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SUMMARY

Oxford Archaeology North (OA North) was commissioned by Swarbrick Associates on behalf of Stanwix School to undertake an archaeological evaluation in the grounds of Stanwix School, Stanwix, Carlisle (NY 34015 55715). The work was required to inform an application for scheduled monument consent and planning permission to construct a small extension to the school east of the existing complex. The fieldwork was undertaken in November 2004.

The school is situated in an area which has been identified as being of high archaeological importance and is statutorily protected as a Scheduled Monument (County Sites and Monuments Record 5782, Scheduled Monument 28484). The main school building is situated on the line of Hadrian's Wall and within the Roman fort of Stanwix, identified as *Uxellodunum*, the largest fort on Hadrian's Wall. The fort was designed to hold a cavalry unit numbering 1000, thought to have been the *Ala Petriana*, the sole regiment of this size on Hadrian's Wall, and the senior auxiliary regiment of the Roman army in Britain.

Earlier work on the fort included that by Simpson, Hogg and Richmond in the 1930s which established the positions of the south gate, and the defences on the north-eastern, south-eastern and south-western sides. In the 1980s, an excavation in the car park of the Cumbria Park Hotel, immediately north of the school playground, located the stone footings of the north-western fort wall and an interval tower, and demonstrated that the fort had been enlarged in the Antonine period, projecting it north of Hadrian's Wall.

In 1997, Carlisle Archaeological Unit (CAU) carried out further work in the playground of the school, in advance of the construction of an extension. The earliest identifiable feature consisted of a turf deposit, which was interpreted as being evidence of the Turf Wall that predated the stone version of Hadrian's Wall to the west of the River Irthing. Timber buildings erected after the deposition of Huntcliff ware in the fourth century were also discovered (McCarthy 1999). In 1997 and 1998, CAU dug two further trenches in a narrow passage immediately adjacent to the north-western side of the school, locating the inner ditch and the stone footings of the fort wall.

In 1999 CAU undertook a further excavation, in the area of a proposed school extension, immediately west of the development area, which revealed multiple phases of activity on the site within a relatively shallow deposit. The earliest deposit was an area of cobbling which was cut by the beam slots of one timber building, closely followed by those of a succeeding timber structure. These timber buildings were replaced by one in stone, which were then subsequently remodelled. The site was then abandoned, and stripped down to foundation level, which probably occurred in the late Roman period, and there was a subsequent accumulation of dark soils. Into these soils was set a large two phased timber building with 25 post holes, believed to be of early medieval date.

The results of the current evaluation of the courtyard to the east of the school, and east of these excavations, have provided further useful information on the survival of archaeological deposits within the development area, and their nature and composition. The evaluation revealed overburden deposits relating to the construction of the extension to the school in 1999-2000. These directly overlay post-medieval construction deposits (relating to the school's construction) and garden-soils, relating to the use of the land as a gardens and orchards prior to the school's construction. Sealed beneath the garden soils was a cobbled surface, thought to be Roman in origin. This relates to the cobbled surfaces

identified during previous excavations, most recently by CAU in 1999, and is broadly dated to the second century AD, though no dating evidence was recovered on this occasion. At the western end of the trench, a ditch was identified, clearly cutting the cobbled surface but sealed by the post-medieval garden soils. The ditch is roughly dated to either the medieval or Roman periods. A post-medieval pipe trench was also identified.

At present it is proposed to use raft foundations for the proposed new build, which would not penetrate deeper than 0.5m from the surface. Given that the depth of the upper surface of the first significant archaeological deposit, ***06***, is at a depth of 0.6m from the surface this would allow a buffer of 100mm. As there may be only a slim margin between the maximum depth of the raft and the upper surface of surface ***06***, it is recommended that a watching brief be maintained during the groundworks for the foundations.

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The fieldwork was undertaken by Dave McNicol and Matthew Town. Matthew Town compiled this report, the drawings were by Emma Carter and the environmental report was by Elizabeth Huckerby. The finds report was by Jo Dawson. The report was edited by Jamie Quartermaine and Alan Lupton. The project was managed by Jamie Quartermaine.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 Following an application for scheduled monument consent and planning permission to undertake works within the grounds of Stanwix School at Carlisle (NY 4015 5715) (Fig 1), OA North was commissioned by Swarbrick Associates to undertake an archaeological evaluation of the site. The proposed works consist of the construction of a small extension to the eastern side of the school (Fig 3). The school buildings lie within the Roman fort at Stanwix, and on the line of Hadrian's Wall, both of which are Scheduled Monuments (SM 28484) and the whole boundary complex is part of the Hadrian's Wall World Heritage Site. A project design was prepared by OA North for the evaluation in accordance with a verbal brief by Mike Collins, English Heritage, who also approved the project design prior to its implementation. The work, which consisted of the excavation of a single trench, was carried out between the 8th and 10th of November 2004.

1.2 LOCATION, TOPOGRAPHY AND GEOLOGY

1.2.1 The fort at Stanwix is located on a natural platform within an undulating glacial landscape. The topography descends on the west and south sides to the Eden floodplain, while to the north the fort commands a flat plain. The land slopes away to the east for approximately 450m, to a small hill, known as Wall Knowe. The site is located within the grounds of Stanwix School, Stanwix, Carlisle (NY 4015 5715) (Fig 1), which is situated on the line of Hadrian's Wall and within the Roman fort of Stanwix, the largest fort on Hadrian's Wall.

1.2.2 The site lies within Stanwix village, and is part of the parish of Stanwix, within the old county of Cumberland, now part of modern day Cumbria (OA North 2002). The site is currently an enclosed walled space covered with tarmac located between the school buildings to the west, and the car-park for the Crown and Thistle public house to the east. The site lies at approximately 35m OD.

1.2.3 ***Geology:*** the solid geology comprises red, grey and green mudstones and siltstones of the Mercia Mudstones Group and these include various mudstones and the Stanwix Shales, which all date to the Triassic Period (BGS 1982) with overlying drift deposits of glacial deposits such as gravel and boulder clay (Countryside Commission 1998). The soils which underlie the area have been mapped by the OS Soil Survey of England and Wales (1983) and are of the Clifton Association, composed of typical Stagnogleys. There are also some fluvial deposits along the margins of the Eden.

1.3 ARCHAEOLOGICAL BACKGROUND

1.3.1 ***Hadrian's Wall:*** in AD 122, Hadrian visited Britain, and it is thought that Hadrian's Wall was started at about this time, between AD 122 and AD 126 (Margary 1973; Collingwood Bruce 1978). This superseded an earlier defence line, known as the Stanegate, named after the road along which a series of forts were located. The original plan for the wall was to keep the forts of the Stanegate, with the wall

secured only by milecastles and turrets, running some miles north of the military road. In AD 124, there was a change in plan; a decision was taken to attach the forts directly to the wall. Twelve new forts for whole auxiliary units, varying in size from 1.3 to 3.7ha, were built. The building of the forts was clearly a later decision as some of these replaced existing milecastles (such as at Housesteads). The decision was made to ensure better access to the areas north of the wall for the military forces; forts lying astride the wall had three of four main gates north of Hadrian's Wall which provided unrestricted access to these areas. The forts were spaced at regular 12km intervals along the wall to provide fighting forces in every sector of the frontier (Breeze and Dobson 2000). At the western end of the Wall, between Bowness-on-Solway and the River Irthing, the first wall was constructed in turf (Stevens 1966), and was subsequently rebuilt in stone. The Wall has largely vanished in the Stanwix area as a result of stone-robbing (Smith 1978).

