



Bowness-on-Solway **Cumbria**

Archaeological Watching Brief



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SUMMARY

Oxford Archaeology North (OAN) (formerly Lancaster University Archaeological Unit) undertook a watching brief, in November 2001, along the western end of the main street in Bowness-on-Solway, Cumbria (NY 224 628), on behalf of British Telecom Wholesale. The site lay within the Roman fort of *Maia*, the westernmost fort on Hadrian's Wall, which is a Scheduled Ancient Monument (SM 26126). The aim of the watching brief was to record any significant deposits uncovered during minor excavations, within the fort, associated with the installation of underground ducts for communications' cables.

The site of the works was situated in an area where previous archaeological investigations had shown there to be surviving remains dating from the Roman period, demonstrating the potential for the identification of similar remains during this watching brief. Eight trenches were excavated on the line of the ducts (Trenches 200 - 208), which varied in size considerably. Beneath the remains of a Victorian cobbled road surface, which formed the main street of Bowness, were several significant archaeological deposits and features, which included two small cut features in Trench 202, a cut feature with two fills running east/west in Trench 204, and a possible ditch and sandstone structure aligned north/south in Trench 207. No dating material was recovered from any of these features and thus it was not possible to establish a relationship between them and the Roman fort, or to determine if they were Roman or reflected the use of the site in the Medieval and Post-Medieval periods.

In addition, Trench 200 contained the demolished remains of a brick-built windmill, known to have stood on the site of Airey Hill between 1823 and the 1880s.

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This report was compiled by Vix Hughes, who undertook the watching brief with assistance from Richard Heawood; the illustrations were by Emma Carter. The report was edited by Jamie Quartermaine and Rachel Newman, and Jamie Quartermaine managed the project.

1. INTRODUCTION

1.1 CONTRACT BACKGROUND

- 1.1.1 A watching brief was undertaken by Oxford Archaeology North (OAN) (formerly Lancaster University Archaeological Unit) in November 2001, along the western part of the main street in Bowness-on-Solway, Cumbria (NY 224 628), on behalf of British Telecom Wholesale. The site lay within the Roman fort of *Maia*, a Scheduled Ancient Monument (SM 26126).
- 1.1.2 The work involved the monitoring of groundworks while two underground chambers were inserted and a long length of new duct was installed along the main street, from which several short lengths of ducts were laid to various private houses. The purpose of the watching brief was to record the archaeological deposits disturbed by the construction work, as the area is known, from previous excavations (*Section 1.4.12*), to contain significant Roman remains.

1.2 LOCATION

- 1.2.1 The site of the ground works was within the Roman fort of *Maia*, beneath present day village of Bowness-on-Solway (Fig 1), which is 13 miles west of Carlisle, and is in an area of fertile coastal plain. The area of ground works was at the west end of the village, between the premises of Pear Tree Farm and The Fort, and included work beneath the main street and on various private properties in-between. The work was carried out in the area of the Roman fort's western entrance and the *via principalis*, the main east/west road through the fort. The area of extramural settlement (*vicus*) that was associated with the fort was to the south and thus was not affected by the present works programme.

1.3 GEOLOGY AND SOILS

- 1.3.1 The underlying solid geology of the area around Bowness-on-Solway comprises Triassic mudstones and siltstones of the Mercia Mudstone Group or Keuper Marls (BGS 1982). The drift geology is boulder clay, commonly found across the region, and was deposited in the post-glacial period. In the last 10,000 years, subsequent to formation of the boulder clay, soils of the Newport 1 Association have accumulated over the area of the site, which are well-drained typical brown sands (Soil Association 1983).

1.4 HISTORICAL BACKGROUND

- 1.4.1 **Mesolithic:** the site is within an area of flat fertile land that has been subject to intensive agricultural exploitation over an extended period. As a consequence, only very limited remains from the earlier prehistoric period have been identified from the locale of the study area; however, this does not mean that there was no early activity or that evidence of such activity does not survive as buried remains within the region. In the Mesolithic period settlements were often on the coastal plain where best use of the plant and animal resources could be made (Annable 1987, 270), as demonstrated by the sites around Eskmeals (Bonsall *et al* 1994). On the northern Cumbria coast the earliest evidence of human impact on the natural vegetation has been demonstrated from c5000 cal BC

(c6100BP) in pollen diagrams from Oulton Moss, near Wigton (Hodgkinson *et al* 2000, 107). There are, however, relatively few archaeological remains from the Mesolithic period, and these comprise artefacts, rather than settlement evidence, from Carlisle (Caruana and Cherry 1994), Crofton, near Wigton (Fell 1985), and four artefact sites identified by the North West Wetlands Survey (Hodgkinson *et al* 2000, 177) (two from Holme St Cuthbert, one from West Newton and one from Holme Low). While there are significantly reduced numbers of Mesolithic sites from the north Cumbrian coast by comparison with the west coast; on the Scottish shore of the Solway coast there were dense scatters of Mesolithic material. One possible explanation being that any Mesolithic sites along the Cumbrian Solway coast lie beneath coastal deposits (Hodgkinson *et al* 2001).

