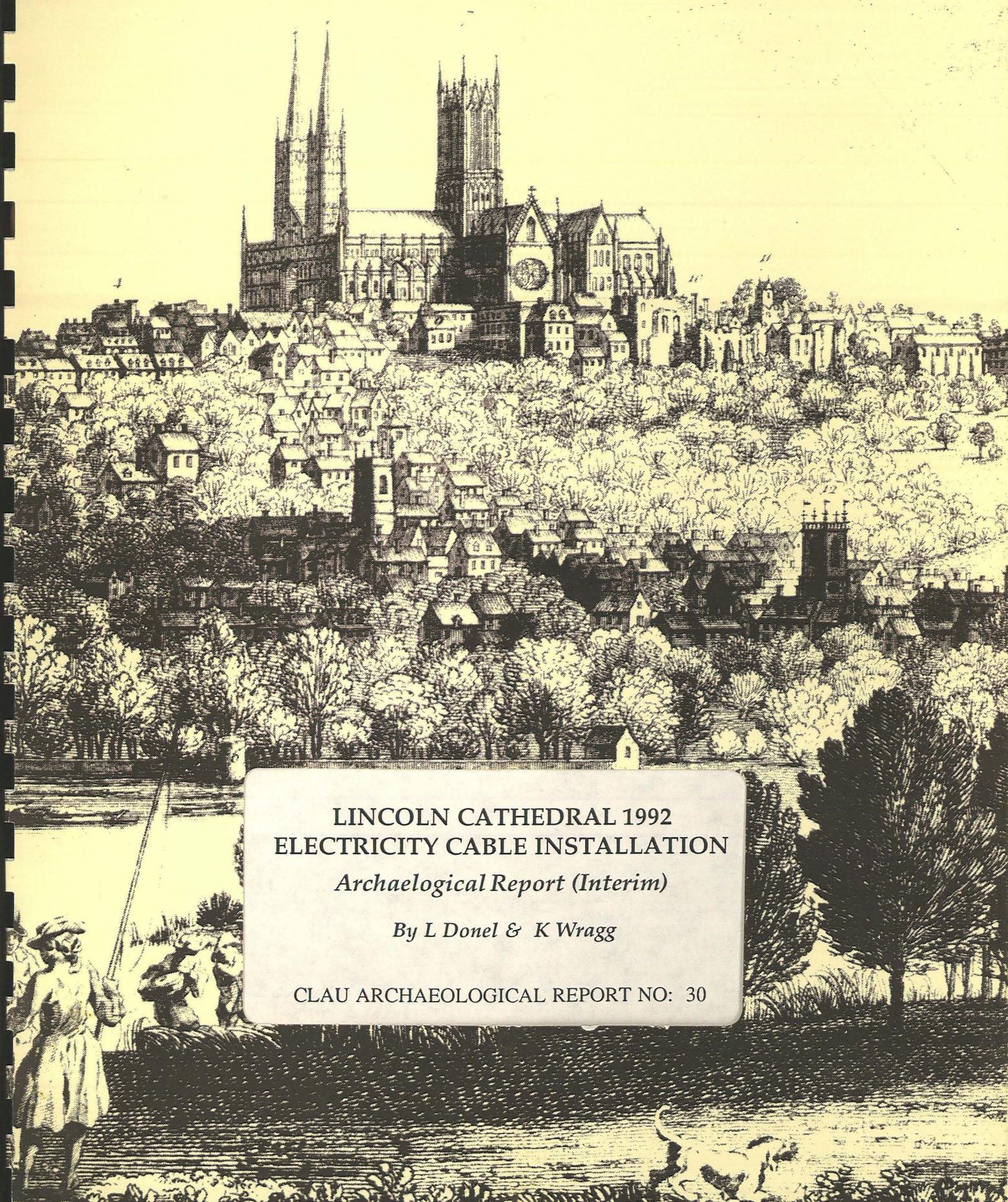


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LINCOLN CATHEDRAL 1992  
ELECTRICITY CABLE INSTALLATION  
*Archaeological Report (Interim)*