1.3.2 Hadrian's Wall was traced in the grounds of Stanwix School between 1932 and 1934, and was recorded as being 2.7m in width (Simpson and Hogg 1935, 256) (Fig 2). Unpublished excavations by Hogg in 1961 located parts of the Wall and a ditch terminal within the centre of Scotland Road, which may suggest the position of the Carlisle to Netherby Roman road (cited in Dacre 1985) (Fig 2).

1.3.3 ***Stanwix Fort***: the fort, covering 9.79 acres (Dacre 1985), was designed to hold a 100 strong cavalry unit. The regiment is thought to have been the *Ala Petriana*, the sole unit of this size on Hadrian's Wall, and which was the senior auxiliary regiment of the Roman army in Britain (Daniels 1989). A cavalry-man's tombstone was found in the wall of the old parish church in 1790, and excavations in 1934 along the banks of the Eden to the south of the fort uncovered mountings for cavalry-men's uniforms, harnesses and brooches (*ibid*). These were thought to have come from a mid second century AD bronze-founders workshop in the grounds of the fort, and which had then washed down the cliff and become buried 4.5m deep in river silt (*ibid*). The fort is identified as *Uxellodunum* on the Rudge Cup and Amiens Skillet, meaning 'high place' (*ibid*).

1.3.4 The fort was the seat of the senior commanding officer of the wall, and served as the base for aggressive action against the northern tribes. It was positioned to guard the important western route to and from Scotland, and to guard the important river crossing near to the current bridge over the Eden. Extensive excavations to locate the fort's defences have taken place over the last seventy years (Fig 2). The mound of the south rampart of the fort is visible as an earthwork in the churchyard of Stanwix church (*ibid*). The first excavations to locate the fort were undertaken by Simpson, Hogg and Richmond in 1931, in connection with the widening of Scotland Road and the creation of a car-park bounded by Church Terrace, Church Street and Scotland Road, to the west of the school. A trench was dug across the site, running east to west, but no evidence for the fort was uncovered, though a layer of 'light coloured […] occupation earth' (Simpson 1932, 148) was recovered, producing a small quantity of Roman pottery. A fragment of inscribed stone, dated to AD 167, was also recovered from beneath the floor surface of a demolished modern building (Simpson 1932). A series of excavations in the 1930s by the same archaeologists established the positions of the south gate; the south-west angle tower, south wall and east wall were subsequently excavated by the same archaeologists in 1940 following the discovery of the west ditches in the course of providing drainage for an air-raid shelter (Daniels 1989).

1.3.5 No further excavation was carried out on the fort defences until 1984, when an excavation, undertaken by Carlisle Archaeology Unit (CAU) in the car park of the Cumbria Park Hotel, immediately north of the school playground, located the stone footings of the north-western fort wall and an interval tower. This was shown by excavation to be of one build, together with a rampart to the south and two ditches to the north, the inner of which was flat-bottomed (Frere 1985; Dacre 1985; McCarthy 1999; Fig 2). Spreads of cobbles and soily gravel on the berm, which post-dated the construction of the wall, suggested a truncated surface, and a possible Roman oven was also identified along the back wall of the interval tower (Dacre 1985). The location of these discoveries demonstrated that the fort had been enlarged in the Antonine period, projecting it north of Hadrian's Wall, by contrast with previously held beliefs which suggested that the Wall formed the northern boundary of the fort (Smith 1978). The other key discovery was that of a ditch underlying the rear section of the interval tower and the rampart, which was clearly earlier than the enlargement of the fort and was presumed to be associated with Hadrian's Wall, the foundations of which had been discovered by Simpson and Hogg during excavations in 1932-4 (Simpson and Hogg 1935; Esmonde Cleary 1998; McCarthy 1999).

1.3.6 Further excavation by CAU in 1997 was undertaken in a narrow passage immediately adjacent to the north-western side of Stanwix School in advance of the construction of a cloakroom and toilet extension; a single trench was laid out on the line of the west wall of the proposed extension (Fig 2). The inner ditch of the northern defences of the fort was located, although only the upper fills were excavated. Although the northern lip of the ditch could not be seen, it was in excess of 3.7m in width and at least 0.55m in depth. The upper fills contained much sandstone rubble which was thought to have tumbled from the fort wall (CAU 1997a; Esmonde Cleary 1998). Excavations in 1998 in the same passage by CAU were also undertaken prior to further toilet and cloakroom extensions to the school (Fig 2). The excavations provided a further section across the northern defences of the fort. The precise line of the defences was confirmed, comprising the remains of the curtain wall, part of the inner ditch and possible remains of a denuded rampart inside the wall. The position of a large pre-fort ditch, which had previously been seen in the 1984 excavations behind the Cumbria Park Hotel, was also identified, and was thought to represent the ditch for the turf phase of Hadrian's Wall. Although consideration of Simpson's work in the 1930s suggested that the north face of the stone phase of Hadrian's Wall would pass through the extreme south end of the trench, no trace of it was found. This may have been as the result of very thorough robbing of the stonework, which could have occurred either subsequent to the abandonment of the fort or even prior to the construction of the stone fort in order to provide a source of stone. Inside the fort, part of a cobbled surface, perhaps an intervallum road, was recorded (CAU 1998a; Esmonde Cleary 1999; McCarthy 1999).

1.3.7 An evaluation in 1998 by CAU at Cumbria Park Hotel, involving the excavation of a 2m square test-pit, again confirmed the existence of the Roman fort wall at a depth of 0.55m below ground level, along with demolition/collapse deposits (Fig 2). These were cut by postholes that contained medieval pottery (CAU 1998c). A further evaluation in 1999 by CAU, again at the hotel, involved the excavation of three evaluation trenches (Fig 2). The evaluation located the north wall of the fort, and associated features, at a depth of approximately 0.3m below present ground

level. The majority of the wall fabric had been robbed away, but at least one course of foundation blocks survived *in situ*, as well as part of the internal rampart, which extended for a distance of at least 3m behind the wall. To the rear of the rampart was a metalled surface, perhaps an intervallum road. The north-eastern lip of the primary fort ditch was also located, along with a possible structure to the rear (CAU 1999; Burnham 2000). A watching brief by Carlisle Archaeology ltd (CAL) in 2000, during groundworks for an extension of the Cumbria Park Hotel car park, followed on from the two earlier phases of evaluation. Traces of part of the heavily disturbed northern defences of the fort were observed, comprising the foundation for the stone curtain wall, a possible denuded internal rampart, a cobbled surface on the berm between the curtain wall and the inner ditch, and part of what may have been an outer defensive ditch. Probable internal metalled surfaces, and other deposits within the fort, were also observed (CAL 2001).

1.3.8 In 2000, Lancaster University Archaeology Unit (LUAU) (now OA North) undertook an evaluation in the walled garden to the east of the Cumbria College of Art and Design, now the Cumbria Institute of the Arts. This involved the excavation of three trenches, of which those in the centre and east of the garden uncovered only natural deposits and features associated with the garden. However, in the western trench a 'V'-profiled ditch was identified, which had a marked steepening of gradient towards the base. The ditch was orientated north/south, lying parallel to the eastern edge of the fort at Stanwix. The fills contained few diagnostic finds and appeared to demonstrate a very short period of use, with the ditch apparently having been backfilled very quickly. It was tentatively suggested that this was a ditch of Roman military origin and may predate the fort at Stanwix, possibly part of a temporary camp or earlier fort (LUAU 2000) (Fig 2).