- 1.4.2 **Neolithic:** from the Neolithic period there is a richer, identified resource. An excavation by Bob Bewley (1993) at Plasketlands, near Mawbray, revealed a large sub-rectangular timber structure which produced radiocarbon dates from the early to mid fourth millennium BC, indicating an early Neolithic date; this is the only Neolithic structure so far identified in the North West. Activity from the mid to late Neolithic has been demonstrated by c100 finds of polished stone axes from the Solway Plain area (Hodgkinson *et al* 2000).
- 1.4.3 **Bronze / Iron Age:** evidence of early Bronze Age farming activity in the environs of the study area has been recovered from a pollen diagram from Bowness Common, where cereal pollen was first recorded c2000-1500 cal BC (c3700-3200 BP) (Hodgkinson *et al* 2000, 113). Elements of a putative palisade were also discovered in the same moss (Hodgson 1904), comprising a row of 1m long and 50mm diameter stakes; they have been interpreted as being of Bronze Age date, but this is unsubstantiated.
- 1.4.4 In general, there are few settlement sites confirmed as being of Bronze Age date, but this may reflect the lack of reliable dating, as large numbers of sub-circular settlement enclosure sites have been identified by aerial photography from across Solway Plain (Bewley 1994), which have been dated on a typological basis to the Iron Age. Only a few of these have been excavated but there are indications from sites, such as Ewanrigg, near Maryport (Bewley 1992), that these reflect continued use of Iron Age sites into the Roman period.
- 1.4.5 All of the information indicates the presence of prehistoric activity in the region but also shows the disjointed nature of the recovered remains. This, however, may well demonstrate a reality distorted by poor site visibility and a lack of modern excavation.
- 1.4.6 **Roman:** the fort was constructed at the western end of the Hadrian's Wall frontier, which ran from Bowness-on-Solway to Wallsend (Daniels 1978). It was called *Maia*, a name derived from *mais* meaning 'the larger' (Armstrong *et al* 1971, 510-2). The name could relate to the fact that the fort is of considerable size, calculated as approximately seven acres or 2.31ha, making it the second largest on the line of Hadrian's Wall. Epigraphic evidence from the area suggests that it may have been garrisoned by infantry (Daniels 1978). Various excavations have taken place since 1930, mostly of reasonably small scale, and even the larger areas of investigation have only revealed small elements of the internal layout of the fort.
- 1.4.7 A list of archaeological interventions is given in *Section 1.4.13* below, and from these it is possible to piece together an outline history of the fort. There appear to have been at least three phases of occupation (Potter 1975 - 1979), the original fort being built of turf and timber during the Hadrianic period (in the AD 120's). Later, it was rebuilt in stone, presumably at the same time as this section of the Hadrian's Wall was reconstructed in

stone. Elements of this stone fort that have been identified include the west gate, originally partially excavated in 1930, barrack blocks, and the intervallum road (Potter 1975). There then appears to have been a hiatus in occupation, followed by an episode of rebuilding in the third century; similar episodes have been identified at other forts in the area (J Zant pers comm) perhaps relating to the increasing unrest within the frontier provinces at this time. Finds of fourth century date have also been recovered suggesting continuity into the later Roman period.

- 1.4.8 **Early Medieval:** as is the case throughout Cumbria, evidence for early medieval activity is extremely limited. Once Roman administration was finally withdrawn cAD 410 (although there had been a gradual diminishing of imperial organisation for some time prior to this), the 'native' Britons reverted to autonomy. Place-name evidence indicates a degree of influence from English-speaking peoples, and also a substantial amount of Norse influence, particularly in areas of marginal land in the Lake District; this suggests that they colonised areas of wasteland (Smith 1967), but they may also have had a presence in areas of previously occupied settlement (Fellows-Jensen 1985, 80). There is no clear evidence for occupation of the Roman fort or the immediate area around it in the years following the collapse of Roman rule, although evidence from other forts on the Wall (Wilmott 1997; J Zant pers comm) suggests that this was possible at Bowness.
- 1.4.9 **Medieval:** the arrival of the Normans in Cumbria was marked by William Rufus moving north in 1092 to fortify land against the Scots and thereby bring the area under English rather than Scottish control (Rowley 1983, 50). Bowness-on-Solway formed part of the Barony of Burgh, which was granted to Robert de Trivers by Ranulf Meschin, who was the Lord of Carlisle, acting for William (Potter 1975, 55). The extent to which Bowness was occupied is indicated from place-name, archaeological and architectural evidence; there is evidence that some of the masonry from the fort was robbed for later buildings but when this occurred is not known and use may have been made of existing structures for a period. Medieval remains have been found both within the fort and outside it. Evidence from excavations suggests that there were significant changes in patterns of occupation; pottery found outside the fort dates from before the Scottish War of Independence (ie thirteenth century), but all later medieval pottery has come from within the fort, implying that activity was concentrated there during the period of unrest, presumably because the remains of the fort provided some defence (Daniels 1960, 16). This is corroborated by evidence for the recutting of the fort ditches during this period (Birley 1931, 142). The church of Bowness-on-Solway, which stands close to the south gate of the fort, has elements of twelfth century architecture in the north and south doorways, chancel window, and font (Pevsner 1967, 73). The earliest known reference to Bowness is from 1225 as 'bounes' (Armstrong *et al* 1971), meaning curved promontory, and it also appears on the fourteenth century Gough map of the area (Hindle 1998).
- 1.4.10 **Post-Medieval:** there was much unrest on the Borders from the fifteenth century until the area was pacified in the early seventeenth century following the unification of the crowns of England and Scotland in 1603 (Fraser 1971). As the lowest point on the Solway Firth that can be forded, Bowness-on-Solway was affected by many incursions; even at the end of the period, there are accounts of the bells from the village church being stolen during a raid in 1626 (Wood 1981).
- 1.4.11 One of the most significant developments of more recent times was the building of the Solway Viaduct in 1869, which allowed rail crossing over the Solway between England and Scotland. The main use of it was to transport iron ore to the Lanarkshire steelworks but the line also carried passengers. The bridge, built by Sir James Brunlees, was at the time

the longest in Britain, spanning over one mile; however, by 1921 the bridge had become unstable and was dismantled in 1934 (Wood 1981, 25; Smith 1973). The site of a windmill is known within the fort's limits, at Airey Hill; the earliest known reference to it was in 1823. It was brick built, of a four sail type, and had a gallery around it that was later removed (Hughes 1973, 356). Accounts record that the windmill was pulled apart by ropes and it was demolished some time between 1880 and 1883 (Hughes 1972, 126). It was closely associated with a drying kiln, situated behind it, and two cottages on the opposite side of the road, which were known as Mill Cottages and were subsequently converted into a single house.