*By L Donel & K Wragg*

CLAU ARCHAEOLOGICAL REPORT NO: 30

**A Report to The Dean & Chapter, Lincoln Cathedral**

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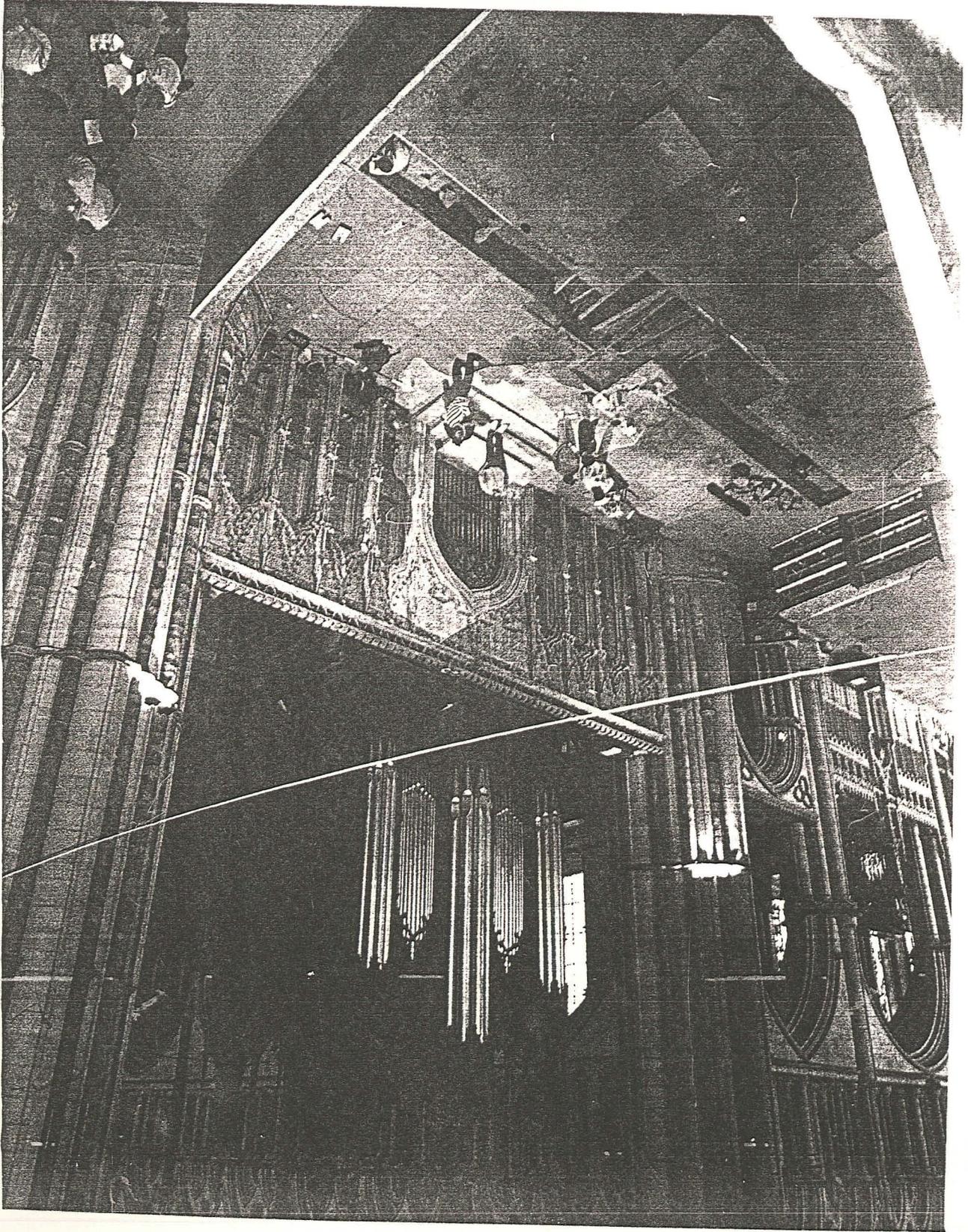
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Fig. 1



**LINCOLN CATHEDRAL 1992 ELECTRICITY CABLE INSTALLATION  
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# LINCOLN CATHEDRAL ELECTRICITY CABLE INSTALLATION

## *Archaeological Report (Interim)*

### 1.0 INTRODUCTION

Prior to installation of new electricity cabling, the CLAU was asked by Lincoln Cathedral to carry out archaeological investigation on the line of the new cable trenches to be laid internally across the Transepts and Nave of the Cathedral and externally across the Dean's Green, the Cathedral School yard and the West front. The work was carried out intermittently between February to September 1992, being suspended during special events, and progressing according to the demands of the Dean and Chapter and East Midlands Electricity.

