


THE CORPORATION STABLE YARD, SMITHDOWN LANE

Liverpool



Interim Archaeological Watching Brief Report

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SUMMARY

In June 2010, Oxford Archaeology North (OA North) was commissioned by Robert Hodgson (RA Fisk Associates) to monitor a programme of geo-technical investigations on the site of a redundant stable yard on Smithdown Lane, Liverpool (centred on NGR 336340 390140).

Liverpool, particularly the area around the stable yard, is famed for its association with Williamson's Tunnels, a post-medieval network of tunnels constructed within excavated quarry seams, that extend for an undetermined distance around the Edge Hill area. The tunnels are historically significant as a unique engineering work undertaken as a philanthropic venture by snuff and tobacco merchant, Joseph Williamson (1769 - 1840). A large amount of evidence for the tunnels survives and has been preserved as a popular Heritage Centre, also on Smithdown Lane. The tunnels have been partially mapped and excavated as part of an ongoing research agenda, although their full extent is still unknown.

In order to investigate further the possible extent of the tunnels beneath the stable yard, and to ensure that no damage is inflicted upon existing tunnels during future construction work, RA Fisk Associates requested that geo-technical investigations be monitored by an archaeological watching brief. This was intended as a preliminary assessment to establish the potential for archaeological remains to survive *in-situ* within the site. It was anticipated that the results obtained from the watching brief be used to inform any requirement for any future archaeological assessment of the site as well as providing further information on the location of new sections of tunnel.

In order to investigate further the possible extent of the tunnels beneath the stable yard, and to ensure that no damage is inflicted upon existing tunnels during future construction work, it was agreed with RA Fisk Associates that geo-technical investigations are monitored by an archaeological watching brief. This was intended as a preliminary assessment to establish the potential for archaeological remains to survive *in-situ* within the site. It was anticipated that the results obtained from the watching brief be used to inform any requirement for future archaeological assessment of the site as well as providing possible further information on the possible locations of new sections of tunnel.

In total, five bore holes and eighteen probes were used to investigate the archaeological and geological nature of the ground within the boundary of the stable yard during June 2010. The only remains of archaeological interest that were encountered at the site relate to dump/midden deposits associated with the in-fill of former quarry seams. Additionally a possible structure may have been identified in the area of *Dynamic Probe* 14. *Dynamic Probes* 8, 9, and 11 all encountered anomalies (voids) which may be quarry seams or could possibly be archaeological features. Further investigation should to be carried out in order to define the anomaly areas. It is possible that this could be undertaken during the initial course of construction,

It is concluded that any future development could potentially have an archaeological impact across the study area. At the western side of the site there is the potential for the surviving foundations of nineteenth century buildings which overlooked Smithdown Lane. The precise scope of any future works will need to be considered in consultation with the County Archaeologist for Merseyside, however a continued

archaeological presence (watching brief) during any future works in this area would, in our opinion, be appropriate. Such a watching brief should aim to establish the presence or absence of undisturbed horizons of archaeological interest that may be associated with the quarrying and the construction of the tunnels in this area. Should archaeological features be identified sufficient time and resources will need to be devoted to record, and where appropriate, protect these.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank Robert Hodgson of RA Fisk Associates for commissioning and supporting the project. Thanks are also extended to Catherine Laverick and Colin Crompton of LK Consult who were in charge of the interim ground investigation and the staff of D & I Drilling who operated the machinery during the geo-technical investigations.

Additional thanks to the staff of The Williamson Tunnels Heritage Centre for their help and co-operation throughout the duration of the investigation.

The watching brief was maintained by Caroline Raynor, who also compiled the report. The drawings were prepared by Ann Stewardson. The report was edited by Jamie Quartermaine, who was also responsible for project management.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 In June 2010, Oxford Archaeology North (OA North) was commissioned by RA Fisk and Associates, acting on behalf of Goldcrest Finance Ltd, to monitor a programme of geo-technical investigation in the vicinity of Smithdown Lane, Liverpool (centred on NGR 336340 390140) (Fig 1)

1.2 LOCATION AND GEOLOGY

- 1.2.1 The site is located east of Smithdown Lane, in the area of Edge Hill (Plate 1), to the east of Liverpool City Centre. The site is bounded by a railway tunnel (the cutting) to the east and north, by Smithdown Lane to the west and by a public visitor centre and above ground sections of Williamson Tunnels to the south. The site totals an area of approximately 0.23 hectares (Fig 1).
- 1.2.2 The geology of the Liverpool area comprises pebble beds of the Bunter Sandstone Group. The area under investigation was previously used for small scale sandstone quarrying.

