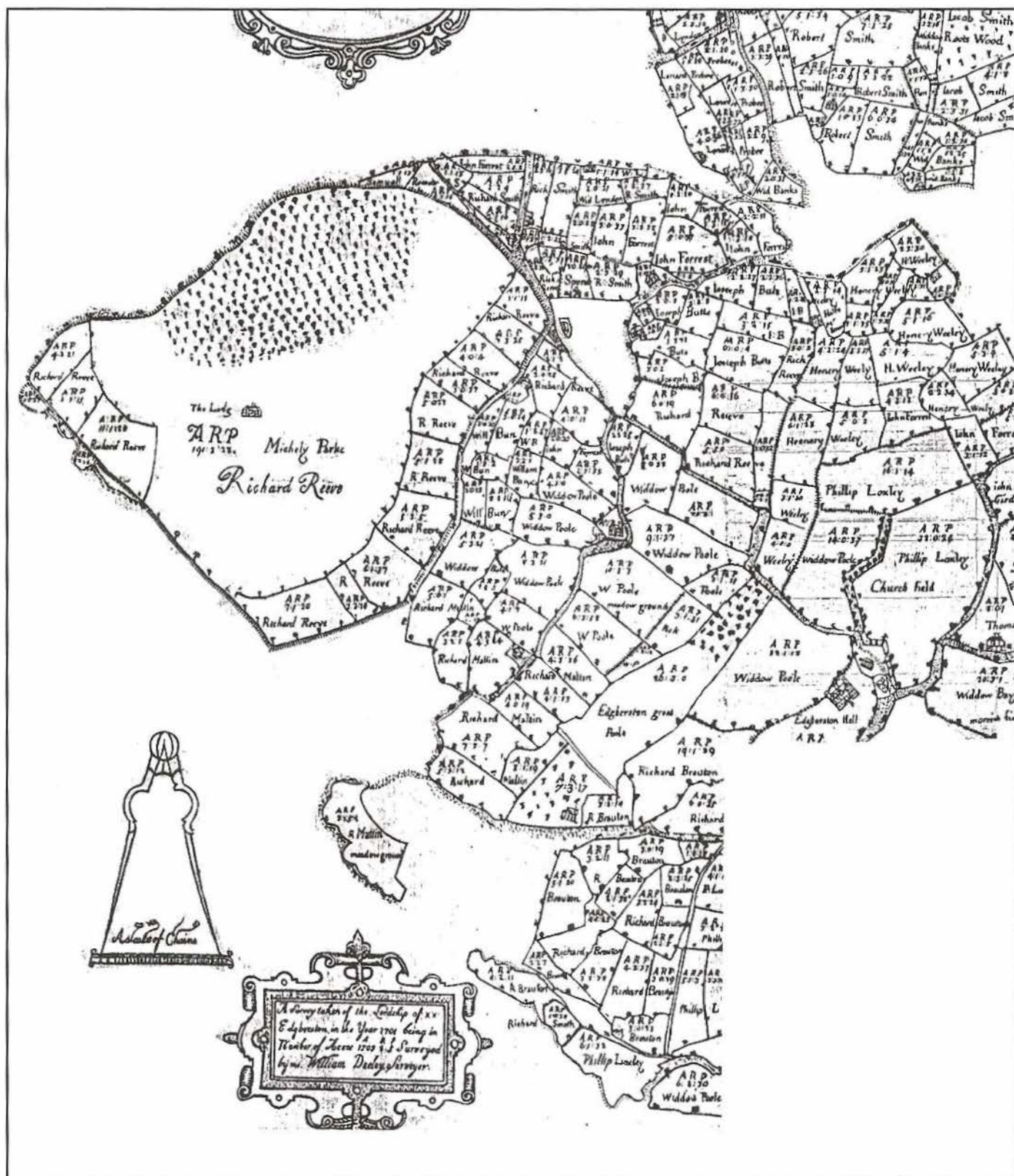


Fig.13 (1701)



