

**Midland Metro Centenary Square Extension,
Birmingham City Centre**

**Archaeological monitoring (watching brief) of
Ground Investigation Works**

Prepared by T. Linington

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Trent & Peak Archaeology ©
Unit 1, Holly Lane
Chilwell
Nottingham
NG9 4AB
0115 8967400 (Tel.)
0115 925 9464 (Fax.)



Trent & Peak
ARCHAEOLOGY

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in England No. 1430801

QUALITY ASSURANCE

Prepared by Date	Thomas Linington, Project Supervisor
Checked by Signed Date	Gareth Davies, Project Manager 
Approved by Signed Date	Lee Elliott, Head of Projects 
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SUMMARY

- Trent & Peak Archaeology was commissioned by Mott MacDonald, acting on behalf of Centro, to carry out a watching brief, consisting of archaeological monitoring and recording of ground investigations (GI) works (comprising a number of hand dug inspection pits) ahead of the Midland Metro Centenary Square Extension (CSQ) tram line.
- The work was carried out between the 13th and 30th October 2013 with archaeological monitoring by staff from Trent & Peak Archaeology in accordance with the approved Written Scheme of Investigation (Riccoboni 2013). This work was undertaken as part of a package of documents in order to satisfy Condition 7 of planning permission relating to Ground Investigations as part of the 2005 TWAO Order permitting the tram development.
- The proposed Midland Metro Centenary Square Extension route is located in the city centre of Birmingham, along Pinfold Street, through Victoria Square, to Broadstreet via Paradise Street and Paradise Circus Queensway, terminating adjacent to the International Convention Centre. The area covered is approximately 700m in length.
- Pinfold Street is considered to be one of the earliest routeways in Birmingham, forming part of the original Birmingham to Dudley route and dating back to the Anglo Saxon period (410-1066 AD) (Riccoboni, 2013). Despite much modern redevelopment, there remains a possibility that remains relating to this routeway still survive. Maps show that the area around Paradise Circus Queensway was used for what appears to be housing in the late 19th century, some of which might survive around the Easy Row underpass.
- A total of 9 boreholes were monitored archaeologically to a depth of 1.2 m below ground level (BGL), with logs for a further two boreholes (BH1101, BH1103) forwarded by the Ground Investigations (GI) contractor. All borehole logs to a maximum depth of c.10m BGL were also forwarded by the Ground Investigations contractor and are commented upon in Section 5. A total of 7 Window Samples, 5 Static Plateload tests, 6 Dynamic Plateload tests and 5 Dynamic Probes were monitored archaeologically on site to a depth of 1.2 m BGL. A total of 27 Inspection Pits were monitored archaeologically on site to a depth of 1.2 m BGL.
- No prehistoric, medieval or early medieval archaeology was recorded within the ground investigations. This is probably due to truncation by early modern to 20th century redevelopments along Centenary Square and Broadstreet (as well as the Paradise Circus Queensway/Broadstreet slip roads) and the construction of the Suffolk Street Queensway tunnel, to a depth of at least 1.2m.
- The interventions along Pinfold Street confirmed that, in places, cellars exist along the street frontage. For example, the brick vaulted cellar of No.45 (IP5124), or the concrete built cellars observed in IP5118 and IP5119. Services and 19th century subterranean passages (SMR 03285, which may have been cellar basements or culverts) on Pinfold Street also seem to have truncated any buried remains along the Pinfold Street footpath. However, the centre of the street remains unexplored.
- The ground investigations around the Easy Row underpass revealed a possible brick wall/brick rubble (0032) recorded in BH7107. This may relate to the use or disuse of one of the 18th century structures depicted here on historic maps.

Report on the archaeological watching brief for the Midland Metro Centenary Square Extension, Birmingham

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1. INTRODUCTION

1.1 Trent & Peak Archaeology was commissioned by Mott MacDonald, acting on behalf of Centro, to carry out a watching brief, consisting of archaeological monitoring and recording of ground investigations (GI) works (comprising a number of hand dug inspection pits) ahead of the Midland Metro Centenary Square Extension tram line.

1.2 The development, hereafter 'the Site', is located in the city centre of Birmingham (SK5042 5765), running from Stephenson Street/Pinfold Street to Victoria Square (eastern half), and to Broad Street, via Paradise Circus and Paradise Circus Queensway (western half), terminating on Broad Street outside the International Conference Centre.

1.3 The watching brief was conducted as part of initial evaluation works in order to assess the potential survival of archaeological deposits along the proposed route.

2. PROJECT BACKGROUND

2.1 Mott MacDonald (MMD) is providing a range of services to Centro (West Midlands Passenger Transport Executive) to support the delivery of Midland Metro Birmingham City Centre Extension (BCCE) which has been granted a Transport & Works Act Order (TWAO) in 2005. The Centenary Square Extension (CSQ) extends the network by approximately 700m (Figure 1/2). This section of the route starts at Stephenson Street/Pinfold Street and runs to Victoria Square where a tram stop will be located near to the Town Hall. The route then continues via Paradise Street and Paradise Circus Queensway to a terminus on Broad Street adjacent to the International Convention Centre (ICC), Symphony Hall, REP Theatre and the new Central Library.

2.2 The potential for archaeological remains on the site had been identified during consultation of BCC Historic Environment Record (HER) and the production of a desk-based assessment (Scott Wilson 2009). This allowed for heritage assets to be identified and for an assessment of any areas of archaeological interest likely to be affected by the scheme to be made, with Pinfold Street (which is thought to possibly date from early medieval period onwards) and the frontages of Listed Buildings considered areas where archaeological remains of some importance might be present.

2.3 Subsequently, planning permission was granted with a number of attached conditions, including Condition 5; Archaeology, which states:

Condition 5: Archaeology

“Development shall not begin until a scheme of archaeological investigation, covering that part of the route from Great Charles Street to Five Ways, has been submitted to and approved in writing by the local planning authority. All archaeological work shall be undertaken in accordance with the agreed scheme of investigation.

Reason: To ensure adequate protection and recording of archaeological remains.”

2.4 One of the planning conditions relate to the need to carry out ground investigation (GI) to assess land contamination (condition 7) prior to the construction of this light rail system. In order to support the GI works, an archaeological watching brief is required.

2.5 In order to address Condition 7 during the Ground Investigations phase, a Written Scheme of Investigation was prepared by Mott MacDonald (Riccoboni 2013). Prior to the commencement of GI, a Written Scheme of Investigation (WSI) relating to the archaeological monitoring of the GI works on the Pinfold Street to Centenary Square section of route was prepared by Trent & Peak Archaeology (Davies 2013).

3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

3.1 As noted above, the site is located in central Birmingham (SK5042 5765), within an entirely built-up area presently used as roadways. The majority of the site is covered in tarmac, with some areas covered by blocked pedestrian pavements. The topography along the extension route is generally flat or gently sloping except for Pinfold Street. Stephenson Street remains flat (125m above ordnance datum (AOD)) until the junction with Pinfold Street. The upper section of Pinfold Street (135m AOD) has a maximum gradient of 12%. Victoria Square and Paradise Street remain generally flat (135m AOD). Paradise Circus slopes gently to the south. Broad Street also remains generally flat (135 to 140m AOD) to the Centenary Square tram stop.

3.2 The solid geology underlying the site is Bromsgrove Sandstone. This is a Sedimentary Bedrock formed approximately 237 to 251 million years ago in the Triassic Period within a local environment previously dominated by rivers (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>).

3.3 This sandstone is overlain by a superficial geology of sand and gravel, formed up to 2 million years ago in the Quaternary Period in a local environment previously dominated by ice age conditions (ibid.).

3.4 **Prehistory:** The earliest occupation of the Birmingham area is dated to the Palaeolithic, in the form of the Saltley handaxe, and there is also substantial evidence of Mesolithic communities in the Sutton Park and Sutton Coldfield areas. However, the only prehistoric artefacts recovered from the area around the route of the proposed Midland Metro are a set of two palstaves discovered within the Paradise Circus area (SMR 20157 – MBM1797). There are no Roman period (43-410 AD) heritage assets within the immediate vicinity.

3.5 **Early Medieval (Anglo-Saxon):** Pinfold Street is considered to be one of the earliest routeways in Birmingham, forming part of the original Birmingham to Dudley route and dating back to the Anglo Saxon period (410-1066 AD) (Riccoboni, 2013). Despite much modern redevelopment, there remains the possibility this origin road surface still survives beneath the existing road. There is little further evidence for early medieval activity within the proposed development route.