2. METHODOLOGY

2.1 WATCHING BRIEF

- 2.1.1 During the course of all earth-moving works associated with the geo-technical site investigations, a programme of field observation was undertaken, which recorded the location, extent, and character of all surviving archaeological features and deposits. All excavation work was carried out by hand, or using a 1 ton mechanical excavator fitted with a pneumatic breaker. In total, five window sample (WS) bore holes were drilled along with eighteen dynamic probes (DP). These were located so as to maximise geo-technical information about the site by exploring the data generated by the GPR Survey and by encompassing the area of the footprint of the potential development.
- 2.1.2 All information was recorded stratigraphically with accompanying documentation (plans, sections and photographs, both of individual contexts and overall site shots from standard view points). Photography was undertaken with a digital SLR and 35mm cameras with archivable black-and-white print film; all frames included a graduated metric scale. Photographic records were also maintained on special photographic *pro-forma* sheets.

2.2 FINDS

- 2.2.1 Finds recovery and sampling programmes were carried out in accordance with best practice (following current Institute of Field Archaeologists guidelines), and subject to expert advice in order to minimise deterioration. However, no artefacts were recovered during the watching brief as the scope of work included dynamic probes and window sample bore holes only.

2.3 ARCHIVE

- 2.3.1 The results of all archaeological work carried formed the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). The original record archive of project will be deposited with Liverpool Museum Service.
- 2.3.2 The Arts and Humanities Data Service (AHDS) online database *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.

3. HISTORICAL BACKGROUND

3.1 HISTORICAL BACKGROUND

3.1.1 ***Prehistoric and Roman Periods:*** there is little evidence for prehistoric or Romano-British activity around Liverpool, and none in the vicinity of the site.

3.1.2 ***Medieval Period (1066-1500):*** the establishment of the town of Liverpool is well documented. The name '*Liuerpol*' is first mentioned in a charter of 1190-4, the town forming a part of the hundred of West Derby (Nicholson 1981). In 1207, a further charter was granted by King John which effectively elevated the settlement from a fishing and farming village to a royal borough. Between the granting of this charter and 1296, the population of the town had increased from 150 families to 168. The town then consisted of seven streets, the names of which are mentioned in documents from about 1300. These streets survive in the modern plan of the town, though they have subsequently been much widened. Important buildings were constructed throughout this period, including the castle, the Chapel of St Mary del Key and St Nicholas, and the Stanley Tower (*op cit*, 7). During the medieval period the area of Edge Hill was beyond the southern limit of the perceived town boundary.

Post-Medieval Expansion (1500-1710): the majority of post-medieval expansion in the town was focused around the area of *the pool* and along the waterfront. The rise of Liverpool can largely be attributed to innovations in dock engineering and construction in order to take advantage of burgeoning trade opportunities. The earliest references to the Pool as an entity dates to the seventeenth century; references in the Town Books in the last two decades of that century show that the 'lower pool' and the Waterside were indeed used for boat and shipbuilding. In 1683, Thomas Webster, a ships' carpenter, and Alderman William Williams were granted the right to build 'cabins' on the waste on the south side of the Pool (MacLeod 1982). During this period, Edge Hill remained outside the perceived boundary of the town but may have been used for small scale quarrying, although at this time it is thought that the majority of quarrying to provide stone for the town was undertaken at Mount Zion, now known as St James Cemetery at the top of Upper Duke Street

3.1.3 With the demise of Chester's trade through the silting of the Dee by the late 1600s, Liverpool's trade began to rise in prominence, although, due to its problems, it faced competition from ships anchoring in the relatively safer waters of the Sloyne on the Cheshire side (MacLeod 1982, 4). Throughout the seventeenth century, repeated references are made to severe weather conditions in documentary sources; a letter dating to January 1697 refers to a major storm hindering navigation and '*destroying fish and fry*' (*op cit*, 5). Storms were not the only concern, however; the increase in traffic in the area meant that the ports were becoming overcrowded. The sizes of ships were also increasing as transatlantic shipping became common, and incidents of rubbish tipping into the harbour also aggravated the problems of space (*op cit*, 6). The upsurge of the ship-building trade on the water's edge also exacerbated the problems (*ibid*).

- 3.1.4 In 1812, the distinguished American chemist, Benjamin Silliman visited Liverpool and during the course of his stay produced a diary in which he commented

“...we walked six or seven miles in the country around Liverpool. We were delighted with many beautiful country retreats at Edge Hill and Everton...”
(Seed, 17 2010)

- 3.1.5 **Industrial period:** the Industrial period around Edge Hill is marked by two major construction events: the construction of the Liverpool to Manchester Railway, undertaken by George Stephenson and the construction of a network of tunnels formed from bricked in quarry cuttings, undertaken by Joseph Williamson.