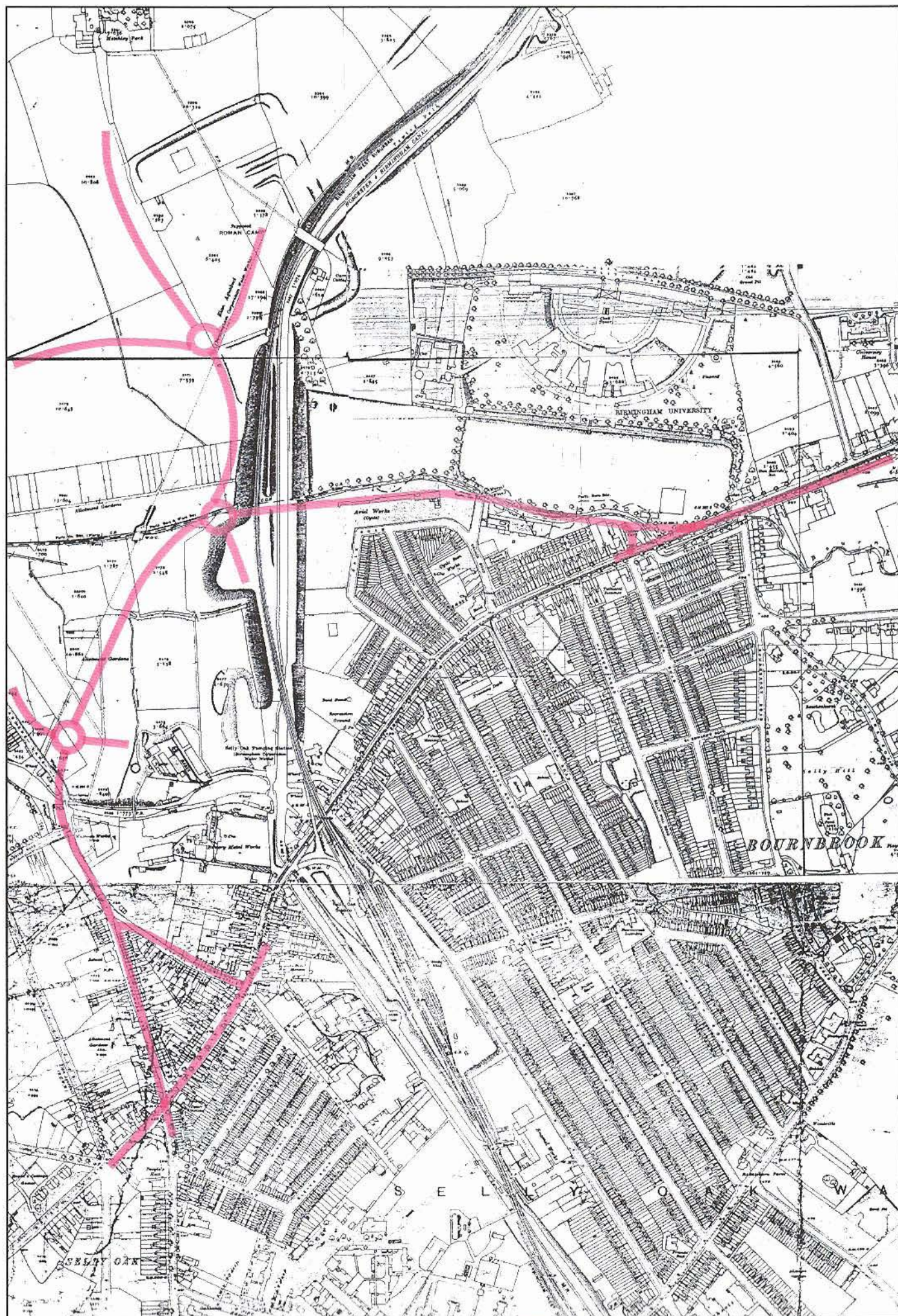


Fig.16 (1917 OS)