1.3.9 ***Internal Layout:*** little is known of the internal arrangements of the fort, though the headquarters are thought to have faced east (Daniels 1989). Excavations in 1932 by Simpson and Hogg in the grounds of Stanwix School uncovered metalled surfaces extending back from Hadrian's Wall and were dated to the second century (Simpson 1933; Simpson and Hogg 1935; Fig 2). These were post-dated by the foundations of long barrack-like buildings, potentially stables, dated to between AD 305 and AD 367 (Simpson 1933; Simpson and Hogg 1935). A large granary building, orientated east/west, was identified extending into the grounds of the school in 1939, with traces of other stone buildings found to the north and south of the granary (Daniels 1989; Esmonde Cleary 1998). Little further work on the internal arrangements of the fort occurred for the following 55 years, though a watching brief on building works to the rear of the Crown and Thistle public house east of the school in 1976 showed that the Roman deposits had been removed by levelling (Frere 1977). In 1993, the first excavations by CAU, in Barn Close in Stanwix, 40m south-west of the north-eastern defences and internal to the fort, revealed two phases of walls and surfaces, and fourth century pottery and coins (Esmonde Cleary 1994; McCarthy 1999; Fig 2).

1.3.10 In 1997, CAU carried out further work in the grounds of the school, in advance of the construction of an extension (CAU 1997b; Esmonde Cleary 1998; McCarthy 1999; Fig 2). Only minimal excavation was undertaken, and as such only the uppermost surviving Roman deposits were identified. Excavation of four trenches was undertaken in the playgrounds, and in the upper playground, walls and drains, relating to a probable stone building north of the granary recorded in the 1930s, were revealed. One of the 1939 evaluation trenches was emptied, revealing a drain

and wall at right-angles to the granary that did not appear in the original excavation records, the latter of which may relate to a further building. Further metalled deposits were also identified in the trench. The walls of the barracks or stables located by Simpson and Hogg were not found, and were perhaps sealed by unexcavated deposits of earth and rubble presumed to have belonged with the walls found in the 1930s; however, metalled surfaces were identified, suggesting yards or roads internal to the fort. The metalled surfaces were sealed by dark soils, which were in turn cut by slots and postholes. Clay floored timber buildings were erected over some of the metalled surfaces; these were not well dated but at least one of the structures was built no earlier than the second half of the fourth century after the deposition of Huntcliff ware (Esmonde Cleary 1998; McCarthy 1999). In the lower playground, excavation did not proceed below the latest archaeological deposits, although earlier stratigraphy was noted in the side of a nineteenth century drain trench. The earliest recorded deposit was a layer of turves, which were sealed by deposits earlier than those associated with the later phases of the stone fort. The precise nature of this feature was unclear but was thought to be either part of a rampart of an earlier turf-and-timber fort, or evidence for the Turf Wall that predates the stone version of Hadrian's Wall to the west of the River Irthing (CAU 1997b; Esmonde Cleary 1998; McCarthy 1999). There were no obvious front or rear faces to this turf deposit, but it was located some metres south of the stone Hadrian's Wall discovered in the 1930s (Simpson and Hogg 1935). The deposit was overlain by later surfaces of compacted pebbles and robber trenches for stone walls, which were associated with the later stone cavalry fort (CAU 1997b; McCarthy 1999). In 1998, further excavation was undertaken in the grounds by CAU in advance of the construction of new buildings and extensions. Fort deposits were again uncovered, although they were difficult to interpret in the small area excavated. The earliest deposits were dumps of rubble, sealed by a metalled surface similar to those seen in previous excavations. This surface pre-dated a stone wall that probably formed part of a building within the western part of the fort (CAU 1998b).

1.3.11 In 1999, an excavation was carried out by CAU at the school in advance of the construction of new classrooms and other facilities, immediately west of the current development area (Fig 2). The excavation exposed extensive, although probably heavily truncated, deposits within the central range of the fort, but full excavation was not permitted due to English Heritage's policy of preservation *in situ*. The phases of activity on the site appear to be as follows: an area of cobbled surfaces and other external deposits were laid down, then cut by a complex sequence of several phases of timber and stone buildings. The primary timber building consisted of a series of beam slots, and this was closely followed by beam slots of a succeeding timber structure (CAL 2000). These timber buildings were then replaced by one in stone, which was then subsequently remodelled. The character of the building remains was impossible to determine with any certainty, but the ground plan was thought to be consistent with its interpretation as a hospital. The site was then abandoned, and then stripped down to foundation level, which probably occurred in the late Roman period as there was a subsequent accumulation of dark soils (CAL 2000). The most significant result of the work was the discovery of a rectilinear arrangement of large post holes which cut the Roman levels, but which appeared to broadly respect, or be influenced by, the Roman layout. The structure consisted of a large two phased timber building comprising 25 post holes, and it was thought that they could represent the remains of at least one substantial timber

building of late Roman or post-Roman date, akin to the remains of an early post-Roman timber hall excavated at Birdoswald fort (Burnham 2000; Zant *pers comm*). This was then overlain by medieval garden soils, and was then followed by the construction of Stanwix school (CAL 2000) in the late nineteenth century.

1.3.12 A series of watching briefs were undertaken by CAU in 1999 and 2000 on groundworks at the school (Fig 2). A watching brief was undertaken in 1999 during the demolition of a boiler house and subsequent groundworks, and during excavation of the foundation trench for a new boundary wall for the playground adjacent to Church Street. Very little archaeology survived, due to disturbance during construction of the school buildings. In the area of the former boiler house, a possible Roman cobbled surface and a few other deposits of uncertain date and character were observed. In the foundation trench, modern overburden was seen to directly overlie the natural subsoil (Zant *pers comm*). In 2000, a watching brief during the demolition of temporary classrooms, the removal of the concrete platforms on which they had been built, and a watching brief on the excavation of a foundation trench for new school gate and wall, revealed no archaeological deposits (Zant *pers comm*).

2. METHODOLOGY

2.1 EVALUATION

2.1.1 An evaluation was required by English Heritage in order to assess the likely impact on the underlying archaeological deposits of the proposed development, and in order to inform the building design. A 5% excavation sample of the building imprint was required, which equated to a three square metres of trench, and consequently a 3m by 1m trench was therefore excavated near the centre of the foot-print (Fig 3).

2.1.2 Prior to any ground disturbance the courtyard area was fenced to allow safe working without endangering members of the public, and the fire-door from the school into the courtyard was locked and boarded, necessitating the provision of an alternative fire escape route. Because of the very restricted area and access points, it was not possible to use a mechanical excavator, and for the most part the excavation was undertaken using manual techniques. The tarmac and concrete courtyard surface was broken up using a electric-powered breaker (Plate 1), and the rubble and overburden was removed by hand. On removal of each deposit, the trench was subject to manual cleaning over the whole area in order to assess the presence of archaeological deposits. The aim of this work was to explore all features stratigraphically and to produce a clear plan of the archaeology.

2.1.3 Despite the potential significance of the site it was not necessary to excavate every feature in its entirety. Structural remains and features were cleaned manually to define their extent, nature, form and, where possible, date; all deposits and features were subject to stratigraphic manual excavation. It was anticipated excavation of a minimum 50% of discrete features and 20% of linear features. The deposits encountered during the excavations were sampled according to the appropriate professional standards to enable environmental analysis if required. For health and safety reasons the depth of the trench was limited to a maximum depth of 1.2m, but in the event, the maximum depth reached was 1.1m.

2.1.4 A complete record of all features and horizons in the trench was made, comprising of a full description and preliminary classification of features or structures revealed on OA North *pro-forma* sheets, and their accurate location in plan. Plans and section drawings were generated manually.

2.1.5 A full and detailed photographic record of individual contexts was maintained and similarly general views were generated. Photography was undertaken using 35mm cameras on archivably stable black and white print film as well as colour transparency. Photographic records were maintained on photographic *pro-forma* sheets.