- 3.1.6 **A Brief Biography of Joseph Williamson and the construction of the tunnels:** Joseph Williamson was born in Warrington on the 10th March 1769, and came to Liverpool in 1780 to work for Richard Tate, a tobacco manufacturer (Hand 1928, 106; Whittington-Egan 1952, 110). In 1802 he was married to Elizabeth Tate, the daughter of his employer Richard Tate, at the family church St Thomas’s on Park Lane. The succeeding employer, Thomas Moss Tate, died in 1803, leaving him the business (Hand 1917, 2; Whittington-Egan 1952, 110).

- 3.1.7 By 1806 he had begun to lease the land around Mason Street (Head 1995, 4). In some sources it states that Williamson bought the land (Hand 1917, 2; Whittington-Egan 1952, 109-10); however, it is recorded that the leases ran out in 1858 when the land reverted to the West Derby Commission (Head 1995, 4; Stonehouse 1863, 185; Stonehouse 1879, 131), therefore he could not have owned it. Williamson retired from business in 1818 (Hand 1917, 2) and concentrated on the construction of the complex of buildings and tunnels within and adjacent to the study area.

- 3.1.8 Williamson's building works continued for many years. He employed large numbers of the poor at a time when the demobilisation from the Napoleonic Wars had left many of the returning soldiers without work. His workforce built houses along Mason Street one of which, Number 44, he took for his own home (Hand 1928, 88), the remains of which are still visible today. A drawing by Stonehouse of 1846 (LRO 942 570 1/3) shows that the layout of gardens were in existence at this time, and that the rear boundary of the gardens is the same as those shown on later maps. Therefore the land may have already been terraced by this date.

- 3.1.9 In addition to houses and other quarrying and construction works he was responsible for a complex of tunnels, caverns and passageways which extended beneath Mason Street to Smithdown Lane. Many of the houses were built on arches over the tunnels, and underground passageways linked the buildings. Popular myth remembers Williamson as being something of a troglodyte with historic sources such as *Recollection of Old Liverpool* stating that he lived in a cellar-style living room beneath his house with an additional cave carved to form a bedroom. There is no physical proof of this however, larger chambers within the tunnels such as the ‘banqueting chamber’ have been located and excavated. The tunnels take various forms and extensive work has been done in and around the area of the stable yard to document the extent of the tunnels. The most notable of the tunnels is the ‘triple-decker’ tunnel, so called because it comprises three tunnels, one inside the other. This tunnel more than the others highlights the fact that Williamson was not in fact digging tunnels, but rather creating brick and

stone vaulted roofs for a series of pre-existing quarry cuttings. Williamson used the quarry and the construction of the tunnels as a way of keeping people employed and as a training ground for carpenters, stone masons and brick layers who were involved in the other aspects of his construction business on Mason Street. Ultimately Williamson should be regarded as a skilled businessman and generous if eccentric, philanthropist.

3.1.10 Work began in 1832 on George Stephenson's railway tunnel, which was to connect Edge Hill station with Lime Street. The Williamson's workmen broke through into the tunnel from beneath. Stephenson was given a conducted tour around Williamson's tunnels, with which he was very impressed (Hand 1917, 15). The railway tunnel, now a cutting, forms the northern boundary to the study area, although Williamson's tunnels extend beyond it to the north and east.

3.1.11 Williamson died on the 1st of May 1840 aged 71 years and was buried with his wife and her family in the Tate family vault located within the graveyard of St Thomas church on Park Lane. The inscription on the vault reads:

'To the memory of Richard Tate who departed this life 7th May 1787 in the 51st year of his age.

Also Ann Tate the mother of the above Richard Tate died the 6th day of October 1791 in the 76th year of her age.

Hannah Tate the wife of Rich'd Tate died 29th July 1793 aged 59 years.

Also the remains of Elizabeth, daughter of Richard and Hannah Tate and wife of Joseph Williamson of Edge Hill who departed this life the 3rd day of October 1822 aged 56 years.

Also the remains of Richard, the youngest son of the above Richard and Hannah Tate who died 7th June 1826 aged 56 years.

Also the remains of Joseph Williamson of Edge Hill who died 1st May 1840 aged 71 years.'

3.1.12 Williamson died having produced no heir to the Williamson fortune. By 1840 he had amassed lands and businesses to the value of £40,000. There are four codicils attached to his will suggesting that he outlived all but one of the executors.

3.1.13 With the death of Williamson work on the tunnels ceased immediately and the lease on the land expired in 1858 (Hand 1917, 23). Many of the tunnels had begun to be filled in with rubbish, even by 1845 (Figs 2 and 3). The Liverpool Corporation then took over the land and a deliberate policy was adopted of using the tunnels to dump rubbish (Head 1995, 4; The Porcupine 1867, August 31st and November 23rd). It is believed that the tunnels were used by some Liverpudlians living at Edgill as make-shift air-raid shelters during World War II.