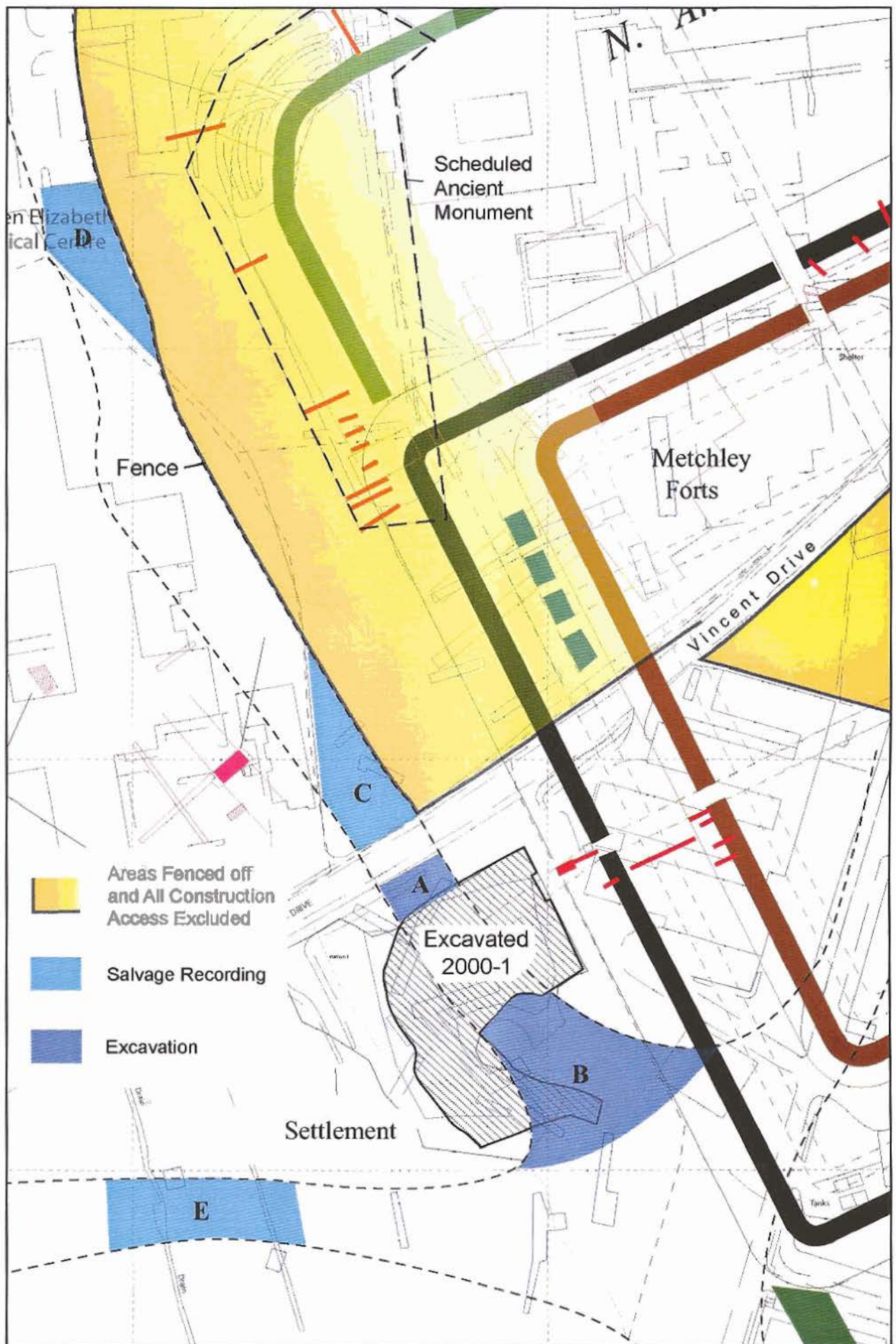


Fig.17

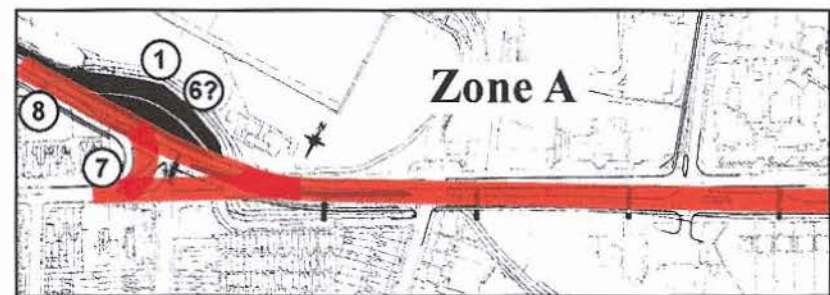