Originally the CLAU had been asked to undertake an intermittent watching brief inside the Cathedral as the cable was to be laid in existing duct work. When this proved impractical, a more intensive watching brief was required with some excavation internally. The external trenches in the Dean's Green and Cathedral School Yard were fully excavated by the Unit. A watching brief was also carried out at the West Front and on the north-east lawn (Fig.2).

Recording was limited to the service trenching (800mm wide x 300-500mm deep), although some areas were enlarged both for archaeological requirements and facility of cable laying. The size of the trenches necessitated a certain archaeological recording strategy and method. It also restricted the amount of material that could be viewed, recorded, and retrieved. The nature of the work determined the response to burial recording. All trenches were planned, drawn in section and photographed in their entirety.

Although no previous archaeological work had been carried out by the Unit in internal Areas I, II and VI, some investigations have been undertaken within and without the Cathedral since 1983 (fig.3). Brief descriptions of this work can be found in the Annual Reports of the Unit as well as in the Unit's Archive Catalogue (new edition 1992).

The present report forms an interim record of the field work undertaken, as much of the finds material still is undergoing analysis (see appendix I). The information in this document is presented with the proviso that further data may yet emerge. The Unit, its members and employees cannot, therefore, be held responsible for any loss, delay or damage, material or otherwise, arising out of this report. The document has been prepared in accordance with the terms of the Unit's Articles of Association, the Code of Conduct of the Institute of Field Archaeologists, and *The Management of Archaeological Projects* (English Heritage, 1991).

## 2.0 INTERNAL EXCAVATIONS

### 2.1 Introduction

Because the existing duct-work through the N. transept and Nave was found not to be capable of dealing with the new cabling to be installed, it was decided that a new trench would be cut parallel and to the W. of the existing duct-work. All excavation was carried out by hand.

A trial pit and trench in Area I revealed a portion of a stone chamber directly to the NW of the steps to the Angel Choir(Fig.6) This was not investigated further and the final trench was subsequently sited further to the W.

The trenching in Areas I and II ran N-S along the N. Transept, past the Crossing (in front of the Angel Choir) and then southwards into the existing ductwork along the S. Transept. Three extensions, one at the N. end of the N. Transept running E-W, one at the Angel Choir Crossing also running E-W and a third which ran E-W from the existing duct in the S. Transept into the St. Anne's Chapel were also excavated(Fig.4). A second set of trenches was excavated in the northern floor of the Cloister(Area V)(Fig.5).

The trenches in Area II measured 800mm wide x 600mm deep across the N. transept diminishing to 800mm x 300mm at the Angel Choir and into St. Anne's Chapel. The trench width increased in four areas: 1) The N. end of the N. Transept to accommodate cable bending; 2) the N. Transept at stone coffin burial(127); 3) in front of the Angel Choir to accommodate the recording of the stone coffins and 4) at the S. of the Crossing to accommodate cable bending into the existing duct work of the S. Transept.

The trenching in the Cloister(Area V) linked the external cabling work with the internal via a route through a doorway in the N. wall of the Cloister. The trench was excavated southwards for 5m, and then turned E. to link with the existing ductwork in the Cloister area. The trenches measured 500-800mm wide x 300mm deep.

### 2.2 The N. Transept (Area II)

The earliest features revealed by the trenching were structural remains probably of the Romanesque church. These sealed layers of light brown sandy earth (161) which appear to occur over the whole of this site. At the S. end of the trench a fragment of stylobate(126) was exposed. Consisting of three courses of well mortared limestone blocks, the feature had been sealed by a layer of burnt wood, limestone chips and soil(111). Layer(111) and structure (126) were both cut by inhumation(129/172). Only part of the burial was revealed. Lying E-W, the body had

been placed directly into (126). There were no grave goods visibly associated with this burial(Figs.7,8).