3.1.14 The tunnels are currently under excavation by two separate local history groups, The Williamson Tunnel Heritage Centre and the Friends of Williamson's Tunnels.

4. WATCHING BRIEF

4.1 INTRODUCTION

- 4.1.1 A watching brief was maintained during the excavation of five window sample bore holes and eighteen dynamic probes the study area for geo-technical purposes (Fig 4). The five window sample bore holes (WS101 to WS105) were excavated to a depth of between 0.95m and 6.45m below current ground level. The eighteen dynamic probes reached depths of between 0.7m and 12.7m below current ground level. These probes and window sample boreholes were assigned alpha-numeric identifiers that related to these differing sampling methods. The window sample bore holes comprised the removal by hand of ground level obstructions (ie stone setts) in advance of mechanical window sampling (WS) and the breaking out of the stone setts and tarmac in advance of the dynamic probing (DP). These terms, and associated abbreviations, were defined by the engineers undertaking the work, and are reproduced here in order to maintain descriptive consistency with the plans and records produced by LK Consult Ltd. No trenches were opened and there was no opportunity to examine the stratigraphy except by examination of the risings of the boreholes.
- 4.1.2 Due to the limited nature of the exploration, particularly where no trenches were opened for visual inspection, it was difficult to determine the presence of discrete archaeological deposits. Window Sample holes WS105 and WS101 were archaeologically sterile with natural geology and the rock-head was encountered almost immediately below the surface. Window Sample holes WS102, WS103 and WS104 all encountered anomalous areas which are likely to be voids and were likely caused by quarrying in the area. This was reinforced by the presence of clinker, crushed brick and domestic refuse (Plate 4) retrieved from the spoil. Similarly the dynamic probes reflected the presence of voids created by quarrying which had subsequently been backfilled with softer domestic waste products. The height of the rock head varied dramatically across the area.
- 4.1.3 The only features of archaeological interest related to the infilling of the quarry seams with domestic waste, as observed in WS102, WS103 and WS104 (Plate 4). The nature of the dynamic probing across the site, on a north-west/south-east orientation, meant that it was difficult to obtain a clear overview of the presence of potential archaeological deposits; however, a number of anomalous areas were identified which may require further investigation prior to the construction of any new building foundations. Anomalies were identified at DP8, DP9, DP10, DP11, DP13, DP14 and DP15. Anomaly DP 15 was identified as being a likely location for modern drainage services.

4.2 TEST PIT RESULTS

- 4.2.1 **WS 101:** this window sample bore hole was located at the southern limit of the site adjacent to the entrance to the Williamson Tunnel Heritage Centre car park entrance. Granite cobble setts (contemporary with the construction of the

original stable yard building) were lifted by hand in order to facilitate the bore hole. In this area the probe encountered rock head at a relatively shallow depth of 1.6m. Directly overlying the rock head was a very compact layer of brownish-red, plastic clay. The rock head was reddish pink friable sandstone representing the natural bedrock in this area. No features of archaeological interest were observed.

- 4.2.2 **WS 102:** this window sample bore hole was located at the north-western limit of the development site, against the entrance to the western stable building (Plate 2). Granite cobble setts (contemporary with the construction and use of the stable yard) and modern concrete surfacing were removed by hand in order to facilitate the bore hole. The rock-head was reached at a depth of 4.7m. The rock head was reddish-pink friable sandstone representing the natural bedrock in this area. The bedrock was overlain by a brownish-red pliable sandy clay which was in turn overlain by made-ground deposits consisting of a dark grey-brown sandy soil containing coke and clinker waste material. No structures or features of archaeological interest were observed.
- 4.2.3 **WS 103:** this window sample bore hole was located at the centre of the development area, east of the line taken by the dynamic probes (Plate 3). Granite cobble setts (contemporary with the construction and use of the stable yard) were removed by hand in order to facilitate the excavation of the bore hole. Deposits reaching a depth of 6m were recovered and the bore hole was probed to a depth of c8m. WS103 was clearly sited over an in-filled quarry seam as the first two metres showed evidence of a heterogeneous mix of domestic refuse material including fragments of pottery, coke and clinker. These deposits overlay a layer of sterile mid brown sandy clay. The rock head was not reached and no features of archaeological interest were observed.
- 4.2.4 **WS 104:** this window sample bore hole was located at the centre of the development area, east of the line taken by the dynamic probes and north of WS103. Granite cobble setts (contemporary with the construction and use of the stable yard) were removed by hand in order to facilitate the excavation of the bore hole. This bore hole was sited over a void or partially in-filled quarry seam which was found to contain a mixture of quarry risings and domestic refuse including crushed red brick fragments, oyster shell, coke, clinker and post medieval pottery fragments (Plate 4). This bore hole reached a depth of 7.5m without encountering rock head. Natural geological horizons were not revealed within the pit and no features of archaeological interest were observed.
- 4.2.5 **WS 105:** this window sample bore hole was located within the north-east area of the stable yard, adjacent to the main entrance to the stable building. Granite cobble setts (contemporary with the construction and use of the stable yard) were removed by hand in order to facilitate the excavation of the bore hole. The earliest deposit encountered was a friable pink sandstone bedrock (rock head) encountered at a depth of 0.8m. This was overlain by 0.7m of mid-brownish-grey clay mixed with fragmentary pink sandstone inclusions. No features of archaeological interest were observed.
- 4.2.6 The Dynamic Probes were arranged in a linear pattern across the site on the north-west/south-east alignment. Dynamic Probe 1 and 2 were not carried out (Figure 4).