3.4 **Medieval:** While the origins of Birmingham are probably early medieval in date, it was during the 12th century AD that it grew into a more important and substantial town, which comprised a moated manor house (Birmingham Moat), a parish church and a market place (Hodder, 2011). Documentary records suggest a number of industries taking advantage of the nearby water supply (Patrick & Ratkai 2009), including as pottery production, tanning, linen, rope and canvas manufacture (Hodder, 2011). This settlement appears to be concentrated around the modern Bullring shopping centre (Patrick & Ratkai 2009), to the south-east of the area presently under investigation. Little is known about the character of activity/occupation immediately around the proposed development route.

3.5 **Post-medieval:** A rapid expansion of development and redevelopment occurred within Birmingham's historic core at this time. Maps show that the area around Paradise Circus Queensway was used for what appears to be housing in the late 19th century, some of which might survive around the Easy Row underpass. Subterranean passages previously recorded on Pinfold Street (SMR 03285), were probably cellars relating to the surviving early modern buildings. Excavations on the new library site on Centenary Square in 2009 revealed that the Baskerville Basin, Gibson's Arms and substantial remains of the Cambridge Street Gas Works and Union Rolling Mill were within this area (Riccoboni, 2013).

4. METHODOLOGY

4.1. **Aims and Objectives:** The aims and objectives of the archaeological monitoring during GI on the section of the BCCE route between Stephenson Street and Centenary Square were:

- to monitor the GI works along with and any other associated ground works which has the potential to destroy or disturb archaeological or heritage assets;
- establish if there has been modern truncation or disturbance to the area of the proposed Midland Metro; and to
- determine the stratigraphy across the site to establish the likelihood of archaeological remains being present (Riccoboni, 2013).

4.2 **Methodology:** The site specific methodology is listed below.

4.2.1 All archaeological monitoring was carried out in accordance with the Written Schemes of Investigation (Riccoboni, 2013, Davies 2013) and current industry best practice and guidance (IFA 2008a and 2008b)

4.2.2 The uppermost 1.2m of all boreholes, window samples and dynamic probes were hand dug by the principal GI contractor. Following this, an opportunity was afforded for observed deposits to be fully recorded by the attending archaeologist. A 1:20 scale section was drawn, and a photograph taken to record each intervention. If any archaeological remains were present they were also planned (where appropriate) at a scale of 1:20.

4.2.3 Hand dug inspection pits and any load test inspection pits were also fully recorded by the archaeologist.

4.2.4 The logs of all ground investigation works carried out by the principal GI contractor for this project were forwarded onto the archaeologist where they could be analysed to identify any areas of made ground or potential archaeological soil deposits.

4.2.5 All interventions were mapped with GPS by GeoTech and forwarded onto Trent & Peak Archaeology for height and location purposes.

4.2.6 The results for each intervention are presented in Section 5 below and listed in Appendix 1. Appendix 1, a context register, includes details of each individual context, a description of said context, its depth, thickness and its interpretation.

4.2.7 A total of 9 boreholes were monitored archaeologically on site to a depth of 1.2m Below Ground Level (BGL), with logs for a further two boreholes (BH1101, BH1103) forwarded by the Ground Investigations contractor and are commented upon in Section 5. All borehole logs to a maximum depth of c.9m BGL were also forwarded by the Ground Investigations contractor and are commented upon in Section 5.

4.2.8 A total of 7 Window Samples, 5 Static Plateload tests, 6 Dynamic Plateload tests and 5 Dynamic Probes were monitored archaeologically on site to a depth of 1.2 m BGL.

4.2.9 A total of 27 Inspection Pits were monitored archaeologically on site to a depth of 1.2m BGL.

5. RESULTS

5.1 Introduction

5.1.1 An outline narrative of the results of the archaeological monitoring during the ground investigations is presented below. The location of all interventions are shown on Figures 3/4 and listed in full in Appendix 1.

5.2 Boreholes

5.2.1 **Borehole BH1101** (data provided by GI contractors). Following removal of paving and sand bedding, 0.1m in depth, BH1101 revealed made-ground deposits to a combined depth of 3.9m BGL. These deposits comprised (in sequence) a grey mottled brown sand (0.9m deep), overlying a dark reddish brown and black gravelly clay (1m deep), a yellowish brown and black mottled clay (1m deep) and a grey clayey gravelly sand (0.4m deep).

5.2.2 Below these deposits a possible made ground deposit comprising reddish brown sandy clay was observed from 3.88m to 7m BGL. The surface of this deposit may represent a theoretical horizon of archaeological potential. From 7m BGL a reddish brown sandstone was observed. This was noted as the underlying solid geology.

5.2.3 **Borehole BH1102** was located in Centenary Square, removal of the paving (0.1m deep) (0004) and the associated underlying sand bedding (0.04m deep) (0005) revealed a deposit of made ground (0006), comprising a mid-brown sandy silt with brick fragments. Deposit (0006) is probably associated with the construction of Centenary Square and was observed to a depth of 1.2m.

5.2.4 Beyond a depth of 1.2m BGL, data provided by the GI contractors demonstrates that made ground deposits continued to a depth of 3m BGL and comprised at least four deposits of reddish brown gravelly clay and sand. Below these deposits a possible made ground deposit comprising soft reddish brown slightly sandy gravelly clay was observed from 3m to 4.5m BGL. Below this possible made ground two further deposits described as stiff reddish brown sandy clay were observed at 4.5m to 4.7m and 4.7m to 5.15m BGL respectively. The surface of these deposits may represent a theoretical horizon of archaeological potential. From 5.15 m BGL a reddish brown sandstone was observed, with a band of gravelly sand observed at 6.00m to 6.14m BGL. This is the underlying solid geology.

5.2.5 **Borehole BH1103** (data provided by GI contractors). Following removal of tarmac, 0.5m in depth, BH1103 revealed made-ground deposit comprising a light greyish brown sandy gravel up to 0.3m deep, which overlay a reddish brown gravelly sand 0.15m in depth. At 0.9m BGL a concrete obstruction was encountered and the borehole was discontinued.

5.2.6 **Borehole BH1104** was located on Paradise Circus Queensway. After removal of the tarmac road surface (0010) (0.1m deep) and concrete (0011) (0.3m deep), two distinct layers of made ground, (0016) and (0017,) were observed. Deposit (0016), 0.2m deep, was a dark brown sandy silt containing brick rubble whilst the underlying deposit, (0017) was a brown sand, 0.6m in depth. Both made ground deposits are most likely related to the construction of Paradise Circus Queensway.

5.2.7 **Borehole BH1105** was located north of Paradise Circus Queensway adjacent to the Easy Row underpass and Fletchers Walk Shopping Centre. After removal of the topsoil (0025), 0.3m in depth, a series of loose red-brown sand made ground deposits (0026) (0.4m deep) ,(0027) (0.1m deep) and (0028) (0.4m deep), were observed which may relate to the construction of the Paradise Circus Queensway.

5.2.8 Beyond a depth of 1.2m BGL, data provided by the GI contractors demonstrates that these made ground deposits continued to a depth of 2m BGL. Beyond this depth no recovery could be achieved and the borehole was discontinued at a depth of 3m BGL.

5.2.9 **Borehole BH1105** (attempt C) was the fourth attempt of Borehole BH1105 and was located north of Paradise Circus Queensway outside the Easy Row underpass. After removal of the Topsoil (0025) (0.3m deep), and a loose red brown sand made ground (0026) (0.2m deep), a deposit of brick and concrete rubble was observed (0029) between 0.5m BGL and 1.2m BGL. This deposit is either made ground or is related to the demolition of 19th century structures, which historic mapping depicts as formerly present in this area.

5.2.10 Beyond a depth of 1.2m BGL, data provided by the GI contractors demonstrates that made ground deposits continued to a depth of 2m BGL and comprised a reddish brown clayey gravelly sand. Below this deposit a deposit comprising a stiff reddish brown sandy clay was observed from 2m to 5m BGL. The surface of this deposit may represent the theoretical horizon of archaeological potential. From 5m BGL to 15.5m BGL various bands of weak reddish brown sandstone were observed. This is the underlying solid geology.