2.1.6 On completion of the site works, the trenches were backfilled in accordance with the instructions of the client, but were not otherwise reinstated.

2.1.7 ***Environmental Assessment:*** a programme of palaeoenvironmental sampling was undertaken at the site. Stratified contexts with the potential for preserved ecofacts were identified; bulk samples of 30 litres volume (to be sub-sampled at a later stage) were collected and were assessed for waterlogged and charred plant remains and other environmental indicators as appropriate. The environmental sampling and

assessment followed the English Heritage guidelines for environmental archaeology 2002 and those of Oxford Archaeology 2000. A programme of assessment was undertaken by in-house palaeoenvironmentalists

2.2 ARCHIVE

2.2.1 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 archive will be deposited in the Cumbria Record Office with a copy to the Cumbria SMR.

3. EVALUATION RESULTS

3.1 THE TRENCH

3.1.1 The evaluation trench was excavated on a broadly east/west axis, adjacent to the steps which lead down from the school fire-door, and consisted of an excavation area measuring 3m by 1m (Plate 1; Figs 4 and 5). The trench was dug to a maximum depth of 1.1m, though the general depth of the trench was 0.65m.

3.1.2 The stratigraphic sequence is as follows. A thin layer of tarmac approximately 0.05m in depth was found to overlie a concrete pad approximately 0.07m in depth, extending the full length of the trench (***01***); both were removed by mechanical breaker (Plate 1). Beneath the tarmac and concrete, and also extending the length of the trench, was a deposit of sub-base ***02***, consisting of a pale creamy-grey compacted gritty sand containing large quantities of sub-angular stone and crushed concrete. The corner of a concrete slab, ***11,*** was also noted within the sub-base, extending northwards into the trench; this was identified as the foundation for the school steps, and was accordingly left *in situ*. The deposit and the slab overlay a thin geotextile membrane (terram) ***03*** which also extended the length of the trench (Plate 2). These deposits relate to the construction of the eastern extension to the school in 1999-2000; the terram was laid down during the archaeological excavations on the site in 1999 to protect archaeological deposits (Zant *pers comm*).

3.1.3 On removal of the terram, a deposit of mid to dark greyish-brown friable slightly sandy clayey silt, containing frequent lumps of redeposited natural, stone, clinker, ceramic building material (CBM) and mortar flecks, was identified, extending the length of the trench and measuring 0.20m in depth (***04***, Plate 3). The deposit had been compressed during the building of the extension and the subsequent resurfacing of the courtyard. The mixed nature of the deposit, and the large quantities of nineteenth century pottery and other material recovered, indicate that this deposit probably relates to the construction phase of the school in the nineteenth century. A pipe trench, ***07,*** was identified at the eastern end of the trench, cutting this deposit and running in a north-east/south-west direction. The pipe trench, measuring 0.5m in width, was excavated in spits down to 0.65m; the fill, ***08***, a dark greyish-brown silty clay mottled with pinkish orange redeposited natural and containing large sub-rounded stones and CBM fragments, was found to be covering a ceramic butt-jointed drain at its base (Plate 5). The drain was left *in situ*, and appears to be of nineteenth or twentieth century date.

3.1.4 Beneath the construction deposit, ***04***, a homogenous layer of dark orangey-brown friable clayey silt, containing frequent clinker fragments and occasional sub-rounded stones, was identified, extending the length of the trench (***05***, Plate 4). The deposit was excavated to 0.3m in depth, and appears from the large quantities of nineteenth century material recovered to be a garden soil, and would suggest that prior to the construction of the school this was an area of open gardens at this time.

3.1.5 On removal of the garden soils, a cobble surface, ***06,*** was identified, extending the length of the trench (Plates 6 and7). The surface consisted of frequent sub-rounded and sub-angular stones in a pale pinkish-brown sticky silty clay matrix, and was excavated to 0.3m in depth. The surface was bisected on the eastern side by the

pipe trench ***07***, and on the western side by a ditch ***09***; the surface was therefore visible as three separate entities, at the eastern and western ends of the trench, and in a central island. Excavation of the surface failed to uncover any dating evidence within the narrow confines of the trench, but this surface appears to relate to the cobbled surfaces identified during the excavations by CAL prior to the construction of the school extension to the west of the development area and which were tentatively dated to the Roman period (CAL 2000, Zant *pers comm*).

3.1.6 The ditch, ***09,*** was fairly broad, at 1.3m width, with a rounded profile and gradual sloping sides (Plate 7). Due to the confined nature of the trench, the ditch had to be entirely excavated, and was found to be 0.4m in depth, and directly sealed by the garden soils, ***05***. The fill of the ditch, ***10,*** consisted of a pale brownish-orange sticky silty clay, containing frequent stone tumble from the cobble surface and large quantities of brick and tile fragments. A single sherd of (?possibly intrusive) medieval pottery was recovered from the fill, and the CBM fragments have been tentatively identified as Roman in date (*Section 4*); the fill contains no post-medieval material, and the implication is that this ditch is either of Roman or medieval date. The dating of the cobble surface, ***06,*** is therefore of medieval or pre-medieval date, and by analogy with similar deposits identified during the excavations on the school extension in 1999 is likely to be of Roman date (CAL 2000).

3.1.7 Beneath the cobble surface ***06***, a deposit ***12*** was identified, consisting of a pale pinkish-orange firm fine clayey silt with some iron-staining, which was identified as the drift geology. No further features were identified sealed by the cobble surface.

4. THE FINDS

4.1 THE FINDS

4.1.1 ***Introduction:*** in total, 110 artefacts and ecofacts were recovered from the evaluation, the majority of which was ceramic building material (CBM) and pottery. Smaller quantities of clay tobacco pipe, indeterminate ceramic, glass, iron and coal, and bone were also present. The finds were retrieved from school construction deposit, ***4***, garden soils, ***5***, pipe trench fill, ***8***, and ditch fill ***10***. The type of finds recovered from the different contexts is summarised in Table 1, below, and a full list is presented in *Appendix 3*.

Material	School Construction Deposit, ***4***	Garden soils, ***5***	Pipe trench fill ***8***	Ditch fill, ***10***	Total
Bone	1	5	0	0	*6*
Ceramic	1	0	0	0	*1*
Ceramic building material	11	8	1	23	*43*
Clay tobacco pipe	8	10	0	0	*18*
Glass	1	1	0	0	*2*
Iron and coal	1	0	0	0	*1*
Pottery	26	12	0	1	*39*
Total	*50*	*36*	*1*	*24*	***110***

Table 1: Type of finds from different contexts

4.1.2 ***Ceramic Building Material:*** sand-cast tiles were recovered from deposits ***4***, ***5***, and ditch fill ***10***, and are most likely to date to the medieval or post-medieval periods, but can be dated to the Roman period; indeed a ceramic fragment, recovered from layer ***4***, was of a similar fabric, and would appear to be a Roman *tegula* fragment. Brick fragments, which may be contemporary with the tiles, were also recovered from layer ***4***. Two fragments of drains or curved tiles, dated to the post-medieval period, were recovered from the same context.

4.1.3 ***Pottery:*** a single very abraded fragment of possible Roman greyware was recovered from the school construction deposit, ***4***. It was fully reduced, with the outer layer of the fabric light grey in colour, and the inner layer a dark charcoal-grey. Clearly, the fragment was residual, and its presence can easily be explained by the deeper Roman deposits on the site. A similarly abraded fragment of red gritty ware, Carlisle fabric 1, dated to the twelfth to thirteenth century, was recovered from ditch fill ***10***; this deposit also contained large quantities of sand-cast tiles tentatively dated to the medieval or post-medieval period.