- **DP3:** Dynamic Probe 3 reached a maximum depth of 1.8m where rock head was encountered. No archaeological deposits or structures were identified.
- **DP4:** Dynamic Probe 4 reached a maximum depth of 3m where rock head was encountered. No archaeological deposits or structures were identified.
- **DP5:** Dynamic Probe 5 reached a maximum depth of 8.5m where rock head was encountered (contradicting the previous geophysics, as the ground penetrating radar (GPR) survey (Archaeophysica 2010) suggested that the rock head was at 3.8m). No archaeological deposits or structures were identified.
- **DP6:** Dynamic Probe 6 reached a maximum depth of 10.3m where the rock head was encountered. No archaeological deposits or structures were identified.
- **DP7:** Dynamic Probe 7 reached a maximum depth of 9.4m where the rock head was encountered. No archaeological deposits or structures were identified.
- **DP8:** Dynamic Probe 8 reached a maximum depth of 12.3 metres. This probe was anomalous with one descending rapidly through a probable in-filled quarry seam.
- **DP9:** Dynamic Probe 9 reached a maximum depth of 12.7 metres. This probe was anomalous with the probe descending rapidly through a probable in-filled quarry seam.
- **DP10:** Dynamic Probe 10 was re-located after the original site of the probe was found to be directly above modern reinforced concrete. The relocated probe was sited 2m to the east of the planned location. This probe was anomalous with the probe descending rapidly through a probably in-filled quarry seam. This probe reached a depth of 11.4m.
- **DP11:** Dynamic Probe 11 reached a maximum depth of 12 metres. This probe was anomalous with the probe descending rapidly through a probable in-filled quarry seam.
- **DP12:** Dynamic Probe 12 reached a maximum depth of 2.1 metres where rock head was encountered. No archaeological deposits or structures were encountered.
- **DP13:** Dynamic Probe 13 reached a maximum depth of 0.7 metres where a hard spot was encountered. Inspection of the surrounding area suggests that this hard spot is likely to be the concrete casement for a sub-terranean service.
- **DP14:** Dynamic Probe 14 reached a maximum depth of 3.6 metres. This probe was anomalous as it breached some kind of void or shaft (possibly a service duct or chamber) before refusal, probably at rock head.
- **DP15:** Dynamic Probe 15 reached a maximum depth of 0.4 metres before encountering a hard spot. Inspection of the surrounding area

suggests that this hard spot is likely to be a concrete casement for a subterranean service.

- **DP16:** Dynamic Probe 16 reached a maximum depth of 1.5 metres where rock head was encountered. No archaeological deposits or structures were encountered.
- **DP17:** Dynamic Probe 17 reached a maximum depth of 2.4 metres where rock head was encountered. No archaeological deposits or structures were encountered.
- **DP18:** Dynamic Probe 18 reached a maximum depth of 1.5 metres where rock head was encountered. No archaeological deposits or structures were encountered.
- **DP19:** Dynamic Probe 19 reached a maximum depth of 1.5 metres where rock head was encountered. No archaeological deposits or structures were encountered.
- **DP20:** Dynamic Probe 20 reached a maximum depth of 1.5 metres where rock head was encountered. No archaeological deposits or structures were encountered.