1.4.12 *Previous Work:*

Date	Excavators	Location
1930	Birley (1931)	Ten trenches along north, west and south edges of fort
1955	Daniels (1960)	Seven trenches west of fort
1967	Mohamed (1971)	Trench excavated across the western defences
1973	Potter (1975)	Mill Field trench
1976	Potter (1979)	Police House
1988	Austen (1991)	High Bank, eastern rampart
1996	CAU (Zant 1996)	Garden of Maia House
2000	CA Ltd (Giecco <i>et al</i> 2000)	A watching brief throughout the village - 26 trenches
2001	CA Ltd (Giecco <i>et al</i> 2001)	A watching brief throughout the village - 131 trenches

2. METHODOLOGY

2.1 PROJECT DESIGN

- 2.1.1 A project design (*Appendix 1*) was submitted by Oxford Archaeology North (formerly LUAU), in response to a request from British Telecom Wholesale for an archaeological watching brief of the study area, in accordance with a verbal brief prepared by Cumbria County Council Environment and Design. This design was adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

2.2 TRENCH EXCAVATIONS

- 2.2.1 The insertion of new ducts involved the excavation of narrow linear trenches, which were c0.6m wide, along the main street and along a series of spurs to individual houses (Fig 2). The work consisted of carefully removing the existing tarmac road surface and then mechanically excavating the ground below using a 1.8 ton mini digger. On occasion it was also necessary to use a jack hammer on areas of harder ground, as the digger would have damaged the remaining tarmac surfaces. While the trenches were open all relevant archaeological deposits were fully photographed and recorded and all exposed sections were cleaned and examined for significant archaeological deposits. Following recording the ducts were installed, the trenches were backfilled and the road surfaces reinstated.
- 2.2.1 Recording was by means of the standard OAN recording system, which complies with IFA (Institute of Field Archaeology) guidelines. A full photographic record in colour slide and black and white formats was made, and annotated drawings were compiled of the features and trenches, while observations were objectively registered.

2.3 FINDS

- 2.3.1 The only finds identified were late nineteenth / twentieth century ceramics from the topsoil and deposits of clearly modern made-up ground; none of these were collected.

2.4 ARCHIVE

- 2.4.1 A full professional archive has been compiled in accordance with the project design (*Appendix 1*), and in accordance with current IFA and English Heritage guidelines (English Heritage 1991). The paper and digital archive will be deposited in Cumbria County Record Office (Carlisle), and a summary sent to the SMR (Sites and Monuments Register) and NMR (National Monuments Register).

3. WATCHING BRIEF RESULTS

3.1 TRENCH 200

- 3.1.1 Trench 200 measured 17.5m in length by 0.3m wide and was 0.45m deep; it was aligned approximately north-west/south-east from the south-west corner of Airey Hill house to the point where it crossed the main street and joined the main trench (202) (Fig 2).
- 3.1.2 The works consisted of the excavation of the trench along a driveway, coring beneath a cattle grid at the entrance and a continuation of the trench down a concrete ramp to the road. The excavation of this section revealed the presence of only one deposit throughout the trench, which was a compact layer of dark brown, sandy soil, **500**, containing 75% red bricks, which were unsorted but evenly distributed; otherwise there were no significant archaeological deposits. The bricks were probably derived from the windmill known to have existed on the site prior to 1882 (Hughes 1972) when the present, house was constructed. The bricks were frogged and stamped 'Whitehaven', indicating their source.
- 3.1.3 Subsequently the trench was extended across the road, where it connected to Trench 202, and a further four contexts were identified in this latter section of the trench. Immediately below the road surface was a layer of medium-sized, well-sorted and densely packed cobbles, **501**. These occurred 0.1m below the present road surface and were approximately 0.15m thick and were seen for an extent of 0.9m. The deposit was consistent with the known Victorian cobbled road surface forming the main street. Beneath these cobbles was a 0.35m thick layer of dark brown silty clay, **502**, which appeared to be an accumulated deposit of some type but the date of deposition was unknown as no finds were recovered. The layer below this was a mid orange clay, **503**, which was over 0.05m thick and extended for 0.8m through this section of the trench. This appeared to be the earliest deposit visible in the trench and may have been an *in situ* deposit consistent with deposits dated to the Roman period seen in earlier excavations (Giecco *et al* 2000; 2001); however, no definite identification was possible as so little was visible. At the south end of the trench, where it met Trench 202, a further deposit was seen; below the post-medieval make-up was a 0.2m thick layer of dark brown silty clay material, **504**, which contained approximately 30% sandstone of fragments. The matrix of this deposit was similar to **502** seen further north in the trench.

3.2 TRENCH 201

- 3.2.1 Trench 201 measured 23m in length, and it was 0.3m wide and 0.45m deep. The trench was aligned approximately north-west/south-east from the south-east corner of Airey House to the point at the south end of the drive where it joined an existing duct (Fig 2).
- 3.2.2 The single deposit, revealed throughout this trench, was a homogeneous dark brown clayey sand, **505**. It contained several fragments of modern pottery and was interpreted as a garden soil. There was no evidence of recent truncations and the trench did not penetrate sufficiently deeply to impact on any earlier deposits.

3.3 TRENCH 202

- 3.3.1 Trench 202 measured 25.3m in length, was between 0.2m and 0.35m wide, and was on average 0.55m deep. The trench was aligned roughly north-east/south-west, running along the main street, parallel to, and 0.6m from, the southern kerb of the road (Fig 2).
- 3.3.2 This main trench uncovered several deposits of archaeological significance; however, the highly disturbed nature of the ground meant that there were few stratigraphical relationships between the localised surviving archaeology. Below the modern road makeup was a small cut feature, **516**, seen in both north- and south-facing sections, which was located 6m from the western end of the trench. It measured 0.45m wide and was over 0.2m deep; it had moderately sloping sides but the overall shape and extent of the feature was not seen. The cut was filled with an orangey pink clay and contained a small percentage of fine stones, **515**. The origin and function of the feature were not clear and it was possibly the remains of a linear slot. The cut, **516**, truncated layer **506**, which was seen intermittently throughout the length of the trench, being a mid-orangey pink clay. It was approximately 0.2m thick and could represent a dump of levelling material.
- 3.3.3 This layer sealed a number of other layers and features (Fig 3). At the extreme western end was a series of thin layers extending only a few metres into the trench: layer **507** was a mid yellow silty sand, which overlay layer **508**, a dark grey sandy silt containing 2% organic flecks; these layers could represent accumulated deposits relating to human occupation or activity. At a depth of 0.4m, and at the base of this sequence, was layer **509**, which was a pale-grey silty sand with approximately 5% organic flecks, perhaps reflecting human occupation, or they may be inclusions of decaying plant matter within a natural subsoil. Located 17-18m from the western end of Trench 202 was a second cut feature, **514**; it was filled with a dark brownish orange silty clay, **517**, but contained no finds. The cut, **514**, was very steep-sided but the excavation did not penetrate sufficiently to see the base of the feature; it was also seen only in the south-facing section as the north-facing section had previously been disturbed. It could have been either a posthole or linear slot. This cut, **514**, truncated a series of layers, **510-2**, which were 16m from the western end of the trench; all had been heavily disturbed but were clearly definable. Layer **512** was a dark pinkish brown silty clay, approximately 0.2m thick, beneath which was layer **510**, a pale greyish white clay, varying in thickness from 0.4m to 0.10m. At the base of this sequence was **511**, which was a layer of mid orange clay, over 0.5m thick. The origin and function of these layers remained ambiguous, as no finds or dating material were obtained; however, they were the earliest deposits identified in the trench.