5.2.11 **Borehole BH1106** was located in a grassed area outside Alpha Tower, just southwest of Paradise Circus Queensway. After the removal of the topsoil (0045) (0.2m deep), three distinct layers of 20th century made ground (0046) (0.3m deep), (0047) (0.2m deep) and (0048) (0.5m deep) were identified. These most likely relate to the construction of either Alpha Tower or Paradise Circus Queensway.

5.2.12 Beyond a depth of 1.2m BGL, data provided by the GI contractors demonstrates that made ground deposits continued to a depth of 3.5m BGL and comprised a reddish brown clayey gravelly sand. Below this deposit no recovery was made until a depth of 7m BGL. From 7.05m BGL to 7.5m BGL, a firm reddish brown gravelly clay was observed and, from 7.5m BGL to 10m BGL, a weak reddish brown sandstone was observed. This is the underlying solid geology. This was area once occupied by a Wharf and the deep made ground was likely infill deposits.

5.2.13 **Borehole BH1107** was located just south of Paradise Circus Queensway. After the removal of the paving (0030) (0.05m in depth) and made ground (0031) (0.05m to 0.2m BGL), a possible brick wall or large portion of brick rubble (0032) was uncovered from 0.25m to 0.45m BGL; this was cut on the east side of the intervention by a steel service pipe (0033). This potential structural element may have been associated with the 18th – 19th century dwellings along the south side of Paradise Row, depicted on historic mapping in this area. Further interpretation is difficult due to the limited nature of this intervention.

5.2.14 Beyond a depth of 1.2m BGL, data provided by the GI contractors demonstrates that, below the brickwork, a reddish brown gravelly sand made ground was present to a depth of 3.95m BGL. Below this deposit a weak reddish brown sandstone was observed to a depth of 11.5m BGL. This is the underlying solid geology.

5.2.15 **Borehole BH1108** was located south of the Birmingham Town Hall. After removal of the paving (0034) (0.1m deep), former road surface (0035) (0.1m deep) and its concrete consolidation (0036) (0.5m deep), a deposit of brown sandy silt with brick rubble inclusions (0036) was encountered (0.7-1.2m BGL). This deposit is most likely a made-ground dating to the mid 20th century.

5.2.16 **Borehole BH1109** was located in Victoria Square, between the Iron Man Statue and the Town Hall. After the removal of paving (0034) (0.1m deep), bedding (0038)/ former road surface (0035) (0.1m deep) and a concrete consolidation layer (0036) (0.1m deep), a probable 20th century made ground deposit (0037) (0.7m deep) and cast iron service (0039) (0.7m BGL) were encountered.

5.2.17 **Borehole BH1110** was located at the south east end of Pinfold Street. After the removal of the paving (0040) (0.1m deep), the former road surface (0041) and the road bedding (0042) (0.1m deep), a made- ground (0043) was encountered (0.5m deep). These deposits relate to the construction of the 20th century road (0041). This material sealed another deposit (044) (1m deep), probably a 19th century made ground, containing clinker and ash. This material may possibly relate to the construction or demolition of 19th century structures on Pinfold Street.

5.2.18 No buried land surfaces or gravel terrace horizons were observed within any of the boreholes.

5.3.1 Window samples

5.3.1 **Window sample WS6101** was located to the west of Paradise Circus Queensway, on the verge next to the footpath on the western side of Paradise Circus. After the removal of the topsoil (0049) (0.24m deep) and subsoil (0050) (0.12m deep), a 20th century made-ground deposit comprising a loose red brown clayey sand, (0051), was encountered. This probably relates to either the construction of Paradise Circus Queensway or the Easy Row underpass.

5.3.2 **Window Sample WS6102** was located on the grass verge next to the footpath on the western side of Paradise Circus. After the removal of the topsoil (0049) (0.5m deep), a made ground of Type 1 roadstone (0051) (0.7m deep) was encountered. Borehole stopped at 1.2m. This modern deposit most likely relates to the construction of Paradise Circus and/or the Easy Row underpass.

Window Sample WS6102a located on the grass verge adjacent to WS6102a. After the removal of the initial modern topsoil with modern inclusions (0.60m deep) was grey sandy gravel to 1.70m deep, followed by a soft reddish brown sandy gravel from 1.70m to 1.90m deep. Beyond this was reddish brown mottled clay which was probably made ground, but could have been natural.

5.3.3 **Window sample WS6103** was located on the grass verge on the south west corner of the Easy Row underpass. The topsoil (0049) was 0.4m in depth and overlay a loose tarmac deposit (0027) (0.10m deep). Underlying the tarmac was loose red-brown clayey sand (0028) (1.2m deep) and natural stiff red brown clay directly beneath the made ground (0028). The made ground deposit (0028) probably relates to the construction of either Easy Row underpass or Paradise Circus Queensway.

5.3.4 **Window sample WS6104** was located on the pavement to the south of Paradise Circus. After the removal of the paving slabs (0053) (0.4m deep) and Type 1 roadstone (0054) (0.1m deep), a loose brown sand (0055) was encountered at a depth of 1.2m, overlying a 20th century cast iron gas main. At this point WS6104 was discontinued.

5.3.5 **Window sample WS6105** was located on the northern pavement of Paradise Street outside of the Town Hall. After the removal of the paving slabs (0034) (0.1m deep), a thick (0.5m) layer of compact tarmac was encountered, this former road surface (0035) sealed a concrete layer (0036) at a depth of 0.6m; it also possibly relates to the construction of Old Paradise Street.

5.3.6 **Window sample WS6106** was located on the southern pavement of Paradise Street, opposite the Town Hall. After the removal of the paving (0053) (0.1m deep) and the sand bedding (0056) (0.5m deep), a thick friable mid-brown sandy-silt (0057) was encountered at a depth of 0.9m. This material is most likely a 20th century made ground deposit, relating to the construction of Paradise Street or No1 Victoria House.

5.3.7 **Window sample WS6107** was located at the northern end of Pinfold Street. After the removal of the paving slabs (0040) (0.1m deep) and the type 1 bedding (0042) (0.1m deep), a layer of concrete (0058) was encountered to a depth of 0.40m. This material was sealing a service backfill deposit (0043) (0.8m deep), this deposit comprised of friable mid-brown sandy silt with a brick rubble inclusion and also contained a cast iron pipe and disused ceramic storm drain.

5.4 Static Plateload tests

5.4.1 **Static Plateload Test PL(S)7101** was abandoned after concrete was uncovered in PL(D) 8102.

5.4.2 **Static Plateload Test PL(S)7102** was located at the south western extent of Paradise Circus Queensway. After removing the road surface (0010) (0.1m deep) and underlying concrete (0011) (0.30m deep), a friable dark-brown sandy-silt with brick rubble inclusions (0016) was uncovered to a depth of 0.8m. This material was probably brought in to make up the ground level during the construction of Paradise Circus Queensway.

5.4.3 **Static Plateload Test PL(S)7103** was located at the south west corner of Paradise Circus Queensway, on top of the Suffolk Street Queensway tunnel. After the removal of the tarmac (0010) (0.2m deep) and underlying concrete (0011) (0.1m deep), the intervention was abandoned because it was located directly above the tunnel.

5.4.4 **Static Plateload Test PL(S)7104** was located on the Paradise Street/Paradise Circus Queensway junction. The intervention was abandoned when concrete was encountered beneath the road tarmac (0010).

5.4.5 **Static Plateload Test PL(S)7105** was located half way along Pinfold Street. After the removal of a paving surface (0040) (0.1m deep), an underlying road surface (0041) and its bedding material (0042) were uncovered, 0.3m and 0.6m in depth respectively. Underlying these deposits was a mid-brownish grey; stony material with brick inclusions (0043) (0.6m deep), this was a 20th century made ground deposit or service backfill.

5.5 Dynamic Plate load tests

5.5.1 **Dynamic Plateload Test PL(D)8101** was located on Broad Street outside the Birmingham Municipal Bank building. After the removal of the road surface (0010) (0.1m deep) and the underlying concrete (0011) (0.6m deep), a 20th century made ground deposit was removed (to a depth of 0.5m). This material probably relates to the construction of either Broad Street or the nearby Centenary Square.

5.5.2 **Dynamic Plateload Test PL(D)8102** was located on Broad Street outside the Centenary Square. It was abandoned after uncovering concrete beneath the road surface.

5.5.3 **Dynamic Plateload Test PL(D)8103** was located at the eastern end of Broad Street and was abandoned after hitting concrete underneath the road surface.