5. CONCLUSION

5.1 IMPACT

- 5.1.1 The window sample bore holes and dynamic probes carried out during the geo-technical site investigations did not provide conclusive evidence for remains of archaeological interest associated with the tunnels constructed by Joseph Williamson, or indeed with any other contemporary structures. The area to the south-west of the site does appear to have been heavily quarried with a number of in-filled seams being identified by Dynamic Probes DP14, DP11, DP9, and DP8 (Fig 4). The content of the backfill is rich in domestic material including pottery sherds, oyster shells, bottle dumps, coke, clinker and crushed ceramic building material. All of this material is fairly typical of the refuse which was used to backfill exposed seams around Edge Hill. Similar material has been identified and excavated by both the Williamson Tunnel Heritage Centre and the Friends of Williamson's Tunnels. Both groups have carried out extensive excavation work to the east and south of the site which has provided a good example of sample material taken from the tunnels. Some of these seams may have been modified by Williamson during the course of his work on the tunnels; however, it is not possible to substantiate this without opening trenches to visually identify possible modifications prior to in-filling.
- 5.1.2 No structural remains were identified during the course of this work; however, this does not mean that the area is free from buried building foundations, cellar structures or tunnels. Brick foundations and raised surfaces are visible along the western perimeter of the site indicating the presence of earlier building foundations. The nature of the bore holes and probes provide inconclusive evidence with regards to the potential for buried structural remains relating to the development of domestic occupation in the eighteenth and nineteenth century at Edge Hill. The identification of anomalous voids at the locations of WS102, WS103 and WS104, as well as DP8, DP9, DP11 and DP14, may potentially require further investigation.

5.2 MITIGATION

- 5.2.1 Based on the results of this watching brief, there is a need to clarify the nature of the anomalies or voids, encountered in the area of the stable yard. While the results obtained from some bore holes have demonstrated the presence of quarry shafts, there appears to be little modern disturbance in the area aside from several possible services. Window Samples WS105 and Dynamic Probes DP18, DP19 and DP20 suggest that natural geological horizons exist at a minimum depth of between 0.8m and 1.5m below the modern ground surface. Although it is likely that any archaeological deposits in this part of the site will have sustained some horizontal truncation, it is possible that the base of any deeply cut features, including earlier foundations pre-dating the stable yard, may survive.
- 5.2.2 The precise scope of a mitigation strategy for any future works would need to be devised in consultation with the County Archaeologist for Merseyside. If any groundworks for the proposed development include intrusive works in the

south-western part of the site that exceed a depth of 1m, a programme of archaeological evaluation or archaeological watching brief in this area may be appropriate. This should aim to establish the presence or absence of construction elements within quarry seams that may be of archaeological interest and which may represent work, completed or otherwise undertaken by Joseph Williamson in the early nineteenth century. If any such features do remain intact then they could potentially add to the burgeoning collection of historic and archaeological information relating to the philanthropist Joseph Williamson and his construction projects.

- 5.2.3 The precise scope of a mitigation strategy for the works should be agreed with the County Archaeologist for Merseyside. Groundworks for proposed development, including intrusive works in the south-western part of the site that exceed a depth of 1m, should be subject to archaeological evaluation or an archaeological watching brief. This should aim to establish the presence or absence of construction elements within quarry seams, that may be of archaeological interest and which may represent work, completed or otherwise undertaken by Joseph Williamson in the early nineteenth century. If any such features do remain intact then they could potentially add to the burgeoning collection of historic and archaeological information relating to the philanthropist Joseph Williamson and his construction projects.
- 5.2.4 The proposed mitigation strategy is to retain a permanently present archaeological watching brief during all ground works, which will include further investigation of anomalies in the initial ground investigation. This may not be necessary during the piling. If any features are identified within the footprint of the development, allowance would need to be made to allow them to be fully recorded.

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ILLUSTRATIONS

FIGURES

- Figure 1: Site Location
- Figure 2: Site location superimposed upon the first edition Ordnance Survey map, 1851, 6" to 1 mile map
- Figure 3: Site location superimposed upon the first edition Ordnance Survey map, 1851, 25" to 1 mile map
- Figure 4: Location of window and dynamic probe samples (after LK Consult Ltd)
- Figure 5: Layout of known tunnels in the area of the Smithdown Lane development (after Brian Young and Associates)

PLATES

- Plate 1: Recent view of the study area
- Plate 2: Location of Window Sample Bore hole WS102
- Plate 3: Location of Window Sample Bore Hole WS103
- Plate 4: Risings from Window Sample Bore Hole WS104