3.4 TRENCH 203

- 3.4.1 The trench measured 5.1m in length, it was 0.3m wide and had a maximum depth of 0.5m. It was aligned approximately north-east/south-west and extended from the existing chamber, across the main road, to the corner of Solway View house.
- 3.4.2 The excavation revealed that this section of the road had been extensively disturbed by previous services. The only significant deposit was a layer of medium-sized, well-sorted and densely packed cobbles, **518**. These occurred 0.09m below the present road surface and measured approximately 0.12m thick and were seen for an extent of 1.0m. The deposit was consistent with the known Victorian cobbled road surface forming the main street.

3.5 TRENCH 204

- 3.5.1 Trench 204 measured 15.1m in length by 0.25 wide and was 0.6m at the deepest point. The trench was excavated approximately north-west/south-east from the south-west corner of Bank House to the point where it crossed the main street and joined the new chamber, Trench 208 (Fig 2).
- 3.5.2 The northern 8m of trench was manually excavated through the garden of Bank House and there it disturbed a dark brown, sandy loam, **519**, identified as a recent garden soil. Beyond the wall of the garden the ground level was lower and several deposits of significance were encountered, which appeared to be the fills of cut **522**, which had symmetrical and steeply sloping sides (45°). The modern surface deposits sealed its upper fill, **520**, which was a pale yellowish-brown, silty clay, approximately 0.1m thick. Below this was an earlier fill, **521**, a pale greyish brown, silty clay, which was over 0.2m thick. The lower part of the feature, **522**, was not seen during the ground works but was evident in both sections, which suggests it may have been a ditch; however, as only a small proportion was seen, this interpretation must be tentative. The cut, **522**, truncated an earlier layer which was very similar to others seen during the project, being a mid orangey pink clay, **523**. It was visible in a 3.4m stretch of the trench and was over 0.3m in thickness. No finds were retrieved from any of the above deposits and it was not therefore possible to provide any date for the feature.

3.6 TRENCH 205

- 3.6.1 Trench 205 measured 9.6m in length by 0.30m wide and varied from 0.4m to 0.6m in depth. The trench was aligned roughly north-east/south-west, running along the main street, and was essentially parallel to, and 0.5m from, the property wall bounding the southern side of the road (Fig 2). It connected the new chamber (Trench 208) to an existing telegraph pole but was not a continuation of Trench 202, which lay to the west. There was a considerable build up of soil along the road margin and disturbance from previous services accounts for the poor sub-surface survival in this trench.
- 3.6.2 Below the accumulated soil were the remains of an earlier cobbled surface, **524**, identical to that seen in Trench 203; the cobbles were 0.4m below the surface and extended for over a 5m length of the trench. They overlay a pale yellowish-grey clay layer, **525**, which was 0.1m thick, but only 2m in length. Below this was another layer, **526**, of pale pinkish-orange clay, which was more extensive and was at least 0.1m thick. The interpretation of both these layers is problematic since no dating material was obtained and only a small amount of the deposit was visible. They probably represent general layers of dumped levelling material; these do not appear to have been occupation deposits, as they did not contain evidence of habitation debris.

3.7 TRENCH 206

- 3.7.1 The trench measured 3.9m in length, and was 0.3m wide, with a maximum depth of 0.45m. It was aligned approximately north-west/south-east and connected a second new chamber, Trench 207, across the main road, to the telegraph pole on the south side of the property known as The Fort.

- 3.7.2 The excavation revealed that the trench in this section of the road had been extensively disturbed by the installation of other services and there were only slight, intermittent traces of the pre-existing, Victorian cobbled road surface forming the main street.

3.8 TRENCH 207

- 3.8.1 This trench was excavated for the insertion of a new jointing chamber, which was to be lined with concrete in order to allow the inspection and servicing of BT equipment. The overall dimensions were 1.75m by 1.45m by 0.95m deep and the trench was situated on the south side of the main street, opposite the property known as The Fort.
- 3.8.2 The upper 0.7m of the trench was composed of modern deposits and levelling for the road, and the existing BT duct had truncated almost the entire northern side of the trench to a depth of 0.95m. The uppermost deposit of archaeological significance encountered, and therefore the latest, was a 0.2m thick layer of loose mid-grey gritty clayey sand, **527**. It was found across the entire trench, except where it had been truncated by the BT duct. No dating material was recovered from this layer but the deposit was distinct from the modern material above it. Sealed by this deposit was a linear feature, **530**, which appeared to be steep sided and was aligned north / south, extending across the western half of the trench. The full extent of the cut was not seen, as it was deeper than the new chamber and continued west beyond the limits of the excavation. The cut was filled with a firm, pale pinkish-grey, slightly mottled silty clay, **529**. The sediment also had small lumps of pale grey clay and approximately 2% volume of black organic flecks. The manner of deposition is unclear; it may have been a deliberate single episode of backfilling of an open feature or it may have accreted more slowly. No finds were retrieved from this fill and dating is therefore uncertain. Within the western part of the fill was a deposit of medium-sized, red sandstone fragments, **531**. The stones only appeared in the section but could be the remains of a linear structure aligned north/south. The relationship with fill **529** was unclear, although **529** seemed to be the matrix into which the stones had perhaps been placed, suggesting that they were contemporary. The cut, **530**, truncated an earlier deposit, **528**, which was a pink clay, comparable to similar deposits seen in the other trenches during this project. It was over 0.2m deep and extended across the eastern half of the trench base, having been truncated on the western side by **530**. No finds were recovered from this, the earliest deposit seen in Trench 207.