5.5.4 **Dynamic Plateload Test PL(D)8104** was located on Paradise Circus Queensway, to the south of the Easy Row underpass. It was abandoned after a void became visible in the concrete underlying the road surface.

5.5.5 **Dynamic Plateload Test PL(D)8105** was located on the corner of Paradise Circus Queensway and Paradise Street. After the removal of the road surface (0010) (0.1m deep) and underlying concrete (0011) (0.6m deep), a 20th service backfill/made ground deposit was encountered at a depth of 0.7m. The intervention was abandoned at a depth of 1m because a cast iron service was encountered.

5.5.6 **Dynamic Plateload Test PL(D)8106** was located on Paradise Street outside of the Town Hall, it was discontinued after two unmarked cables were encountered within the road surface.

5.6 Dynamic Probes

5.6.1 **Dynamic Probe DP4101** was located on Broad Street, just east of the footbridge linking The Hyatt Hotel and the ICC. After the removal of the road surface (0010) (0.1m deep) and underlying concrete (0011) (0.4m deep), a 20th century made ground deposit was uncovered at a depth of 0.5m; this material probably relates to the construction of Broad Street or the surrounding buildings.

5.6.2 **Dynamic Probe DP4102** was located at the east end of Broad Street. After the removal of the road surface (0010) (0.1m deep) and the underlying concrete (0011) (0.4m deep), a 20th made ground deposit was encountered at a depth of 0.5m, this material is probably related to the construction of Broad Street/Paradise Circus Queensway.

5.6.3 **Dynamic Probe DP4103** was located at the eastern end of Broad Street, outside of Centenary Square. After the removal of the road surface (0007) (0.4m deep) and the underlying type 1 roadstone

(0008) (0.2m deep), a 20th made ground deposit was uncovered at a depth of 0.50m, this probably relates to the construction of centenary square or Broad Street/Paradise Circus Queensway.

5.6.4 **Dynamic Probe DP4104** was located on the cobble area between Paradise Circus Queensway and the slip road onto southbound A38, to the south of Easy Row underpass. After the removal of the cobble surface (0060) (0.2m deep), a 20th century made ground was encountered to a depth of 1.2m, this probably relates to the construction of the A38 tunnel and Paradise Circus Queensway flyover.

5.5.5 **Dynamic Probe DP4105** was located at the southern end of Pinfold Street. After the removal of the paving slabs (0040) (0.1m deep) and underlying type 1 stone (0042) (0.5m deep), a 20th century service backfill (0062) was uncovered. This material sealed a 19th/ 20th century made ground (0043), which is encountered at a depth of 1.0m.

5.6 Inspection Pits

5.6.1 **Inspection Pit IP5101** Not excavated.

5.6.2 **Inspection Pit IP5102** was located on Broad Street outside Centenary Square. The aim of the inspection pit was to find the foundations of the concrete retaining wall of Broad Street. After the removal of the paving slabs (0001) (0.1m deep) and the related bedding (0002) (0.1m deep), a 20th century made ground was encountered to a depth of 1.2m; this material is probably related to the construction of Broad Street or Centenary Square.

5.6.3 **Inspection Pit IP5103** is located at the eastern end of Broad Street. The inspection pit was discontinued at a depth of 0.30m due to thick concrete.

5.6.4 **Inspection Pit IP5104** was located on the southern pavement of Broad Street just north of Alpha Tower. The inspection pit was dug to expose concrete foundations of the Broad Street/Paradise Circus Queensway flyover. After the removal of the paving (0063) (0.1m deep) and related bedding (0064) (0.2m deep), a 20th century made ground (0065) was uncovered to a depth of 0.8m; this possibly relates to the construction of the Broad Street/Paradise Circus Queensway flyover.

5.6.5 **Inspection Pit IP5105** was located on the verge to the east the Broad Street/Paradise Circus Queensway flyover and to the west of the Easy Row underpass. The inspection pit was dug to expose the concrete foundations of the flyover. After the removal of the topsoil (0025) (0.2m deep), a 20th century made ground (0067) was uncovered to a depth of 0.7m; this possibly relates to the construction of either the flyover or the Easy Row underpass.

5.6.6 **Inspection Pit IP5106** was located on the western footpath of the Broad Street/Paradise Circus Queensway flyover to the east of Alpha Tower. The aim of the inspection pit was to expose the concrete foundations of the flyover. After the removal of the paving (0063) (0.1m deep), a concrete consolidation (0066) (0.1m deep) and the sand bedding (0064) (0.1m deep) were uncovered. A 20th century made ground deposit (0065) was then uncovered to a depth of 1m; this possibly relates to the construction of the flyover.

5.6.7 **Inspection Pit IP5107** was located on the Paradise Circus Queensway/Broad Street flyover and aimed to determine the depth of the flyover foundation. Concrete was located at a depth of 0.1m and the inspection pit was discontinued.

5.6.8 **Inspection Pit IP5108** was located on the western footpath of the Broad Street/Paradise Circus Queensway flyover to the east of Alpha Tower and aimed to expose the concrete foundations of the flyover. After the removal of the paving slabs (0063) (0.1m deep) and sand bedding (0064) (0.2m deep), a 20th century made ground deposit (0065) was uncovered to a depth of 1m; this possibly relates to the construction of the flyover.

5.6.9 **Inspection Pit IP5109** was located on the verge to the east the Broad Street/Paradise Circus Queensway flyover, and to the west of the Easy Row underpass. The aim of the inspection pit was to

expose the concrete foundations of the flyover. After the removal of the topsoil (0025) (0.2m deep), a 20th century made ground (0067) (1m deep) was uncovered; this possibly relates to the construction of either the flyover or the Easy Row underpass.

5.6.10 **Inspection Pit IP5110** was located on the verge to the east the Broad Street/Paradise Circus Queensway flyover and to the west of the Easy Row underpass, it aimed to expose the concrete foundations of the A38 tunnel. A clay-silt topsoil surface (0025) was recorded to a depth of 0.1m and overlaid a 20th century made ground (0026) (0.2m deep).

5.6.11 **Inspection Pit IP5111** was located on Paradise Circus Queensway above the A38 tunnel and aimed to determine the depth of the concrete foundations of the tunnel. Underlying a cobble and concrete surface (0060) was the concrete foundation at a depth of 0.3m.

5.6.12 **Inspection Pit IP5112** was located on the cobble area between Paradise Circus Queensway and the slip road onto southbound A38 to the south of Easy Row underpass. The aim of the inspection pit was to determine the depth of the foundations of a signpost. After the removal of the cobble surface (0060) (0.2m deep), a 20th century made ground (0061) (0.3m deep) was encountered; this deposit is probably related to the construction of the A38 tunnel and Paradise Circus Queensway flyover. The intervention was abandoned at a depth 0.5m due to the presence of communication services.

5.6.13 **Inspection Pit IP5113** was located on Paradise Circus Queensway south of the Easy Row underpass and aimed to determine the depth of concrete foundations. Underlying a road surface at a depth of 0.1m the concrete foundations were uncovered.

5.6.14 **Inspection Pit IP5114** was located on the southern pavement of Paradise Circus Queensway outside Latham House and aimed to determine the depth of a former subway roof. After the removal of tarmac (0069) (0.1m deep) and the underlying roadstone (0054) (1.1m deep), the subway roof (0068) was encountered at a depth of 1.2m. The full extent of the concrete roof could not be ascertained.

5.6.15 **Inspection Pit IP5115** was located on the southern pavement of Paradise Street outside No1 Victoria Square. The aim of the inspection pit was to determine the depth of a concrete retaining wall on Paradise Street. The concrete retaining wall (0070) extended to a depth of 0.8m at which an underlying 20th century made ground deposit (0057) (0.4m deep) was encountered.

5.6.16 **Inspection Pit IP5116** was located at the western side of the iron man statue in Victoria Square. The aim of the inspection pit was to determine the depth and type of foundations for the statue. After the removal of the paving slabs (0034) (0.1m deep) and related bedding (0038) (0.10m deep), type 1 roadstone (0071) (0.4m deep) was encountered, this was probably the backfill for the foundations of the statue.