4.1.4 With the exception of these two earlier fragments, the entire pottery assemblage was post-medieval in date. Coarseware vessels, which were essentially kitchen wares such as jars and pancheons, were present in brown-glazed red earthenware, and were dated to the late seventeenth to early twentieth century. Tablewares were more finely potted and more decorative than contemporary coarsewares, and were more

subject to changing fashions and thus are of more use in dating (Draper 1984, 5). A range of tablewares from the eighteenth century was recovered from deposits ***4*** and ***5***, and comprised: mottled ware, tin-glazed earthenware, and white salt-glazed stoneware. A tin-glazed earthenware dish or plate rim from layer ***4*** was painted with what appeared to be blue stylised flowers inside a blue line running close to the rim, with the edge of the rim itself painted ochre. Under-rim, possible ribbon markings, were also present (Black 2001, 3). White salt-glazed stoneware vessels represented included tankards and bowls.

4.1.5 The later tablewares (late eighteenth to twentieth century) were white earthenware and bone china. White earthenware was cheaper than bone china, and occurred far more frequently in this assemblage. It was decorated with bands of coloured slip, transfer-printed patterns, and painted enamels. The transfer patterns present included the common dinnerware pattern 'Willow' (Coysh and Henrywood 1982, 402), and the equally common teaware or breakfastware pattern 'Broseley' (*op cit*, 62) was present on bone china.

4.1.6 ***Clay tobacco pipe, glass, and iron and coal:*** the following finds were all recovered from deposits ***4*** and ***5***, and are of post-medieval in date. The clay tobacco pipe fragments were from unmarked stems, which are difficult to date accurately. They have been broadly dated to the eighteenth to early twentieth century, and is a similar date range to that suggested by the pottery present in these contexts. The dark olive green glass bottle fragments have been dated to the same period, whilst the corroded iron object with the lump of burnt coal attached was not closely dateable.

4.1.7 ***Bone:*** the bones, one of which showed signs of butchery, were from large mammals, and it is likely that they represent food waste. Although they are not in themselves closely dateable, the bones were found in association with eighteenth to twentieth century pottery in deposits ***4*** and ***5***, and are likely to be of similar date.

4.1.8 ***Conclusions:*** a small quantity of post-medieval domestic refuse was recovered from the evaluation. All the contexts contained ceramic building material, mainly sand-cast tiles, which is most likely to be medieval or post-medieval in date, but does include one diagnostic fragment of Roman *tegula* tile. School construction deposit ***4*** also contained pottery dated to the eighteenth century and later, and one residual fragment of possible Roman greyware. Garden soils ***5*** contained eighteenth century and later pottery, and ditch fill ***10*** contained a single abraded residual fragment of pottery dated to the twelfth to thirteenth century.

5. ASSESSMENT OF CHARRED PLANT REMAINS

5.1 INTRODUCTION

5.1.1 ***Quantification:*** two 30 litres environmental bulk samples were taken from contexts cobbled surface ***6*** and ditch fill ***10*** for the assessment of charred plant remains. Ten litres of each sample were processed for assessment.

5.1.2 ***Materials and Methods:*** the samples were hand-floated, the flots were collected on 250 micron mesh and air-dried. The flots were scanned with a Meiji EMT stereo dissecting microscope and plant material was recorded and provisionally identified. The data are shown on Table 1. Botanical nomenclature follows Stace (1991). Plant remains were recorded on a scale of abundance of 1-4, where 1 is rare (less than 5 items) and 4 is abundant (more than 100 items). The components of the matrix were also noted.

5.2 RESULTS OF ASSESSMENT OF CHARRED PLANT REMAINS

5.2.1 The results of the assessment of samples from cobbled surface ***6*** and ditch fill ***10*** for charred plant remains are shown in Table 1. Both samples contained small quantities of charred plant material including some *Avena* (oat) and undifferentiated cereal grains. Charred weed seeds were present in both contexts, including *Fabaceae* seeds (legumes). A fragment of *Corylus* (hazel) nut was recorded from the cobbled surface, ***6***. Charcoal (greater than 2mm in transverse section), was present in small quantities in both contexts and included diffuse porous taxa (alder/hazel/birch type) in ***6***. The preservation of the charred plant remains was quite good in both samples.

5.2.2 The flots contained a range of material other than charred plant remains and included some evidence of waste products from industrial activity. Modern contamination including seeds, *dicotyledonous* leaves and amorphous plant remains was also recorded.

5.3 DISCUSSION

5.3.1 This assessment has demonstrated that charred plant remains have been preserved in the possible medieval ditch (fill ***10***) and cobbled surface ***6***. From this limited data set it appears that oats (*Avena*) was the major cereal-type being consumed on the site when both the cobbled surface and the ditch were in use. No crop processing waste was recorded in the small samples assessed and there were only a few weed seeds, which suggests that the site was a consumer of cereals and not a producer. A possible cultivated legume seed was recorded in the sample from cobbled surface ***6*** .

5.3.2 Charred plant remains from Carlisle Roman military sites are relatively unusual (Jacqui Huntley pers comm). Recent studies from the Carlisle Millennium excavations (Huckerby in prep) have shown that although a wealth of environmental material was preserved on the site, the number of samples in which charred cereal grains are recorded is relatively low. Barley (*Hordeum*) and wheat (*Triticum*) were the major cereal-types recorded, from that site, although occasional grains of oats were also identified. In contrast, studies of insect remains (Smith and Tetlow in prep) from the Carlisle Millennium excavations have shown that cereal pests were very common in the deposits suggesting that cereals were being consumed and that

the lack of charred cereal grains in the plant record is possibly the result of post-depositional conditions in Carlisle.

5.3.3 Oats have been identified in Roman sites from the North West but generally at low values, although large numbers have been recorded from the Roman site at Papcastle, Cumbria (Huntley 1988). They have, however, been recorded in greater abundance from medieval sites throughout the North West eg Church Street, Lancaster (Huntley and Huckerby in prep). Therefore the archaeobotanical assessment data from the site at Stanwix School, Carlisle is of interest because charred cereal grains have been preserved and identified as oats.

5.3.4 ***Potential:*** this assessment has demonstrated that there is some potential for the analysis of charred plant remains from the site. Because charred plant remains are often not preserved from Roman military sites in Carlisle, there is considerable potential for undertaking further analysis on the remaining samples. It would be possible to select material from both features for radiocarbon dating if it was considered important to obtain a firm chronology for the site.

Sample	Context	Feature	Sample vol. (litres)	Flot description	Plant remains	Potential
1	***10***	Possible medieval ditch	10 of 30	100ml. Charcoal (1), plus industrial waste products, coal and bone. Modern dicotyledonous leaves, amorphous plant material and seeds.	Cereal (2) *Avena* and undifferentiated, weed seeds (1) Fabaceae and indet. *Calluna* charcoal	Medium
2	***06***	Roman? Cobbled surface	10 of 30	40ml. Charcoal (1) including ring porous taxa. Plus, industrial waste coal and bone. Modern dicotyledonous leaves and amorphous plant material.	Cereal (1) *Avena* and undifferentiated, weed seeds (1) Fabaceae (possible cultivated), *Corylus* fragment (1).	Medium

Table 1: Stanwix School, Carlisle: assessment of charred plant remains

Key

Charred plant remains recorded on a scale of abundance 1-4, where 1 is rare less than 5 items and 4 is abundant more than 100 items

6. DISCUSSION

6.1 EVALUATION SUMMARY

6.1.1 The results of the evaluation have provided further useful information on the survival of archaeological deposits within the development area, and their nature and composition. This is particularly important, as the results of previous excavations and evaluations are not at present fully published, and little is currently understood as regards the activity in the area in relation to the construction of the Wall and the associated fort at Stanwix.