3.9 TRENCH 208

- 3.9.1 This trench was the second excavated for the creation of a new jointing chamber, to the south of Trench 204 and to the east of Trench 205; as with Trench 207, this would also be lined with concrete to allow inspection and servicing of BT equipment. The overall dimensions were 1.7m by 1.0m by 1.0m deep and the trench was positioned on the south side of the main street, opposite Bank House and at the junction of Trenches 204 and 205.
- 3.9.2 Below a 0.3m depth of modern road makeup was what appeared to be a continuation of deposit **524** (see above *Section 3.6.2*), consisting of two medium-sized sub-rounded stones, positioned one on top of the other, forming a maximum depth of 0.6m, seen on the north side of the trench as **535**. To the immediate south of them was what appeared to be a posthole, **534**, with the remains of an *in situ* wooden stake. The cut, **534**, appeared to be near vertical, and was filled by a light brownish grey silty clay matrix, **533**, in which the stake was located. There also appeared to be an upper fill of redeposited, reddish-brown silty clay containing 40% gravel, **532**, which may be modern. It is possible that the stake

and posthole could potentially date to the Roman period but there was no dating material to substantiate this.

4. CONCLUSIONS

4.1 DISCUSSION

- 4.1.1 Despite the works being within the limits of the Roman fort at Bowness-on-Solway, the excavations, during the present watching brief, demonstrated little survival of significant archaeological deposits. The depth of many of the trenches was not sufficient to disturb the known underlying medieval and Roman deposits and nearly all the trenches had been disturbed by previous excavations for existing services, therefore limiting the available archaeological resource. Trench 202 and the northern half of Trench 204 contained only modern garden soils, whilst Trenches 203, 205 and 208 revealed only the remains of the earlier Victorian cobbled roadway through the village. The bricks found along the entire length of Trench 200 are almost certainly from the windmill which occupied the site until the 1880s. During the watching brief, one deposit was observed in five of the trenches (**503** in Trench 200; **506** in Trench 202; **523** in Trench 204; **526** in Trench 205; and **528** in Trench 207), which compares with deposits seen in other excavations (Giecco *et al* 2001), perhaps representing a levelling deposit of clay dumped over a reasonably extensive area, as made ground. This certainly seems to be indicated by the findings in Trench 202, although linking such deposits from different areas across such a large part of the fort can only be tentative.
- 4.1.2 The only significant features encountered during the watching brief were two small cut features in Trench 202; one, **515/516**, post-dated the clay deposit, **506**, and one, **513/514**, predated it. In addition, a cut feature, **522**, was identified in Trench 204, apparently running east/west, with two fills, **520** and **521**, and a possible ditch, **530/529**, and sandstone structure, **531**, was aligned north/south in Trench 207. No dating evidence was recovered from any of these features and it is thus impossible to confirm whether they relate to the internal features of the fort, or whether they reflect subsequent use of the site.
- 4.1.3 As a very tentative extrapolation, it is possible to suggest that the sandstone structure, evident in the western side of Trench 207, could be part of a structure similar to those seen in the 1973 excavations just to the north of the main street, approximately opposite the chamber's position (Potter 1975). These structures were identified as from a late phase of the fort, forming part of the barrack blocks near the western gate (*ibid*).

4.2 CONCLUSION

- 4.2.1 The watching brief clearly demonstrated the sporadic survival of features of some archaeological significance, and shows that the archaeological resource is gradually being degraded by the continued installation of services in what was one of the largest and potentially most significant forts on the Roman frontier.

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APPENDIX 1
PROJECT DESIGN

October 2001

Lancaster
University
Archaeological
Unit

BOWNESS ON SOLWAY ROMAN FORT

CUMBRIA

ARCHAEOLOGICAL WATCHING BRIEF

Proposals

The following project design is submitted in response to a request from Richard Trotter of BT Wholesale, in accordance with a verbal brief by Paul Austen, English Heritage and a Scheduled Monument Consent from DCMS, for an archaeological watching brief in conjunction with the laying of a new telephone cables at Bowness on Solway, Cumbria.

1. INTRODUCTION

1.1 CONTRACT DETAILS

- 1.1.1 It is proposed by British Telecom to lay telephone cables, ducts and underground jointing chambers through the village street of Bowness on Solway. The proposed ground works will be within the extent of the Roman fort of Bowness on Solway, a scheduled ancient monument (No 26126). Scheduled Monument Consent has been granted by Department for Culture, Media and Sport (DCMS) for the proposed ground works, but requires that a watching brief be undertaken in the course of the works. The following project design is in accordance with a verbal brief by Paul Austen, English Heritage.

1.2 BACKGROUND

- 1.2.1 The fort at Bowness on Solway marks the western end of Hadrian's Wall and, despite its considerable importance, has seen relatively little investigation. The fort (Roman name: *Maia*) stands on a sea cliff, on a naturally defended rounded promontory. The western rampart of the fort is marked by a ditch, which was re-cut in the thirteenth century, and also includes the south-west angle of the fort; the west gate of the fort was identified in 1930 in the mill field to the west of the village, and was further investigated in 1973 by larger scale excavations which revealed the post-holes of a gate tower (Collingwood Bruce and Daniels 1978, 256). The line of the southern rampart was defined by excavations in the 1930's. The line of the northern rampart was determined by fixing the location of the axial west gate but no physical evidence of the north rampart has been identified (*ibid*). Excavations in 1988 near High Bank identified the eastern rampart of the fort, along with an interval tower (Daniels 1989, 19). This provides an overall size of 188m x 128m, which makes it slightly larger than both Housesteads and Birdoswald, and at an area of 2.31ha would be the second largest fort on the wall (*ibid*) after Stanwix.
- 1.2.2 Excavations in 1976 beside the Police House identified three superimposed barracks of second century date, which were demolished at the end of the second century, and then replaced by a smaller fourth century building (Collingwood Bruce and Daniells 1978, 256). The results of the initial explorations to date conform that the fort was of considerable importance and there is the potential that significant deposits and remains survive within its extent, despite having a long standing settlement on top of it.