5.6.17 **Inspection Pit IP5117** was located in Victoria Square against a wall commemorating the opening of the square by the Princess of Wales. After the removal of paving slabs (0034) (0.1m deep) and related bedding (0038) (0.05m deep) as well as an old road surface (0035) (0.15m deep) a wall (0073) was encountered. Wall (0073) cut through a concrete consolidation (0036) at a depth of 0.3m and 20th century made ground (0072) at a depth of 0.8m. The concrete foundations of the wall (0074) stepped out at a depth of 1.2m and its full depth is unknown.

5.6.18 **Inspection Pit IP5118** was located on Victoria Square outside Victoria Square House and aimed to determine to what extent the cellars of Victoria Square House stepped out. The paving surface was 0.1m in depth and directly overlay the cellars.

5.6.19 **Inspection Pit IP5119** was located on the corner of Victoria Square and Pinfold Street outside Victoria Square House. The aim of the inspection pit was to determine to what extent the cellars of Victoria Square House stepped out. The paving surface was 0.1m in depth and directly overlay the cellars. The intervention was discontinued at a depth of 0.3m because a communication service was encountered.

5.6.20 **Inspection Pit IP5120** was located at the north end of Pinfold Street outside Victoria Square House and aimed to determine whether the cellars of Victoria Square House stepped into Pinfold Street. This was proved not to be the case. A paving surface (0040) was recorded at a depth of 0.1m and overlay a layer of roadstone (0042) (0.4m deep). At a depth of 0.5m a 20th century made ground was encountered (0043) (0.2m deep); underlying this was a possible 19th century made ground deposit (0075) (0.8m deep); although this material could also be a 20th century made ground deposit or service backfill

5.6.21 **Inspection Pit IP5121** was located at the north end of Pinfold Street outside No. 51. The aim of the inspection pit was to ascertain to what extent, if at all, the cellars of No. 51 stepped into Pinfold Street. After removing the paving surface (0040) (0.1m deep), it became clear that the cellars stepped into Pinfold Street at a depth of 0.3m. The full extent of the depth could not be determined due to communication services running alongside the cellar wall within the footpath.

5.6.22 **Inspection Pit IP5122** was located on the western footpath of Pinfold Street outside the Post Office building and aimed to identify whether the cellar of the Post Office stepped into Pinfold Street. This was proved not to be the case. The paving surface (0040) was 0.1m in depth and overlay two distinct layers of roadstone (0042) and (0076), 0.1m and 0.3m in depth respectively. Underlying the roadstone layers at a depth of 0.4m was a 20th century made ground deposit (0043), this potentially relates to either the construction of the building, or the development of Pinfold Street.

5.6.23 **Inspection Pit IP5123** was located on the eastern footpath of Pinfold Street outside No. 49. The aim of the inspection pit was to identify if the cellar of No. 49 stepped into Pinfold Street. The paving surface (0040) was 0.1m in depth and overlay layers of roadstone (0042) and concrete (0058), 0.1m and 0.3m in depth respectively. Underlying these layers at a depth of 0.4m, was a 20th century made ground deposit (0043), this probably relates to the construction of the buildings cellar. Beneath this, a solid layer of concrete (0077) was encountered at a depth of 1.20m, and is most likely the cellar roof of No. 49. It could not be determined if the cellar stepped into Pinfold Street as the limit of the intervention was reached.

5.6.24 **Inspection Pit IP5124** was located on the eastern footpath of Pinfold Street outside No.45. The aim of the inspection pit was to identify if the cellar of No.45 steps into Pinfold Street. The inspection pit was discontinued on health and safety grounds after a void in the brick vault cellar was revealed; only a thin layer of soil between the pavement and the void was present. No records or photos could be taken.

5.6.25 **Inspection Pit IP5125** was located on the eastern footpath of Pinfold Street outside No. 47. It aimed to identify if the cellar of No. 47 stepped into Pinfold Street. It appears that it does not. After the removal of the paving slabs (0040) (0.1m deep) a layer of roadstone was encountered (0042) (0.3m deep). Underlying the roadstone was a 20th century made ground deposit (0043) (0.5m deep), this probably relates to the construction of the building and/or its cellar.

5.6.26 **Inspection Pit IP5126** was located on the eastern footpath of Pinfold Street at the southern corner Pinfold Street and Stephenson Street. The aim of the inspection pit was to identify any cellars stepped into Pinfold Street. After the removal of a paving surface (0040) (0.05m deep) and related bedding sand (0078) (0.1m deep) a layer of roadstone (0042) (0.1m deep) was encountered. Underlying the roadstone was a service backfill (0079) (0.5m deep). It could not be determined if the cellar stepped into Pinfold Street as the intervention was discontinued at a depth of 0.7m, this was due to a communication service lying against the cellar wall.

5.6.27 **Inspection Pit IP5127** was to be located on Stephenson Street. The inspection pit could not be carried out due to a rerouting of a service by Balfour Beatty.

5.6.28 No artefact finds were recovered from any of the interventions.

6. Discussion

6.1 No prehistoric, early or later medieval archaeology was recorded within the ground investigations. This is probably due to truncation by early modern to 20th century redevelopments along Centenary Square and Broadstreet (as well as the Paradise Circus Queensway/Broadstreet slip roads) and the construction of the Suffolk Street Queensway tunnel, to a depth of at least 1.2m. This correlates with earlier observations made by Wessex Archaeology during archaeological monitoring of geotechnical works during Phase 1 of the Midland Metro (WA 2011).

6.2 The interventions along Pinfold Street confirmed that, in places, cellars exist along the street frontage. For example, the brick vaulted cellar of No.45 (IP5124), or the concrete built cellars observed in IP5118 and IP5119. Services and 19th century basements on Pinfold Street also seem to have truncated any buried remains along the Pinfold Street footpath. However, the centre of the street remains unexplored.

6.3 The ground investigations around the Easy Row underpass revealed a possible brick wall/brick rubble (0032) recorded in BH7107. This may relate to the use or disuse of one of the 18th century structures depicted here on historic maps (see Fig. 3).

WS6102a and WS6103 were located in the general area once occupied by 18th century dwellings, shown on various historic maps from 1778 onwards. The recorded section of the Window Sample WS6103 proves that a deep red brown loose made ground exists across this area which may be associated with the demolition of the previous town houses.

Bibliography

Birmingham City Council 2006. Colmore Row & Environs Conservation Area Character Appraisal and Supplementary Planning Policies (BCC 2006)

BGS 1:50,000 scale geological paper map sheet 168: Birmingham (online reference: <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>).

Hodder, M. (2011) *Birmingham: The Hidden History*. Tempus Publishing

Institute for Archaeologists, (2008) *Standard and Guidance for Archaeological Watching Briefs*.

Institute for Archaeologists, (2008) *Standard and Guidance for the collection, documentation, conservation and research of archaeological material*.

Patrick and Ratkai. (2009) *The Bull Ring Uncovered: Excavations at Egabaston Street, Moor Street, Park Street, and The Row Birmingham City Centre 1997-2001*. Oxbow

Riccoboni, P. (2013) *Archaeological Written Scheme of Investigation for Midland Metro Phase 1 Centenary Square Extension*

Wessex Archaeology (2011) Midland Metro Phase 1, Birmingham City Centre. Archaeological Monitoring of Geotechnical Works, WA Rep. 78230.03.