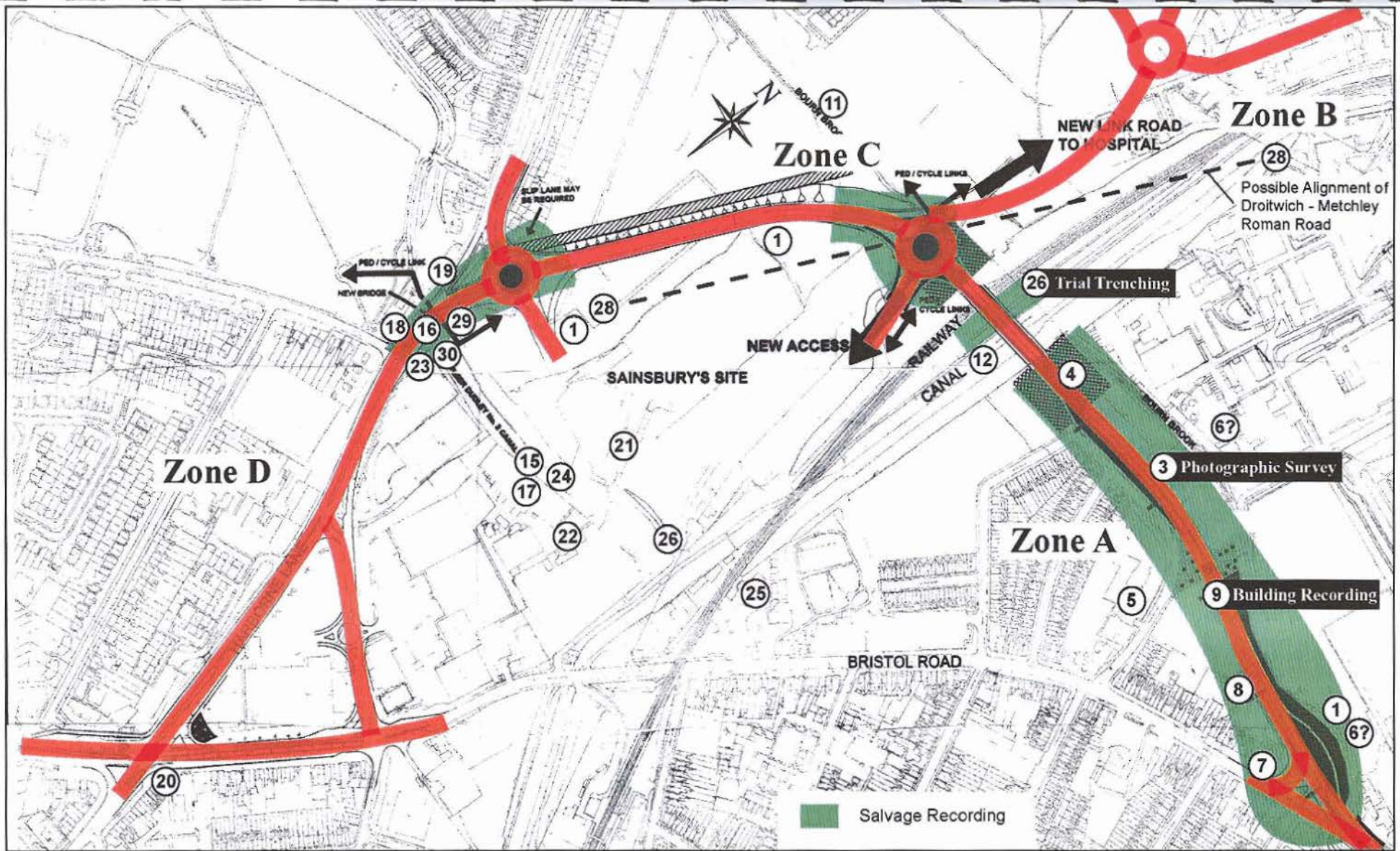


Fig.18



Plate 1



Plate 2



Plate 3



Plate 4



Plate 5



Plate 6