6.1.2 The latest deposits identified during the evaluation represent activity associated with the construction of the extension to the school on the site in 1999 and 2000. The phase is represented by tarmac and concrete surfaces, sub-base layers and terram, ***01*** and ***02***. John Zant (*pers comm*) stated that, following the partial excavation of the archaeology prior to the building of the classroom extensions to the south-west of the development area, the excavations were covered in terram and sand for preservation *in situ*, at the request of English Heritage. The development area appears to have been cleared of modern overburden at the same time, and was subsequently resurfaced on completion of the classrooms. The archaeology beneath, therefore, survives intact, as demonstrated by this evaluation.

6.1.3 Beneath these deposits was a mixed construction layer, ***04***, apparently relating to the construction of the school in the nineteenth century; this lay directly over homogenous garden soil deposits, ***05***, also dated to the nineteenth century, which points to the land being in agricultural use prior to the construction of the school. Excavations by CAU in 1997 and 1998 also identified post-medieval garden soils to the west of the development area, directly sealing the Roman archaeology, and suggested that these probably related to orchards and gardens shown on the 1866 First Edition OS Map of the area (CAU 1997a; 1997b; 1998a; 1998b). The results of this evaluation fits with that possibility.

6.1.4 Extensive Roman archaeological deposits were identified in several different sections of the school complex, during excavations in the 1930s by Simpson and Hogg (Simpson 1933, Simpson and Hogg 1935), and more recently between 1997 and 1999 by CAU (CAU 1997a; 1997b; 1998a; 1998b; CAL 2000; Zant *pers comm*). No medieval activity has been noted, although a substantial post-Roman timber building, represented by an arrangement of post-holes, was identified to the west of the development area in 1999, and is akin to the remains of an early post-Roman timber hall excavated at Birdoswald fort (Zant *pers comm*). The archaeology uncovered during this evaluation consists of an extensive cobbled surface, which was potentially of Roman date, and cut by a ditch that was either medieval or pre-medieval in date. Excavations in 1932 by Simpson and Hogg in the grounds of Stanwix School uncovered metalled surfaces extending back from Hadrian's Wall and which were dated to the second century (Simpson 1933; Simpson and Hogg 1935). Further metalled deposits were also identified by CAU in 1997 and 1999, suggesting yards or roads internal to the fort, immediately west of the development area (CAU 1997b; CAL 2000; Zant *pers comm*). The implication is that the cobbled surfaces recovered during this evaluation may be of a similar date, and the direct association of the (potential) Roman archaeological

deposits directly overlain by post-medieval garden soils is a similar profile to that encountered in previous excavations (CAL 2000).

6.1.5 The ditch uncovered during the evaluation is more problematic, as it contained a single fragment of medieval pottery amongst for the most part undatable brick and tile fragments. Other than the potential 'dark age' archaeological remains identified by CAU in 1997 (CAU 1997a) and 1999 (CAL 2000, Zant *pers comm*), no clearly identifiable medieval activity is recorded on the site. A suggestion is that in this case the pottery could be intrusive, and the ditch could form part of the complex sequence of Roman archaeology identified to the west of the development area in 1999, and could therefore be of Roman origin. If this is the case, the cobble surface would therefore be confirmed as being of Roman date. Nevertheless, medieval archaeology has been uncovered previously in Stanwix (CAU 1998c), and the possibility that the ditch is of medieval date cannot be discounted.

6.2 IMPACT AND RECOMMENDATIONS

6.2.1 ***Impact:*** the impact of the proposed works on the archaeology known to exist on the site is unclear at present as a final foundation design has yet to be confirmed; however, at present it is proposed to incorporate raft foundations and to not penetrate deeper than 0.5m from the surface (Irwin *pers comm*) and will not proceed below the existing geotextile membrane that sealed the earlier excavations. Given that the depth of the upper surface of the first significant archaeological deposit, ***06***, is at a depth of 0.6m from the surface this would allow a buffer of 100mm.

6.2.2 ***Recommendations:*** while it has not been confirmed that the proposed new build will have raft foundations, it is recommended that this should be the case as this would allow for the preservation of the significant archaeological deposits *in situ*. As there may be only a slim margin between the maximum depth of the raft and the upper surface of surface ***06***, it may be necessary to maintain an archaeological watching brief during the groundworks for the foundations. This recognises that there is the potential for sensitive features, such as Roman walls (CAL 2000) which could occur at relatively shallower depths.

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APPENDIX 1: PROJECT DESIGN

Oxford Archaeology North

October 2004

STANWIX SCHOOL, STANWIX, CARLISLE

ARCHAEOLOGICAL EVALUATION PROJECT DESIGN

Proposals

The following project design is offered in response to a request from David Irwin of Swarbrick Associates, for an archaeological investigation at Stanwix School, Carlisle.

1.1 CONTRACT BACKGROUND

1.1.1 Swarbrick Associates, on behalf of Stanwix School, has requested that Oxford Archaeology North submit a project design for an archaeological evaluation in advance of the construction of a small extension to the school. This excavation follows on from archaeological evaluation and excavations undertaken by the Carlisle Archaeology Unit (2000) which identified significant deposits and structures from within the Stanwix Roman fort.

1.2 Archaeological Background

1.2.1 ***Stanwix Fort***: excavations of the fort at Stanwix in the 1930s by Simpson, Hogg and Richmond established the positions of the south gate, and the defences on the north-eastern, south-eastern and south-western sides. Internal buildings, including a granary, were located in the playground of Stanwix Primary School (Simpson and Hogg 1935). In the 1980s, an excavation in the car park of the Cumbria Park Hotel, immediately north of the school playground, located the stone footings of the north-western fort wall and an interval tower, together with two ditches beyond (McCarthy 1999). This demonstrated that the fort had been enlarged in the Antonine period, projecting it north of Hadrian's Wall. The other key discovery was that of a ditch underlying the interval tower, which was clearly earlier than the enlargement of the fort and was presumed to be associated with Hadrian's Wall, the foundations of which had been discovered by Simpson and Hogg in 1932-4 (Simpson and Hogg 1935; McCarthy 1999, 163).

1.2.2 In 1997, Carlisle Archaeological Unit (CAU) carried out further work in the playground of the Primary School, in advance of the construction of an extension to the school (McCarthy 1999, 164). The earliest identifiable feature consisted of a turf deposit, overlain by a substantial deposit of clay; this turf deposit was either part of a rampart or perhaps evidence of the Turf Wall that predates the stone version of Hadrian's Wall to the west of the River Irthing. There were no obvious front or rear faces to this turf deposit, but it was located some metres south of the stone Hadrian's Wall discovered in the 1930s (Simpson and Hogg 1935). The walls located by Simpson and Hogg were not found, but stone and cobbled surfaces and rubble deposits were identified and were presumed to have belonged with the walls found in the 1930s. Timber buildings erected after the deposition of Huntcliff ware in the fourth century were also discovered (McCarthy 1999).

1.2.3 In 1997 and 1998, CAU dug two further trenches in a narrow passage immediately adjacent to the north-western side of the Victorian school, locating the inner ditch and the stone footings of the fort wall (McCarthy 1999). Other work in Stanwix in 1993 revealed two phases of walls and surfaces (CAU 1993).