1.3 LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT

- 1.3.1 Lancaster University Archaeological Unit (LUAU) has considerable experience of the evaluation and excavation of sites of all periods, having undertaken a great number of small and large scale projects during the past 15 years. Fieldwork has taken place within the planning process and construction programmes, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. Numerous watching briefs have been undertaken during initial site preparations for both landscape projects (eg the North West Ethylene Pipeline for Shell UK Limited etc) and construction (eg Lancaster Market Hall and numerous small developments in Ribchester).
- 1.3.2 LUAU has considerable experience of sub-surface investigation on the line of the Roman frontier system. LUAU acts as the archaeological consultant to the Countryside Commission during the establishment of the Hadrian's Wall Path National Trail, and staff have carried out numerous watching briefs during works associated with this footpath. LUAU undertook a major watching brief programme for North West Water Ltd during the replacement of a cast iron water main in the Banks to Birdoswald sector of the Wall, which involved monitoring the excavation of trenches on both the north and south sides of the Wall ditch.
- 1.3.3 LUAU and all its members of staff operate subject to the Institute of Field Archaeologists (IFA) Code of Conduct and LUAU is a registered organisation of the IFA (No 27). LUAU is soon to merge with Oxford Archaeology Unit, and will then become Oxford Archaeology North; however, this will not, apart from the change of name, have any impact upon the proposals or costs defined below.

2. OBJECTIVES

- 2.2 The following programme has been designed, in accordance with a verbal brief by Paul Austen, English Heritage, to provide a suitable level of archaeological observation, recording, and response during the excavation works for the new water main. The project will be overseen by the assistant archaeologist, Cumbria County Council. The required stages to achieve these ends are as follows:

2.1 PERMANENT PRESENCE WATCHING BRIEF

- 2.1.1 To record accurately any surviving archaeological features or deposits by means of detailed observation and recording. To record the presence of buried features by appropriate recovery techniques, where applicable.

2.2 ARCHIVE/REPORT

- 2.2.1 A full written report will assess the significance of the data generated by the entire programme of work, in a local and regional context, and will be suitable for deposition as a permanent archive of the work undertaken.

3. METHOD STATEMENT

- 3.1 The following work programme is submitted in line with the stages and objectives of the archaeological work outlined above.

3.2 PERMANENT PRESENCE WATCHING BRIEF

- 3.2.1 **Methodology:** A permanent programme of field observation will accurately record the location, extent, and character of any surviving archaeological features within the excavation for the proposed cable and jointing chambers. This work will comprise the observation of the process of excavation for these works, the systematic examination of any subsoil horizons exposed during the course of works, and the accurate recording of all archaeological features and horizons, and any artefacts, identified during observation.
- 3.2.2 During this phase of work, recording will comprise a full description and preliminary classification of features or materials revealed, and their accurate location (either on plan and/or section, and as grid coordinates where appropriate). All archaeological information collected in the course of fieldwork will be recorded in standardised form, and will include accurate national grid references. Features will be planned accurately at appropriate scales and annotated on to a large scale plan provided by the Client. A photographic record will be undertaken simultaneously. The recording techniques and procedures employed by LUAU for such detailed recording represent current best practice.
- 3.2.3 It is assumed that LUAU will have the authority to stop works for up to one hour to enable the recording of important deposits, and to call in additional archaeological support if a find of particular importance is identified. This would only be called into effect in agreement with the Client and the County Archaeologist or his representative and will require a variation to costing. In normal circumstances, field recording will also include a continual process of analysis, evaluation, and interpretation of the data, in order to establish the necessity for any further more detailed recording that may prove essential.
- 3.2.4 Full regard will, of course, be given to all constraints (services etc), as well as to all Health and Safety regulations. LUAU provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Unit Managers (1991) and risk assessments are now being implemented for all projects. All operatives would be fully aware of the particular needs of working in conjunction with plant.

3.3 ARCHIVE

- 3.3.1 **Archive:** The results of all archaeological work carried out during fieldwork will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*The Management of Archaeological Projects*, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. It will include summary processing and analysis of all features, finds, or palaeoenvironmental data recovered during fieldwork to the appropriate level. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct. LUAU conforms to best practice in the preparation of project archives for long-term storage. The expense of preparing such an archive is part of the project cost, but only represents a very small proportion of the total. This archive will be provided in the English Heritage Central for Archaeology format and a synthesis will be submitted to the Cumbria Sites and Monuments Record (the index to the archive and a copy of the report). LUAU practice is to deposit appropriate elements of the original record

archive of projects (paper, magnetic and plastic media) with the appropriate County Record Office, and a full copy of the record archive (microform or microfiche) together with the material archive (artefacts, ecofacts, and samples) with an appropriate museum. The actual details of the arrangements for the deposition/loan and long term storage of this material will be agreed with the landowner and the receiving institution.

- 3.3.2 **Report:** one bound and one unbound copy of a written synthetic report will be submitted to the Client within five weeks of completion of fieldwork, and a further copy submitted to the Cumbria Sites and Monuments Record following any comments from the Client. The report will include a copy of the agreed project design, and indications of any agreed departure from that design. It will present, summarise, and interpret the results of the programme detailed above and will include a full index of archaeological features identified in the course of the project, with an assessment of the overall stratigraphy, together with appropriate illustrations, including detailed plans and sections indicating the locations of archaeological features. Any finds recovered from the excavations will be assessed with reference to other local material and any particular or unusual features of the assemblage will be highlighted and the potential of the site for palaeoenvironmental analysis will be considered. The report will also include a complete bibliography of sources from which data has been derived.
- 3.3.3 This report will identify areas of defined archaeology. An assessment and statement of the actual and potential archaeological significance of the site within the broader context of regional and national archaeological priorities will be made. Illustrative material will include a location map, section drawings, and plans. This report will be in the same basic format as this project design; a copy of the report can be provided on 3.5" disk (IBM compatible format), if required.
- 3.3.4 **Confidentiality:** all internal reports to the client are designed as documents for the specific use of the Client, for the particular purpose as defined in the project brief and project design, and should be treated as such. With the agreement of the Client, reports may be circulated to the County Archaeologist for discussion and approval as necessary, but are not suitable for publication as academic documents or otherwise without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project brief and project design, or for any other explicit purpose can be fulfilled, but will require separate discussion and funding.