Lying to the N. of (126) were the remains of a stone flagged floor(118/125). The floor was constructed of well made regular limestone slabs measuring 400mm. x 400mm. x 200mm. Floor(118) was sealed by a layer of burnt material(112). Also sealing this feature was a deposit of lead(113) which had resolidified and which filled the joints between the floor slabs. Flooring(125) to the N. had also been sealed by burnt material(112), the burning having marked and reddened the stone. After clearing the floor the burnt pattern appeared to have represented a beam lying N-S on the slabs. There was no trace of the beam itself(Fig.7).

Approximately 4.57m to the N. of floor(118/125) was another wall(141), running E-W across the trench. The wall, c.2m wide, showed a well made S. face composed of two courses of well mortared regular limestone blocks whereas the N. face was composed of rough, large, less well mortared limestone blocks. It is possible that this represents an enlargement of the wall at some point in time, though there was no dating evidence associated with (141). To the west was an extension(149) running southwards which may have formed part of a step at the entrance to the C12th N. transept. The eastern side of the wall had been cut by a modern family tomb. The size of the trench limited any real investigation and analysis of this portion of wall(Fig.9).

To the south of wall(141) and butting directly up to it was an inhumation in a stone coffin(127). The burial was lying E/W. Although the coffin slab was oriented with the head to the east, the actual burial had its head to the west.(The burials are described in detail later in the text.)

To the north of wall (141), the earliest layers changed to a medium compact dark brown sandy earth(131). These appeared to be deposits external to the Romanesque church, and cutting into them was a badly preserved E/W wall which may have formed part of an external porch. No other structural features were recovered to the north of wall (162) although there was evidence of burials on either side of it. Owing to the homogeneous nature of the deposits and the lack of dating material, it is impossible to date these burials. Sealing the structures and the burials was a series of make-up deposits which acted as bedding for the modern(C18th.)slab floor(Fig.10).

### 2.3 The Nave (Areas I & II)

Trenching directly to the W. of the Angel Choir revealed only one intact feature, an E-W stylobate(173) at the S. end of the trench. Because the ducting trench was only cut to 300mm deep in this

area it is impossible to say how many courses remained of this feature. It had, however, been cut into by an inhumation burial which included the insertion into its core of a full stone coffin(318). There was no evidence of a grave slab, the burial having been covered by irregular limestone blocks mortared into place. Fragments of early floor (332) were also uncovered lying to the SE of feature(173). Floor (332) is another fragment of floor (118/125) which was uncovered in the N. transept. The area directly to the W. of the Angel Choir steps had been completely disturbed by five inhumations; four in stone coffins, the fifth in a lead coffin placed into a wooden coffin. Although the floor was no longer present, there was evidence of a continuous layer of burning(331) which sealed a possible surface(194) which may have been associated with the earlier floor. This layer and the surface had been cut by the stone coffins(see Burials). The lead coffin, however, appeared to have been sealed by surface(194)(Figs.11,12).

An E-W trench was cut from the S. end of the main trench to link with distribution board F, sited in the Angel Choir. It revealed remnants of an earlier stone slab floor(330) probably the same floor as(118/125/332) and an E-W wall(333) both of which had subsequently been sealed by the foundations(328) for one of the pillars of the Angel Choir. There was evidence of burning at the interface of these three features which may indicate that floor(330) is the same as (125/118), but no dating evidence was found to confirm this.

#### **2.4 St. Anne's Chapel(Area VI)**

An area c.800m wide x 300mm deep was opened at the S. end of the chapel to accommodate cable which would link the internal electricity supply with the outside. The shallow trench revealed the foundations for the S. wall of the chapel(323). The stratigraphy sealing the foundations appeared to consist of bedding material for the modern floor. The insertion of a modern pipe(329) had also disturbed this area.

#### **2.5 The Cloister(Area V)**

A trench was cut through the doorway at the N wall of the Cloister to lay internal cable which would link the external electricity cables to an existing duct located at the E. side of the Cloister. The 'L' shaped trench revealed only a layer of light brown soil(334) which was overlain by bedding material(335) for the present slab floor(336)(Fig.6).

### 3.0 BURIALS

All burials were examined and recorded, but because of constraints in terms of the care, handling and disturbance of these burials, analysis was limited. All inhumations were replaced in their original positions in the trench, the remains having been identified and their positions recorded for any future intervention work.