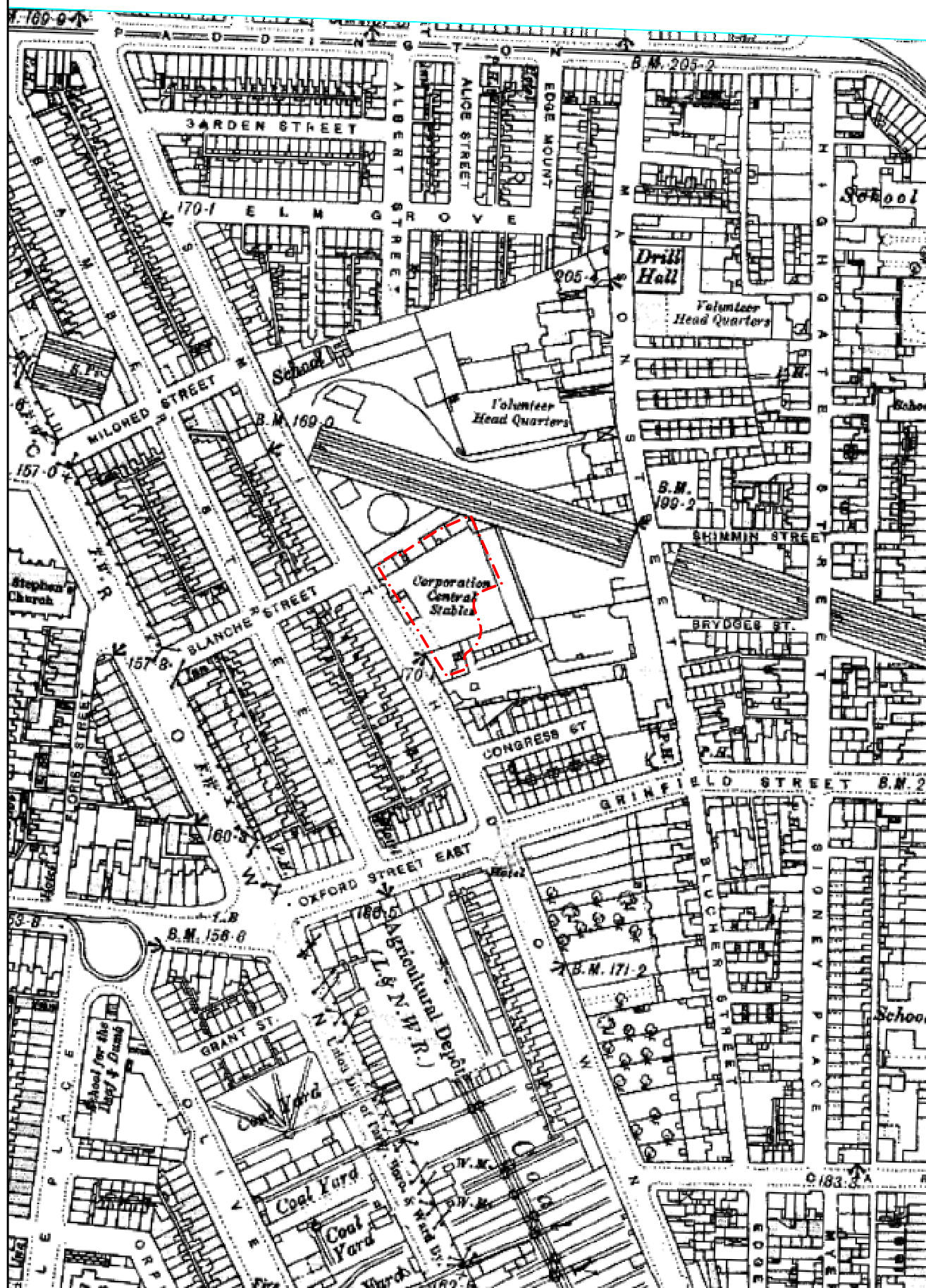
Figure 1: Site location



 Site boundary

0 50 m
1:2500 @ A4

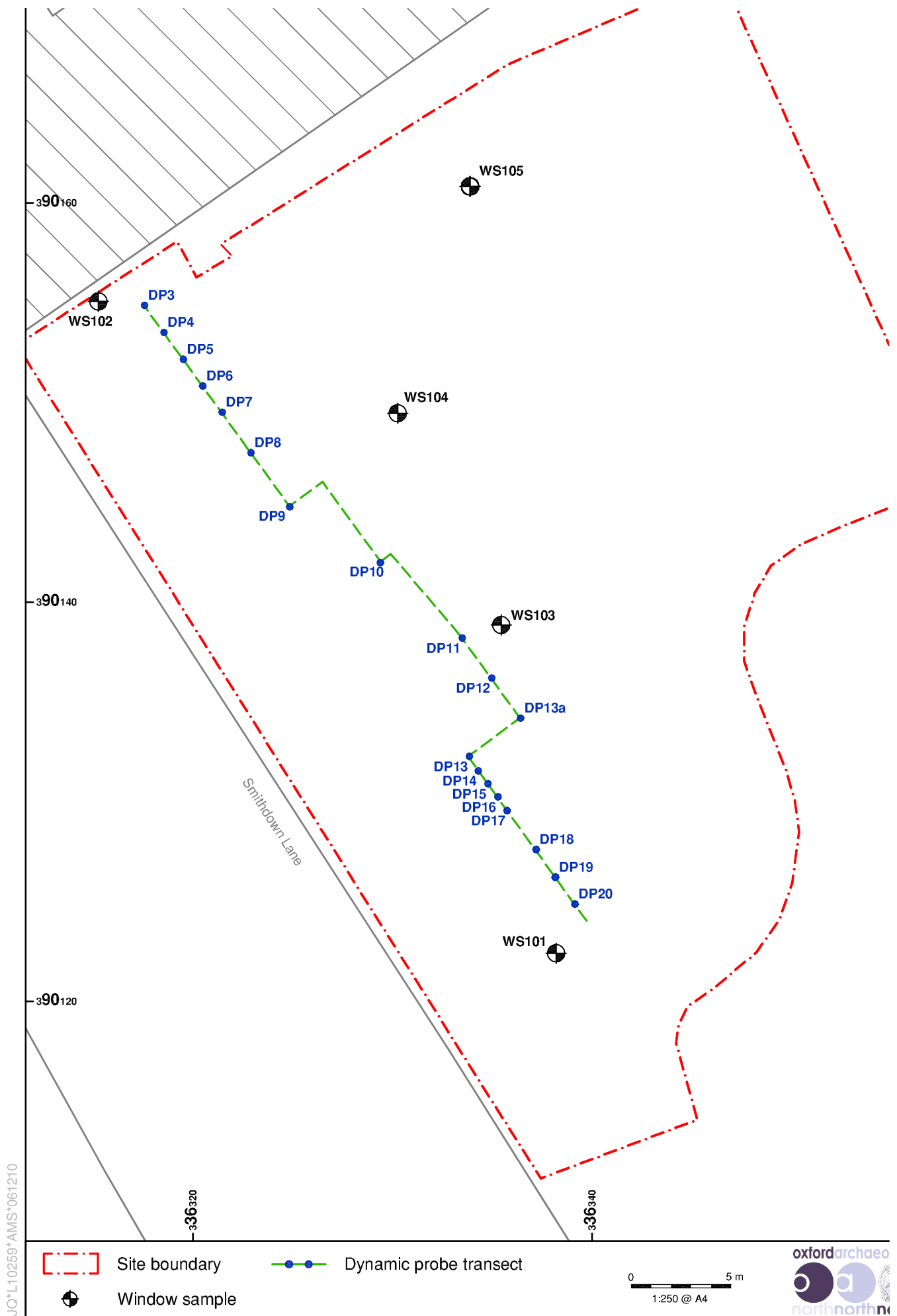
Figure 2: Site location superimposed upon the first edition Ordnance Survey map, 1851, 6" to 1 mile



Site boundary

0 5 m
1:200 @ A4

Figure 3: Site location superimposed upon the first edition Ordnance Survey map, 1851, 25" to 1 mil



PLATES