Appendix 1 – Ground Investigations Context Register

BOREHOLES

Borehole BH1102

Context	Depth	Thickness	Description	Interpretation
0004	0.00m	0.10m	Slab	Paving
0005	0.10m	0.06m	Sand	Bedding
0006	0.16m	1.04m	Mid-Brown Sandy Silt 1% Brick Fragments	Made Ground

Borehole BH1103,

Context	Depth	Thickness	Description	Interpretation
GI 1	0.00m	0.5m	Tarmac/Rubble	Tarmac Surface/Make-up
GI 2	0.5m	0.9m	Light Grey to Red Brown Sand/Gravel	Made Ground

Borehole BH1104

Context	Depth	Thickness	Description	Interpretation
0010	0.00	0.10	Tarmac	Road Surface
0011	0.10	0.30	Concrete	Concrete Bedding
0016	0.40	0.20	Dark-Brown Sandy-Silt 5% Brick Rubble	Made Ground
0017	0.60	0.60	Brown Sand	Made Ground

Borehole BH1105

Context	Depth	Thickness	Description	Interpretation
0025	0.00	0.30	Soft Light-Grey-Brown Clay-Silt	Topsoil
0026	0.30	0.40	Loose Red-Brown Sand	Made Ground
0027	0.70	0.10	Loose Tarmac	Made Ground
0028	0.80	0.40	Loose Red-Brown Sand	Made Ground

Borehole BH1105 (attempt C)

Context	Depth	Thickness	Description	Interpretation
0025	0.00	0.30	Soft Light-Grey-Brown Clay-Silt	Topsoil
0026	0.30	0.20	Loose Red-Brown Sand	Made Ground
0029	0.50	0.70	Compacted Brick Rubble & Concrete Within matrix of: Soft Mid-Brown Sandy-Silt	Made Ground/ Demolition

Borehole BH1106

Context	Depth	Thickness	Description	Interpretation
0045	0.00	0.20	Soft Light-Grey-Brown Clay-Silt	Topsoil
0046	0.20	0.30	Loose Red-Brown Sand	Made Ground
0047	0.50	0.20	Stone Fragments (up to 150mm)	Made Ground
0048	0.70	0.50	Soft Mid Brown Clay-Sand And Brick Rubble	Made Ground

Borehole BH1107

Context	Depth	Thickness	Description	Interpretation
0030	0.00	0.05	Slabs	Paving
0031	0.05	0.20	Loose Red-Brown Sand	Made Ground
0032	0.25	0.95	Brick and Mortar	Brick Wall
0033	0.25	0.40	Steel Pipe within cut	Service

Borehole BH1108

Context	Depth	Thickness	Description	Interpretation
0034	0.00	0.10	Slabs	Paving
0035	0.10	0.10	Compacted Tarmac	Former Road Surface
0036	0.20	0.50	Concrete	Road Consolidation
0037	0.70	0.50	Friable Mid-Brown Sandy-Silt And Brick Rubble	Made Ground

Borehole BH1109

Context	Depth	Thickness	Description	Interpretation
0034	0.00	0.10	Slabs	Paving
0038	0.10	0.10	Sand	Bedding
0035	0.20	0.20	Tarmac	Road Surface
0036	0.40	0.30	Concrete	Road Consolidation
0037	0.70	0.50	Friable Mid-Brown Sandy-Silt And Brick Rubble	Made Ground
0039	0.70	0.30	Service within Cut	20 th Century Service

Borehole BH1110

Context	Depth	Thickness	Description	Interpretation
0040	0.00	0.10	Slabs	Paving
0041	0.10	0.10	Tarmac	Road Surface
0042	0.20	0.30	Stone Fragments	Road Bedding
0043	0.50	0.50	Friable Mid-Brown Sandy-Silt And Brick Rubble	Made Ground
0044	1.00	0.20	Loose Black-Grey Klinker & Ash	19th century Made Ground

WINDOW SAMPLES

Window sample WS6101

Context	Depth	Thickness	Description	Interpretation
0049	0.00	0.24	Soft Light-Grey-Brown Clay-Silt	Topsoil
0050	0.24	0.36	Loose Light- Grey-Brown Silty-Sand And Brick Rubble	Subsoil
0051	0.60	0.60	Loose Red-Brown Clay-Sand	Made Ground

Window sample WS6102

Context	Depth	Thickness	Description	Interpretation
0049	0.00	0.50	Soft Light-Grey-Brown Clay-Silt	Topsoil
0052	0.50	0.70	Stone Fragments Up to 120mm	Type1 Roadstone (made Ground)

Window sample WS6103

Context	Depth	Thickness	Description	Interpretation
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0049	0.00	0.40	Soft Light-Grey-Brown Clay-Silt	Topsoil
0027	0.40	0.10	Loose Tarmac	Made Ground
0028	0.50	0.70	Loose Red-Brown Clay-Sand	Made Ground

Windowsample WS6104

Context	Depth	Thickness	Description	Interpretation
0053	0.00	0.10	Slabs	Paving
0054	0.40	0.10	Stone Fragments Up to 150mm	Type1 Road Stone
0055	0.50	0.70	Loose Brown Sand	Sand covering Service

Windowsample WS6105

Context	Depth	Thickness	Description	Interpretation
0034	0.00	0.10	Slabs	Paving
0035	0.10	0.50	Compacted Tarmac	Former Road Surface
0036	0.60	0.60	Concrete	Road Consolidation

Windowsample WS6106

Context	Depth	Thickness	Description	Interpretation
0053	0.00	0.10	Slabs	Paving
0056	0.10	0.20	Brown Sand	Bedding
0057	0.30	0.90	Friable Mid-Brown Sandy-Silt	Made Ground

Windowsample WS6107

Context	Depth	Thickness	Description	Interpretation
0040	0.00	0.10	Slabs	Paving
0042	0.10	0.10	Stone Fragments Up 150mm	Type 1 Bedding
0058	0.20	0.20	Concrete	Road Consolidation
0043	0.40	0.80	Friable Mid-Brown Sandy-Silt And Brick Rubble	Service Backfill

STATIC PLATELOAD TESTS

Static Plateload tests

Static Plateload Test PL(S)7101

PL(S) 7101 was abandoned after concrete was uncovered in PL(D) 8102.

Static Plateload Test PL(S)7102

Context	Depth	Thickness	Description	Interpretation
0010	0.00	0.10	Tarmac	Road Surface
0011	0.10	0.30	Concrete	Concrete Bedding
0016	0.40	0.80	Dark-Brown Sandy-Silt 5% Brick Rubble	Made Ground

Static Plateload Test PL(S)7103

Context	Depth	Thickness	Description	Interpretation
0010	0.00	0.20	Tarmac	Road Surface
0011	0.20	0.10	Concrete	Concrete Bedding

Static Plateload Test PL(S)7104

PL(S)7104 was abandoned when concrete was encountered beneath the road tarmac (0010).

Static Plateload Test PL(S)7105

Context	Depth	Thickness	Description	Interpretation
0040	0.00	0.10	Slabs	Paving
0041	0.10	0.20	Tarmac	Road Surface
0042	0.30	0.30	Stone Fragments	Road Bedding
0043	0.60	0.60	Friable Mid-Brown-Grey Sandy-Silt And Brick Rubble And Stone Fragments	Made Ground/ Service Backfill

6.4 Dynamic Plate load tests

Dynamic Plateload Test PL(D)8101

Context	Depth	Thickness	Description	Interpretation
0010	0.00	0.10	Tarmac	Road Surface
0011	0.10	0.60	Concrete	Concrete Bedding
0012	0.70	0.50	Soft Mid-Brown Clay-Silt And Brick Rubble	20 th Century Made Ground/ Service Backfill

Dynamic Plateload Test PL(D)8102

PL(D)8102 was abandoned after hitting concrete beneath the road surface.

Dynamic Plateload Test PL(D)8103

PL(D)8103) was abandoned after hitting concrete underneath the road surface.

Dynamic Plateload Test PL(D)8104

PL(D) was abandoned after a void became visible in the concrete underlying the road surface.

Dynamic Plateload Test PL(D)8105

Context	Depth	Thickness	Description	Interpretation
0010	0.00	0.10	Tarmac	Road Surface
0011	0.10	0.60	Concrete	Concrete Bedding
0012	0.70	0.30	Soft Mid-Brown Clay-Silt And Brick Rubble	20 th Century Made Ground/ Service Backfill

Dynamic Plateload Test PL(D)8106

PL(D)8106 is was abandoned after two unmarked cables were encountered within the road surface.