1.2.4 In 1999 CAU undertook a further excavation, in the area of the proposed school extension, which revealed multiple phases of activity on the site within a relatively shallow deposit. The earliest deposits was an area of cobbling (Phase 1), cut by the beam slots of one timber building (Phase 2a), closely followed by those of a succeeding timber structure (Phase 2b). These timber buildings were replaced by one in stone (Phase 3), which were then subsequently remodelled (Phase 4). The site was then abandoned, and the site was stripped down to foundation level, which probably occurred in the late Roman period (Phase 5) and there was a subsequent accumulation of dark soils (Phase 6). Into these soils was set a large two phased timber building with 25 post holes (Phase 7), believed to be of early medieval date. This was then overlain by medieval garden soils (Phase 8) and then the construction of the Victorian Stanwix school (Phase 9) (CAU 2000).

1.3 OXFORD ARCHAEOLOGY

1.3.1 Oxford Archaeology has over 30 years of experience in professional archaeology, and can provide a professional and cost-effective service. We are the largest employer of archaeologists in the country (we currently have more than 200 members of staff) and can thus deploy considerable resources with extensive experience to deal with any archaeological obligations you or your clients may have. We have offices in Lancaster and Oxford, trading as Oxford Archaeology North (OA North), and Oxford Archaeology (OA) respectively, enabling us to provide a truly nationwide service. OA is an Institute of Field Archaeologists Registered Organisation (No 17), and is thus bound by the IFA's Code of Conduct and required to apply the IFA's quality standards.

1.3.2 Between our two offices our company has unrivalled experience of working on sites of all periods, and is recognised as one of the leading archaeological units in the country with regard to dealing with large-scale archaeological projects. OA North has considerable experience of the assessment, evaluation and excavation of sites of all periods, and has particular experience of archaeology in the

North West having undertaken in recent years excavation, survey, building recording and post-excavation projects in both urban and rural environments. Watching briefs, evaluations and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. In particular OA North has been involved in the archaeological evaluation and investigations at the Cumbria Institute of the Arts, since 2000, and has considerable experience of working on Hadrianic Wall sites.

2.1 AIMS

2.1.1 The principal aim is to evaluate the site to establish if the archaeology identified in the area by the 1999 programme of archaeological works has survived the subsequent development works on the site. The trench will establish the character, depth and period of any surviving stratigraphy and will inform the need for further mitigation works, including the potential for preservation in situ. A stratigraphic record of features and deposits will be made with a view to furthering our understanding of the Stanwix fort, the associated wall fortifications and any post-Roman activity on the site.

2.1.2 An archive for the project to the specification provided in *Appendices 3 and 6* of English Heritage's *Management of Archaeological Projects, 2nd edition* (MAP2), prepared during the excavation programme, and supplemented as necessary during any phase of analysis, will be prepared to professional standards for deposition in an appropriate repository.

3. METHOD STATEMENT

3.1 EVALUATION TRENCHING

3.1.1 ***Trial Trenching:*** the evaluation will entail the excavation of a single trench (3m x 1m) within the centre of the footprint for the proposed staffroom extension. The area of the proposed excavation has very restricted access and it is not possible to get a mechanical excavator to the site; consequently it will be necessary to excavate the site manually. It is proposed to use a pneumatic breaker in order to cut through the tarmac and thereafter excavation will be by manual techniques.

3.1.2 Following the removal of overburden the floor of the trench will be cleaned by hoe and manual excavation techniques will be used to evaluate any sensitive deposits; this will enable an assessment of the nature, date, survival and depth of deposits and features. The trenches will not be excavated deeper than 1.25m to accommodate health and safety constraints; any requirements to excavate below this depth will involve recosting. Spoil will be deposited adjacent to the trench in the limited areas available to the north of the proposed trench.

3.1.3 All features will be sample excavated and would entail the excavation of 50% of discrete features and 25% of linear features. Following manual excavation the floor and the sides of the trenches that require examination will be cleaned by hoe and trowel. All trenches will be excavated in a stratigraphical manner.

3.1.4 Trenches will be located by total station and archaeological features within the trenches will be planned by manual techniques.

3.1.5 ***Environmental Sampling:*** environmental samples (bulk samples of 30 litres volume, to be sub-sampled at a later stage) will be collected from stratified undisturbed deposits and will particularly target negative features (gullies, pits and ditches). An assessment of any environmental samples will be undertaken by the in-house palaeoecological specialist, following discussions and agreement from English Heritage's Advisor in Archaeological Sciences, and will examine the potential for further analysis. The assessment would examine the potential for macrofossil, arthropod, palynological and general biological analysis. The costs for the palaeoecological assessment are incorporated within the fixed price costs.

3.1.6 Samples will also be collected for technological, pedological and chronological analysis as appropriate. If necessary, access to conservation advice and facilities can be made available. OA North maintains close relationships with staff at the Universities of Durham and York and, in addition, employs artefact and palaeozoological specialists with considerable expertise in the investigation, excavation and finds management of sites of all periods and types, who are readily available for consultation.

3.1.7 ***Finds:*** finds recovery and sampling programmes will be in accordance with best practice (current IFA guidelines) and subject to expert advice. All material will be collected and identified by stratigraphic unit. Hand collection by stratigraphic unit will be the principal method of collection. The location of findspots for objects deemed to be of potential significance to the understanding, interpretation and dating of individual features, or of the site as a whole, will be recorded in 3-D. All finds will be treated in accordance with OA North standard practice, which is cognisant of IFA and UKIC Guidelines. In general this will mean that (where appropriate or safe to do so) finds are washed, dried, marked, bagged and packed in stable conditions; no attempt at conservation will be made unless special circumstances require prompt action. In such case guidance will be sought from conservator Jennifer Jones at Durham University. Finds storage during fieldwork and any site archive preparation will follow professional guidelines (UKIC).

3.1.8 ***Recording:*** all information identified in the course of the site works will be recorded stratigraphically, with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features. Primary records will be available for inspection at all times.

3.1.9 Results of the field investigation will be recorded using a paper system, adapted from that used by Centre for Archaeology of English Heritage. The archive will include both a photographic record and accurate large scale plans and sections at an appropriate scale (1:50, 1:20, and 1:10). All artefacts and ecofacts will be recorded using the same system, and will be handled and stored according to standard practice (following current Institute of Field Archaeologists guidelines) in order to minimise deterioration. Where stratified deposits are encountered a 'Harris' matrix will be compiled.

3.2 REPORT

3.2.1 ***Archive:*** the results of the fieldwork will form the basis of 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, which will be catalogued by context. A copy of the archive can also be made available for deposition with the National Archaeological Record. OA North practice is to deposit 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.

3.2.2 ***Report:*** one bound and one unbound copy of a written synthetic report will be submitted to the Client, and further copies will be submitted to English Heritage and the Cumbria County Council SMR. The report will include a copy of this 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 present an assessment of the sites history; the report will include photographs of any significant features. The report will also include a complete bibliography of sources from which data has been derived, and a list of further sources identified during the programme of work, but not examined in detail. The report will include a description of the methodology and the results. A list of the finds, and a description of the collective assemblage. Details of any environmental work undertaken will be included.

3.2.3 The report will have a summary and a methodological statement, and it will define any variations to the defined programme. It will include recommendations for further work. Illustrative material will include a location map, site map, historic maps, a trench location map, trench plans, survey plans and also pertinent photographs. The site plans will be at accepted scales (eg 1:10, 1:20, 1:50, 1:100, 1:250, 1:500 etc).

3.3 OTHER MATTERS

3.3.1 ***Health and Safety:*** OA North conforms to all health and safety guidelines as contained in the OA Manual of Health and Safety and the safety manual compiled by the Standing Conference of Archaeological Unit Managers. The work will be in accordance with Health and Safety at Work Act (1974), the Council for British Archaeology Handbook No. 6, *Safety in Archaeological Fieldwork* (1989).