Plate 1: East facing view of proposed development site showing stable yard buildings

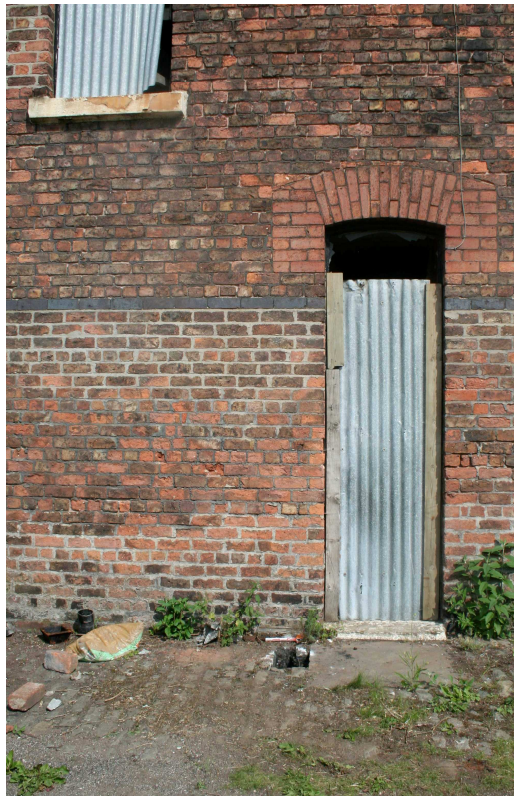


Plate 2: Showing location of Window Sample Bore Hole WS102 (left of door)



Plate 3: Showing the location of Window Sample Bore Hole WS103 (in foreground)



Plate 4: Risings from Window Sample Bore Hole WS104 demonstrating the mixture of industrial and domestic waste used to backfill the abandoned quarry seams