6.5 Dynamic Probes

Dynamic Probe DP4101

Context	Depth	Thickness	Description	Interpretation
0010	0.00	0.10	Tarmac	Road Surface
0011	0.10	0.40	Concrete	Concrete Bedding
0013	0.50	0.70	Firm Dark-Grey Sandy-Silt 5% Pebbles 1% Wood Fragments	20 th Century Made Ground

Dynamic Probe DP4102

Context	Depth	Thickness	Description	Interpretation
0010	0.00	0.10	Tarmac	Road Surface
0011	0.10	0.40	Concrete	Concrete Bedding
0012	0.50	0.70	Soft Mid-Brown Clay-Silt And Brick Rubble	20 th Century Made Ground/ Service Backfill

Dynamic Probe DP4103

Context	Depth	Thickness	Description	Interpretation
0007	0.00	0.40	Tarmac	Road Surface
0008	0.10	0.20	Stone Fragments	Type 1

			Up to 150mm	Roadstone
0009	0.50	0.70	Soft Mid-Brown Clay-Silt And Brick Rubble	20 th Century Made Ground/ Service Backfill

Dynamic Probe DP4104

Context	Depth	Thickness	Description	Interpretation
0060	0.00	0.20	Cobbles within Concrete	Cobble Surface
0061	0.20	1.00	Friable Mid-Brown Clay-Silt And Cobble And Brick Rubble	Made Ground

Dynamic Probe DP4105

Context	Depth	Thickness	Description	Interpretation
0040	0.00	0.10	Slabs	Paving
0042	0.10	0.50	Stone Fragments	Road Bedding
0062	0.60	0.40	Friable Mid-Grey-Brown Clay-Silt	Service Backfill
0043	1.00	0.40	Friable Mid-Brown Sandy-Silt And Brick Rubble	Made Ground

INSPECTION PITS

Inspection Pit IP5101

No data

Inspection Pit IP5102

Context	Depth	Thickness	Description	Interpretation
0001	0.00	0.10	Slabs	Paving
0002	0.10	0.10	Sand	Bedding
0003	0.20	1.00	Soft Mid-Red-Brown Clay-Silt And Coarse Gravel	Made Ground

Inspection Pit IP5103

IP5103 was abandoned at a depth of 0.30m due to thick concrete.

Inspection Pit IP5104

Context	Depth	Thickness	Description	Interpretation
0063	0.00	0.10	Slabs	Paving
0064	0.10	0.20	Sand	Bedding

0065	0.30	0.50	Soft Mid-Red-Brown Clay-Silt And Coarse Gravel	Made Ground
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Inspection Pit IP5105

Context	Depth	Thickness	Description	Interpretation
0025	0.00	0.20	Soft Light-Grey-Brown Clay-Silt	Topsoil
0067	0.20	0.50	Soft Mid-Grey-Brown Cilty-Clay	Made Ground

Inspection Pit IP5106

Context	Depth	Thickness	Description	Interpretation
0063	0.00	0.10	Slabs	Paving
0066	0.10	0.10	Pink Concrete	Consolidation
0064	0.20	0.10	Sand	Bedding
0065	0.30	0.70	Soft Mid-Red-Brown Clay-Silt And Coarse Gravel	Made Ground

Inspection Pit IP5107

IP5107 located concrete at depth of 0.10m.

Inspection Pit IP5108

Context	Depth	Thickness	Description	Interpretation
0063	0.00	0.10	Slabs	Paving
0064	0.10	0.20	Sand	Bedding
0065	0.30	0.70	Soft Mid-Red-Brown Clay-Silt And Coarse Gravel And Loose Tarmac	Made Ground

Inspection Pit IP5109

Context	Depth	Thickness	Description	Interpretation
0025	0.00	0.20	Soft Light-Grey-Brown Clay-Silt	Topsoil
0067	0.20	1.00	Soft Dark-Grey-Brown Sandy-Clay And Pebbles	Made Ground

Inspection Pit IP5110

Context	Depth	Thickness	Description	Interpretation
0025	0.00	0.10	Soft Light-Grey-Brown Clay-Silt	Topsoil
0026	0.10	0.20	Loose Red-Brown Sand	Made Ground

Inspection Pit IP5111

IP5111 located concrete at 0.30m BGL right beneath the cobble and concrete surface (0060).

Inspection Pit IP5112

Context	Depth	Thickness	Description	Interpretation
0060	0.00	0.20	Cobbles within Concrete	Cobble Surface
0061	0.20	0.30	Friable Mid-Brown Clay-Silt And Cobble And Brick Rubble	Made Ground

Inspection Pit IP5113

IP5113 located concrete at 0.10m BGL, directly beneath the road surface.

Inspection Pit IP5114

Context	Depth	Thickness	Description	Interpretation
0069	0.00	0.10	Tarmac	Pavement
0054	0.10	1.10	Stone Fragments Up to 150mm	Type1 Road Stone
0068	1.20	Unknown	Concrete	Former Subway Roof

Inspection Pit IP5115

Context	Depth	Thickness	Description	Interpretation
0070	0.00	0.80	Concrete	Retainingwall/ Consolidation
0057	0.80	0.40	Friable Mid-Brown Sandy-Silt	Made Ground

Inspection Pit IP5116

Context	Depth	Thickness	Description	Interpretation
0034	0.00	0.10	Slabs	Paving
0038	0.10	0.10	Sand	Bedding
0071	0.20	0.40	Stone Fragments Up to 150mm	Type 1 Roadstone/ Foundation Backfill

Inspection Pit IP5117

Context	Depth	Thickness	Description	Interpretation
0034	0.00	0.10	Slabs	Paving
0038	0.10	0.05	Sand	Bedding
0035	0.15	0.15	Tarmac	Road Surface
0036	0.30	0.50	Concrete	Road Consolidation
0073	0.30	0.90	Soft Light-Grey-Brown Sandy-Silt And Brick Rubble	Construction Backfill
0072	0.80	0.40	Soft Mid-Brown-Grey Clay-Silt And Rounded Cobbles	20 th Century Made Ground
0074	1.20	Unknown	Concrete	Foundations

Inspection Pit IP5118

IP5118 removed the paving (0034).

Inspection Pit IP5119

IP5118 removed the paving (0034) and a communication service was encountered at a depth of 0.30m.

Inspection Pit IP5120

Context	Depth	Thickness	Description	Interpretation
0040	0.00	0.10	Slabs	Paving
0042	0.10	0.40	Stone Fragments Up 150mm	Type 1 Bedding
0043	0.50	0.20	Friable Mid-Brown Sandy-Silt And Brick Rubble	Made Ground
0075	0.70	0.50	Firm Mid-Brown-Grey Clay-Silt And degraded Sandstone	19 th ? Century Made Ground

Inspection Pit IP5121

IP5120 removed the paving (0040).

Inspection Pit IP5122

Context	Depth	Thickness	Description	Interpretation
0040	0.00	0.10	Slabs	Paving
0042	0.10	0.20	Stone Fragments Up 150mm	Type 1 Bedding
0076	0.30	0.10	Dark-Grey Stone Fragments Up to 150mm	Type 1 Roadstone
0043	0.40	0.80	Friable Mid-Brown Sandy-Silt And Brick Rubble	Made Ground

Inspection Pit IP5123

Context	Depth	Thickness	Description	Interpretation
0040	0.00	0.10	Slabs	Paving
0042	0.10	0.20	Stone Fragments Up 150mm	Type 1 Bedding
0058	0.30	0.10	Concrete	Consolidation
0043	0.40	0.80	Friable Mid-Brown Sandy-Silt And Brick Rubble	Made Ground
0077	1.20	Unknown	Probably Concrete	Possible Foundation

Inspection Pit IP5124

IP5124 abandoned when the brick vault of a cellar was revealed.

Inspection Pit IP5125

Context	Depth	Thickness	Description	Interpretation
0040	0.00	0.10	Slabs	Paving
0042	0.10	0.30	Stone Fragments Up 150mm	Type 1 Bedding
0043	0.40	0.80	Friable Mid-Brown Sandy-Silt And Brick Rubble	Made Ground

Inspection Pit IP5126

Context	Depth	Thickness	Description	Interpretation
0040	0.00	0.05	Slabs	Paving
0078	0.05	0.10	Red Sand	Bedding
0042	0.10	0.10	Stone Fragments Up 150mm	Type 1 Bedding
0079	0.20	0.50	Red Sand	Service Backfill