3.3.2 Full regard will, of course, be given to all constraints (services etc) during the evaluation, as well as to all Health and Safety considerations. OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. A risk assessment will be completed in advance of the project's commencement. If there is a requirement to excavate trenches deeper than 1.25m the trenches will need to be shored as there is not the available room to step out the trenches. This would necessitate a variation to the costs. As a matter of course the Unit uses a U-Scan device prior to any excavation to test for services, but it is assumed that the client will provide any available information regarding services within the study area, if available.

3.3.3 Given the very limited area available for excavation, the area will need to be closed off to all persons with the exception of the excavation staff in order to ensure their safety. The door extending out from the school building into the area of the proposed excavation is a fire door, and consequently alternative arrangements will need to be made to ensure that alternative fire exits are available and are adequately signed. There will be no access to the sheds for school staff during the excavation because of the risk of falling in the open trench which will be directly in front of the school door.

3.3.4 There is only very restricted access to the area of the development, but these will need to be closed off by means of fence panels to prevent school children gaining access to the site.

3.3.5 ***Reinstatement:*** the site will need to be reinstated following the excavation and this will be the responsibility of the client.

3.3.6 ***Insurance:*** the insurance in respect of claims for personal injury to or the death of any person under a contract of service with the unit and arising out of an in the course of such person's employment shall comply with the employers' liability (Compulsory Insurance) Act 1969 and any statutory orders made there under. OA North has professional indemnity to a value of £2,000,000, employer's liability cover to a value of £10,000,000 and public liability to a value of £15,000,000. Written details of insurance cover can be provided if required.

3.3.7 ***Working Hours:*** normal OA North working hours are between 9.00 am and 5.00 pm, Monday to Friday, though adjustments to hours may be made to maximise daylight working time in winter and to meet travel requirements. It is not normal practice for OA North staff to be asked to work weekends or bank holidays and should the client require such time to be worked during the course of a project a contract variation to cover additional costs will be necessary.

3.3.8 ***Confidentiality:*** the report is designed as a document for the specific use of the Client, for the particular purpose as defined in the project design, and should be treated as such; it is not suitable for publication as an academic report, 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.

3.3.9 ***Project Monitoring:*** OA North will consult with the client regarding access to the site. Whilst the work is undertaken for the client, the English Heritage inspector will be kept fully informed of the work and its results. Any proposed changes to the project design will be agreed with the English Heritage Inspector in consultation with the Client.

4. WORK PROGRAMME

4.1 The following programme is proposed:

Evaluation Trenching

Five days will be required to complete this element

Report

A ten day period would be required to complete this element

4.2 OA North can execute projects at short notice once an agreement has been signed with the client.

4.3 The project will be managed by **Jamie Quartermaine BA Surv Dip MIFA** (Unit Project Manager) to whom all correspondence should be addressed. OA North adheres by the IFA's Code of Conduct and the Code of Approved Practice for the regulation of Contractual Arrangements in Field Archaeology. The fieldwork will be undertaken by **Matt Town** BA, (OA North Project Officer).

4.4 The processing and assessment of the palaeoenvironmental samples will be carried out by **Elizabeth Huckerby** BA, MSc (OA North Project Officer), who has extensive experience of the palaeoecology of the North West, having been one of the principal palaeoenvironmentalists in the English Heritage-funded North West Wetlands Survey. Assessment of any finds from the excavation will be undertaken by OA North's in-house finds specialist **Chris Howard-Davis**, BA, MIFA.

APPENDIX 2: SUMMARY CONTEXT LIST

Context No	DESCRIPTION	Depth
01	Tarmac And Concrete	0.12m
02	Sub-Base	0.23m
03	Terram	5mm
04	School Construction Deposit	0.20m
05	Garden Soils	0.30m
06	Cobbled Surface	0.30m
07	Pipe Trench Cut	0.65m
08	Pipe Trench Fill	0.65m
09	Ditch Cut	0.40m
10	Ditch Fill	0.40m
11	Concrete Foundation	0.10m
12	Natural Drift Geology	-

APPENDIX 3: FINDS

Context	Quantity	Material	Description	Date range
4	7	Pottery	Brown-glazed red earthenware, including jar rim	Late seventeenth - early twentieth century
4	1	Pottery	Mottled ware	Eighteenth century
4	3	Pottery	Tin-glazed earthenware, including dish or plate rim with blue painted pattern on upper and lower surface, and ochre rim	Eighteenth century
4	1	Pottery	Greyware	Roman?
4	6	Pottery	White salt-glazed stoneware, including base of hollow-ware vessel and bowl rim	Eighteenth century
4	7	Pottery	White earthenware, including transfer-printed patterns 'Willow' and 'Broseley', factory-made slipware hollow-ware vessel, tea bowl or bowl rim with blue painted pattern, and fragment decorated with painted enamels in earth colours	Late eighteenth - twentieth century
4	1	Pottery	Beige-glazed earthenware pie dish base	Late eighteenth - twentieth century
4	8	Clay tobacco pipe	Stems with medium bores, including crudely finished glazed mouthpiece	Eighteenth - early twentieth century
4	2	Ceramic building material	Curved tiles or drains with very smooth concave surface	Post-medieval?
4	3	Ceramic building material	Brick fragments with lots of rounded pebble inclusions up to 20mm long	Medieval or post-medieval?
4	5	Ceramic building material	Sand-cast tiles, broken and abraded	Medieval or post-medieval?
4	1	Ceramic building material	Surface of brick or tile	Not closely dateable
4	1	Ceramic	Abraded and broken fragment, probably part of tiles	Medieval or post-medieval?
4	1	Glass	Dark olive green wine bottle base, approximately 10mm thick	Eighteenth - twentieth century
4	1	Iron and coal	Very corroded iron object with lump of burnt coal attached	Not closely dateable
4	1	Bone	Butchered large mammal rib?	Not closely dateable
5	2	Pottery	Mottled ware, including hollow-ware base	Eighteenth century
5	2	Pottery	Brown-glazed red earthenware	Late seventeenth - early twentieth century
5	4	Pottery	White earthenware, including plate base and fragment with pink and blue painted enamels	Late eighteenth - twentieth century
5	1	Pottery	White salt-glazed stoneware from tankard with two horizontal grooves	Eighteenth century

Context	Quantity	Material	Description	Date range
5	1	Pottery	Tin-glazed earthenware bowl rim	Eighteenth century
5	2	Pottery	Bone china carinated cup(?) with 'Broseley' transfer-printed pattern	Late eighteenth - twentieth century
5	10	Clay tobacco pipe	Stems with medium bore	Eighteenth - early twentieth century
5	8	Ceramic building material	Sand-cast tiles, including corner and curved tile	Medieval or post-medieval?
5	1	Glass	Dark olive green bottle	Eighteenth - twentieth century
5	5	Bone	Large mammal fragments	Not closely dateable
8	1	Ceramic building material	Brick or tile	Medieval or post-medieval?
10	1	Pottery	Red gritty ware, Carlisle fabric 1	Twelfth - thirteenth century
10	23	Ceramic building material	Sand-cast tiles, including an edge and a possible curved tile	Medieval or post-medieval?

ILLUSTRATIONS

PLATES

Plate 1: Removing the tarmac and concrete, ***01,*** with a breaker

Plate 2: Terram membrane ***03*** uncovered on removal of sub-base ***02***, facing west

Plate 3: School construction levels, ***04,*** uncovered on removal of terram, ***03***, facing west

Plate 4: Garden soils, ***05,*** on removal of school construction levels, ***04***, facing west

Plate 5: Cobble surface ***06*** on excavation of ditch, ***09,*** and pipe trench, ***07***, facing west

Plate 6: Detail of cobble surface, ***06***, facing south

Plate 7: South-facing section of trench, facing north-east