#### 3.1 N. Transept

Because of the size and nature of the trench and because of previous disturbance, few burials were found intact within the area of the early N. Transept. The earliest inhumations cut into a light brown earth(161) sealed by stone coffin(127).

The stone coffin (127) contained an articulated skeleton lying with its head to the West. The head and upper left arm, however, were missing from the coffin. As fragments of bone and teeth were present in the head area, it is possible that the skull had been crushed by the weight of infill material which was found at the head and feet of the coffin. This infill appears to have been deposited by the removal of the original grave slab and the substitution of one that did not fit the coffin securely. It is possible that the original had been broken during the work to lay the new floor in the C18th. The teeth, as well as some of the bones, were covered by a purple crystalline material. They also appeared to have exploded at the 'roots' giving the impression of 'popcorn'. It is possible that some process in the embalming may have caused the deterioration of the skull, the purple material representing a residue of this process(Fig.13).

The body(151) had been wrapped in textile, with the exception of the lower legs and feet, however, which were kept free of wrappings. The feet appeared to have been re-arranged, possibly when the coffin was opened in the C18th. Samples were taken of textiles, embalming residue, infill material and metal objects. The body was also viewed, in situ, by pathologists(see appendix I)

Although the coffin slab had been removed, there was no evidence that the corpse had ever been subjected to any movement. Its position, only 4cm. away from wall(141)of the early N. Transept, and the lack of disturbance to the body and its wrappings, would make it appear that this burial was placed in position during the life of the Romanesque church. Interim information on the textiles and the coffin type has dated this burial approximately to the 12th century. Until further analysis of the textiles can be carried out, it is impossible to determine whether the burial was of a priest or of a wealthy patron of the church.

A number of later burials, possibly Post Medieval in date, sealed the makeup deposits as well as the remnants of early floors. Although coffin nails were found in these deposits, there were no coffins associated with any of the burials except for one wooden coffin found to the S. of floor(118). Analysis of the coffin fittings is being carried out. Full excavation was not practicable since the coffin lay at the lower limit of the duct trench and was not to be disturbed by the works programme.

#### 3.2 The Nave

There was a gap of c.5m. between the N. transept and the area in front of the Angel Choir steps which provided no real burial information at all. The material below the modern slab appeared as an homogeneous light brown sandy earth containing fragments of limestone, tile and fragments of bone. There were no intact burials in this area.

However, between the steps and stone feature(173) a series of stone coffin burials and one lead coffin burial was uncovered. Because the burials lay on what was then the line of the ducting and it was expected that they would have to be lifted, it was decided to investigate them as thoroughly as possible in the short time allowed before any disturbance occurred. Subsequently it was decided that the cable would be laid over the graves. After consultation with the Cathedral Archaeological Consultant, two of the burials, with coffin coverings intact were retained without any archaeological investigation(fig.). The lead coffin was uncovered during the original excavation work in an attempt to bore beneath the stone coffins(Figs.1,12).

In order to examine the burials, the area was widened. Two of the coffins (179/184) (181/183) were then examined in detail. The third (180/182) was only investigated on the trench line, revealing the feet and legs.

Burials (179/184) and (181/183) lay E-W with the head to the west. Stone coffin (184) had narrow sides with a shaped head "aperture" flush with the top of the coffin. The coffin was intact. Coffin (183) was thick sided with its head "aperture" approximately 1.3m below the top edge of the coffin and had cracked into two halfway along its length. Remains of a chalice and paten were evident at the right shoulder area of this burial; a paten being present on the right shoulder of (179). Although neither burial showed evidence of having been moved, the chalice and paten of (181) appeared to have been lifted and replaced as they lay on infill material which had filled the coffin. The paten of (179) lay directly on the shoulder of the corpse. It is possible that (181) was disturbed during the C18th when the new floor was laid. Burial (180/182) also

lying E-W with the head to the west, was not fully excavated, only the legs and feet being revealed. Coffin (182) had a crack halfway along its length as well as damage to the coffin foot where stone had been broken off. Samples were taken of textile, metal and embalming material from each of these burials (Figs 15, 16, 17).