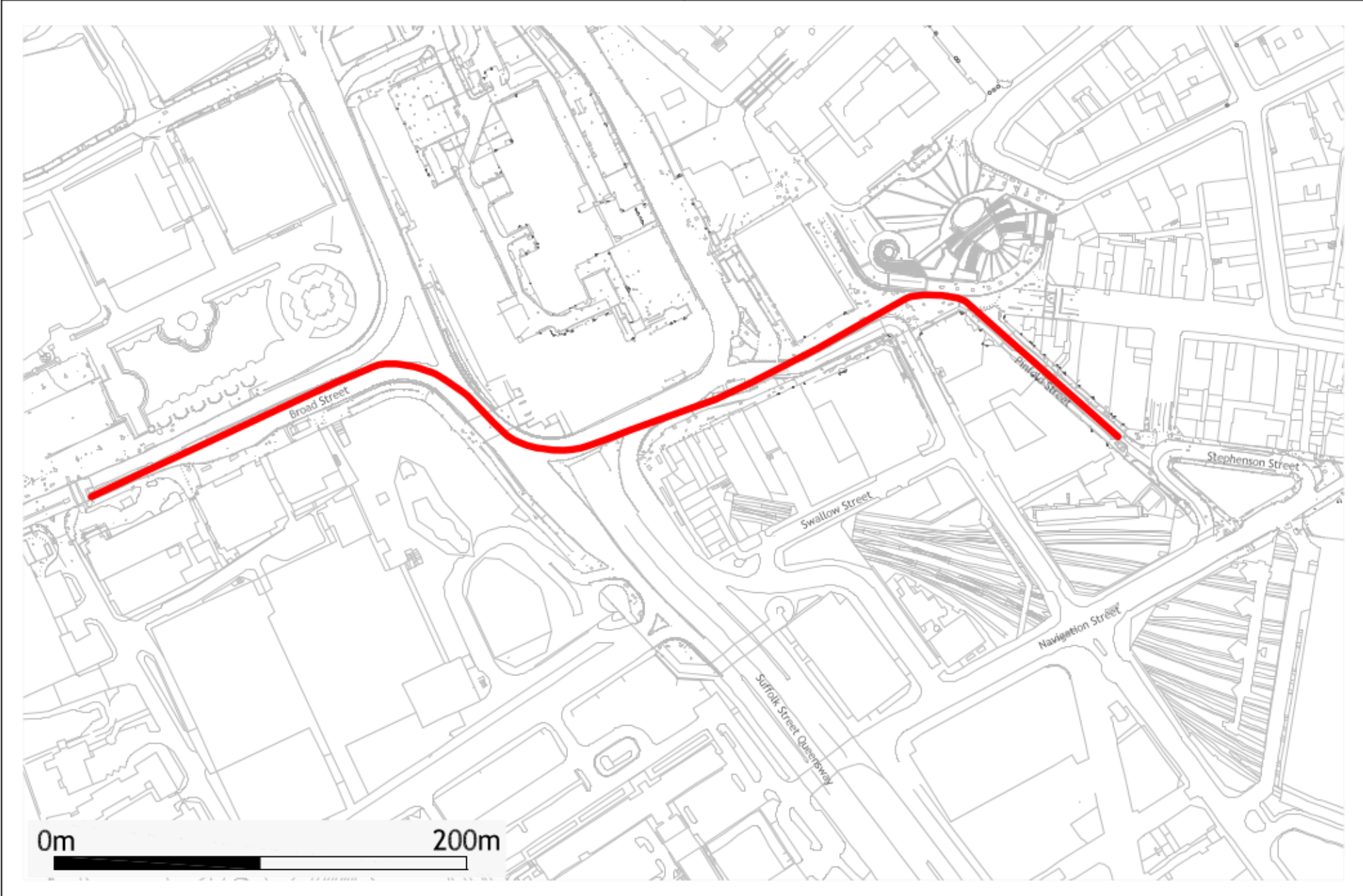
Inspection Pit IP5127

IP5127 not excavated.

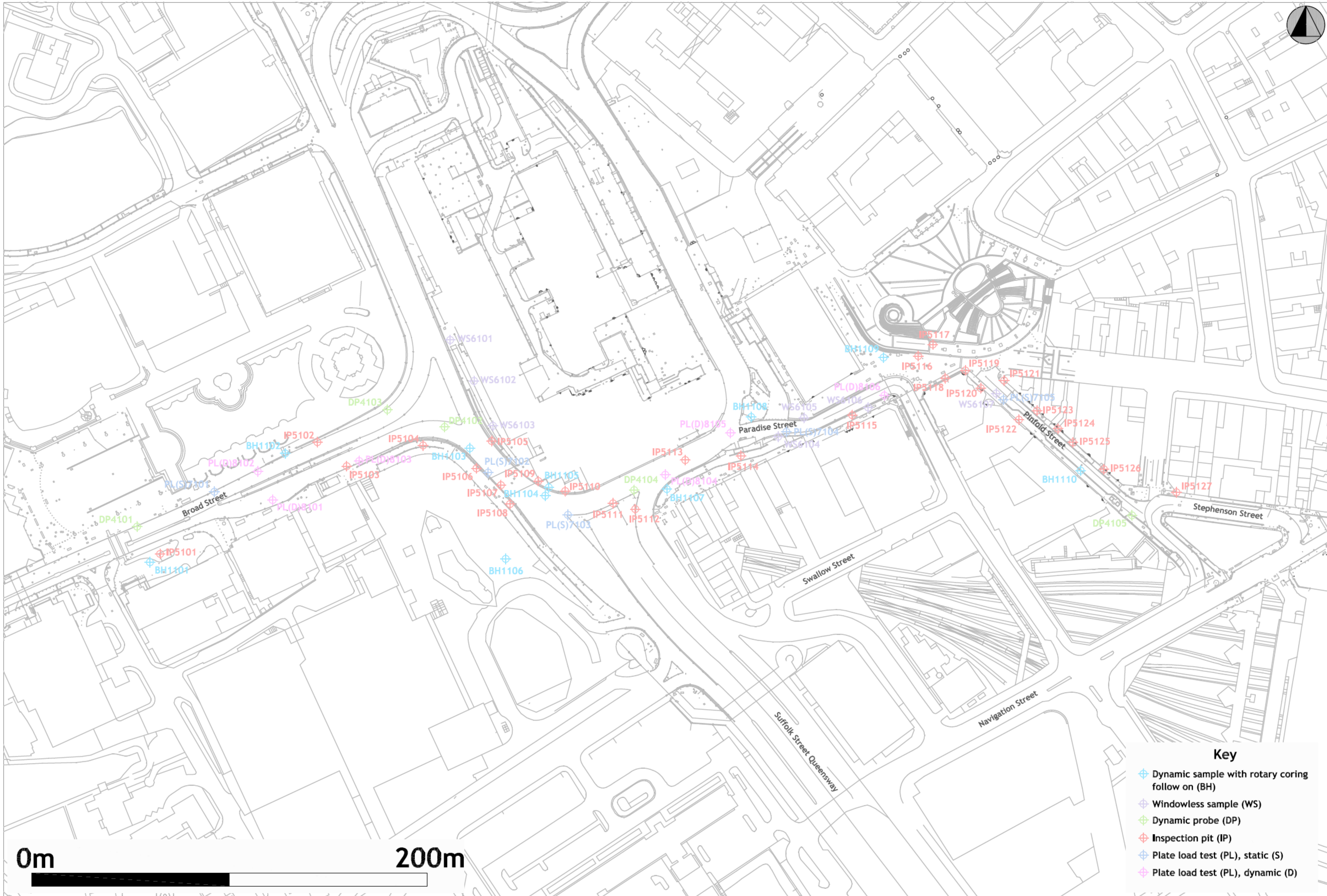
Appendix 2 Index of Archive and Arrangements for Deposition

<i>Field Records</i>	<i>Description</i>	<i>Number</i>
Watching brief record sheets	Record of visit and work carried out	14
Drawing record sheets	List of drawings made on site	1
Site drawings on permatrace sheets	Section drawings @1:20 and Site plans @1:100 on A3 permatrace	5 sheets
Photographs:-		
Digital	All views	287
<i>Documents</i>	<i>Description</i>	<i>Number</i>
Written scheme of investigation	Statement of the aims, objectives and methodology for the project.	1
Health & Safety	Safe working statement & risk assessment	1
Report to client	Report of findings of the watching brief.	1

The archive is currently held in the offices of Trent & Peak Archaeology, Unit 1, Holly Lane, Chilwell, Nottingham, NG9 4AB. It will be deposited at an appropriate museum by the completion of the Midland Metro Phase 1 Centenary Square Extension for Midland Metro Phase 1 Centenary Square Extension.



0m 200m



- Key**
- Dynamic sample with rotary coring follow on (BH)
 - Windowless sample (WS)
 - Dynamic probe (DP)
 - Inspection pit (IP)
 - Plate load test (PL), static (S)
 - Plate load test (PL), dynamic (D)



Plate 1: Borehole BH1102



Plate 2: Borehole BH1105



Plate 3: Borehole BH1110



Plate 4: Borehole BH1107, photo is mislabelled



Plate 5: Borehole BH1108



Plate 6: Static plateload test PL(S)7102



Plate 7: Inspection pit IP5117



Plate 8: Inspection pit IP5120