3.4 PROJECT MONITORING

- 3.4.1 **Cumbria County Council:** any proposed changes to the project design will be agreed with the Cumbria County Archaeologist in coordination with the Client. The Cumbria Sites and Monuments Record will be informed in writing at the commencement of the project. All significant developments will also be related to the County Archaeologist.
- 3.4.2 **British Telecom:** an initial meeting of all parties will be arranged at the commencement of the project, if the Client so desires. LUAU will consult regularly with the Client during fieldwork, and this will include the attendance of a representative of the Client, if required, at any meetings convened with the County Archaeologist, to discuss the report or any other matter. Any decision to invoke a rapid response team would be taken with the Client and the Assistant County Archaeologist.

4. WORK TIMETABLE

- 4.1 The phases of work would comprise:
- 4.2 **Permanent presence watching brief**
Monitoring of excavation of trenches, and observation and recording of any archaeological features and materials revealed. The timescale of this phase will be dictated by the construction programme.
- 4.3 **Archive/Report**
LUAU generally calculates a 1:0.5 ratio of fieldwork: post-fieldwork (archive, analysis, and report preparation).
- 4.4 LUAU can execute projects at very short notice once an agreement has been signed with the client. The date for completion of the works would be dictated by the site construction programme. The report will be submitted to the Client within five weeks of the completion of field work.

- 4.5 The project will be managed by **Jamie Quartermaine, BA Hons Surv Dip** (Unit Project Manager), to whom all correspondence should be addressed. All Unit staff are experienced, qualified archaeologists, each with several years professional expertise.

APPENDIX 2 CONTEXT INDEX

Context No.	Trench No.	Description
500	200	Brick rubble
501	200	Cobbled road
502	200	Brown clay layer
503	200	Orange clay deposit
504	200	Sandstone deposit
505	201	Garden soil
506	202	Orange pink clay deposit
507	202	Sand deposit / band
508	202	Grey sandy silt deposit
509	202	Grey silty sand deposit
510	202	Grey clay deposit
511	202	Orangey pink clay deposit
512	202	Pinkish brown clay deposit
513	202	Fill of 514
514	202	Cut for feature
515	202	Fill of 516
516	202	Cut for small feature
517	202	Grey clay deposit
518	203	Cobbled road
519	204	Garden soil
520	204	Upper fill of 522
521	204	Lower fill of 522
522	204	Cut; ditch?
523	204	Orangey pink clay deposit
524	205	Cobbled road
525	205	Yellowish grey clay deposit
526	205	Pinkish orange clay deposit
527	207	Grey clayey sand deposit
528	207	Pinkish orange clay
529	207	Fill of 530
530	207	Cut; north/south ditch or wall?
531	207	Sandstone fill? of 530
532	208	Upper fill of 534, reddish brown
533	208	Lower fill of 534, brownish grey, contained wooden stake
534	208	Cut; posthole, filled by 532 and 533
535	208	Reddish brown, contained large cobbles

ILLUSTRATIONS

Figure 1: Site Location Map

Figure 2: Trench Location Plan

Figure 3: South-facing section through Trench 202



based upon the Ordnance Survey 1:50000
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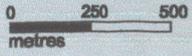


Figure 1: Location Map



Oxford Archaeology North
Storey Institute
Meeting House Lane
Lancaster
LA1 1TF

Tel 01524 848866
Fax 01524 848806

PROJECT:

Bowness-on-Solway

DRAWING No:

2



Scale 1:1000

DRAWN BY: ELC

DATE: January 2002

LOCATION:

KEY



TITLE:

Trench Location Plan

COMMISSIONED BY:

British Telecom Wholesale

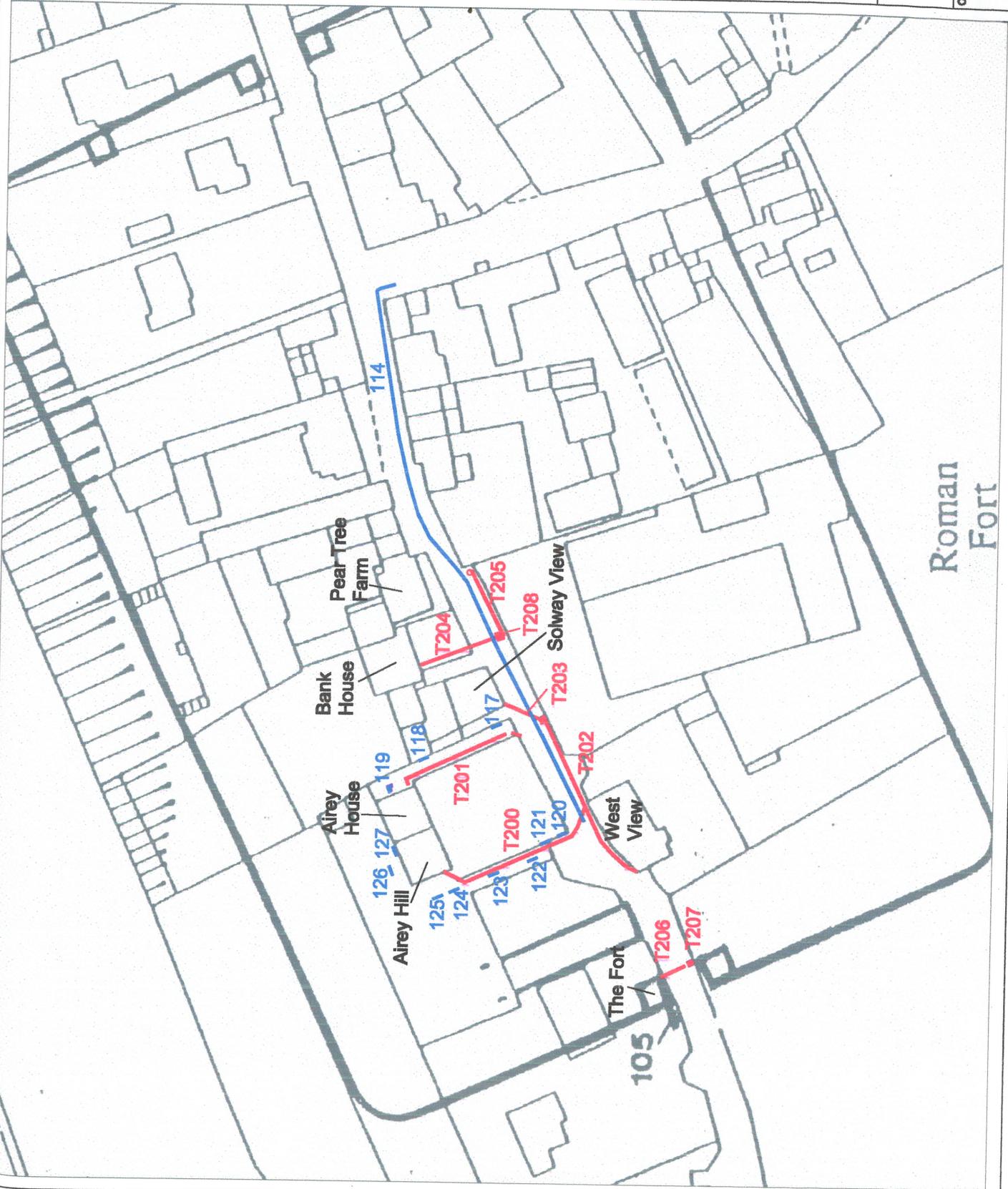


Figure 2 : Trench Location Plan



Oxford Archaeology North
Storey Institute
Meeting House Lane
Lancaster
LA1 1TF

Tel 01524 848686
Fax 01524 848606

PROJECT:

Bowness-on-Solway

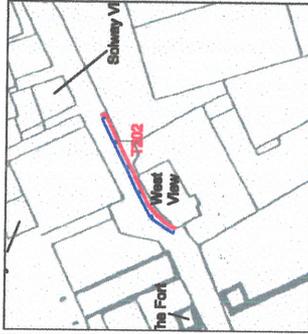
DRAWING NO:

3

DRAWN BY: ELC

DATE: January 2002

LOCATION:



TITLE:

South-facing section through Trench 202

COMMISSIONED BY:

British Telecom Wholesale

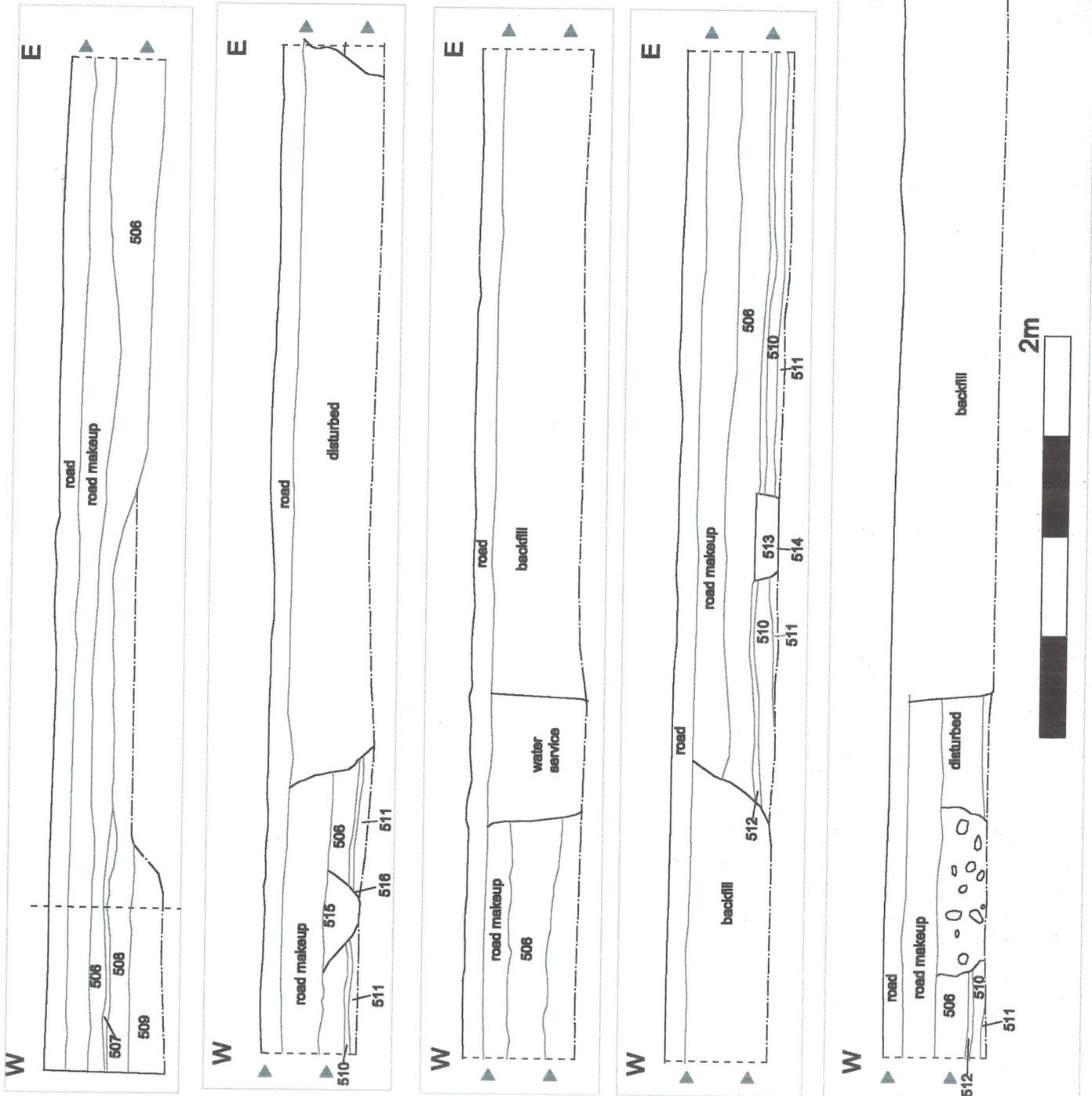


Figure 3: South-facing section Through Trench 202

PLATES

Plate 1: General Photograph of Works, Looking West along Main Street

Plate 2: East-Facing Section of Southern Part of Trench 207

Plate 3: Cleaned West-Facing Section of Trench 207



Plate 1: General Photograph of Works, Looking West along Main Street



Plate 2: East-Facing Section of Southern Part of Trench 207



Plate 3: Cleaned West-Facing Section of Trench 207