Burial (196) lay to the N. of coffin (179) (Fig. 12). It was also orientated E-W with the head to the west. However, since the slab was virtually intact, it was not touched, the decision having been made to run the cable over the coffin rather than below it. Nevertheless, it was possible to see inside through part of the broken slab to the corpse beneath. Although the head area was covered in infill material, the rest of the skeleton appeared to be intact with vestiges of textile and embalming material evident as well as a pair of leather shoes.

Burial (191) cut into stone feature (173) (Fig. 11). Orientated E-W with the head to the west, the skeleton lay in a stone coffin which had been placed in a cavity cut into the core of the stylobate. This had then been covered by limestone pieces mortared into place. A gap in the cover allowed a limited view of the skeleton beneath. The skeleton appeared intact with good preservation, as well, of textile and leather material. A chalice lay on the right shoulder. It was not investigated in detail as the ducting would cause no disturbance to the burial (Fig. 11).

Burials (179), (181) and (180) cut (331) a layer of burnt material which sealed possible surface (194). It is possible that these layers are associated with the earlier church and the fire of 1141. There was no evidence of an earlier floor, but this was expected as the coffin slabs would have been incorporated the floor. Evidence of the floor was uncovered to the S. and E. of (173). The stone coffin burials have been provisionally dated to the C14th (Figs. 11, 12), the dating being based on coffin shape and subsequent abandonment of this method after the C14th.

Burial (177) lay to the N of the group of stone coffins (Fig. 12, 14). The body had been interred in an anthropoid lead coffin placed inside a wooden coffin. This burial appears to have been sealed by surface (194) which would then suggest an earlier context than the stone coffins which cut (194). However, one opinion on the lead coffin has dated it to the C16th. The fact that there was no continuation to the N. of the same stratigraphic sequence and because the coffin was retained in situ, coupled with the restricted nature of the trenching and the lack of firmly dated layers, the dating of this burial is left as highly questionable. There are several options presented: 1) the burial is earlier; 2) the understanding of the stratigraphy is incorrect, primarily due to the lack of dating evidence; 3) the stone coffin burials were reburials in

the nave and the surface and burning layers are of a later period than the Romanesque church. Resolution is problematical until there is the chance to carry out further investigation at some later date.

#### 4.0 CONCLUSIONS: INTERNAL WORKS

The shallow nature of the stratigraphy within the Cathedral has provided the archaeologist with a glimpse of the remains of the Romanesque church which lie not far below the modern floor slab. The investigations have also yielded information which can be used to fill in gaps in our knowledge of the church: the use of stone slab for the early floor; the evidence of fire destruction; the extent of preservation of structural features; burials to be added to the blank space on burial maps held by the Cathedral; and a view of the archaeological material which can be used as a basis for further work to be undertaken by the Cathedral in these areas. The preservation of parts of the floor of the Romanesque church, the fragments of stylobate, the walls in the N. Transept and the good preservation of burial material are all elements that need to be considered when gauging the impact of any necessary future disturbance to the church.

This was counter balanced by the lack of good dating evidence for many of the archaeological deposits which has restricted our understanding of some of the features uncovered. Certainly a great deal of damage to earlier levels was caused during the C18th when the present floor was laid, destroying remains of the later Medieval and Post medieval burials and some structural remains.

Although the excavations in themselves were severely limited in nature, they have provided us with not only verification of internal structural features but also have filled gaps in our knowledge of general burial techniques, embalming techniques, textile analysis, glass analysis and forensic information which will not only aid any future work in Lincoln but will add to the national picture.

## 5.0 EXTERNAL TRENCHING

### 5.1 Introduction

This part of the excavations took place largely in the lawned area to the north of the Cathedral nave, an area known as the Dean's Green. It extended both into the Cathedral School playground to the east, and around the West Front. In all 170m of trench 1m. wide was excavated to an approximate depth of 500mm; a small area of trench at the eastern end of the school playground reached a maximum depth of 2.5m.

The trenches were excavated both by hand, and (for topsoil) by means of a small mechanical excavator, supervised and operated by members of the C.L.A.U. Extreme care had to be exercised owing to the presence of various services across the site, including some whose existence only came to light in the jaws of the machine.

A further complication on this site was the possibility of encountering burials. It had been agreed that should human remains be encountered, they would be collected and stored until careful reburial, in the original location, could be achieved, thus causing the least disturbance possible.

As previously mentioned, a further trench was excavated by the Cathedral works department across the West Front of the Cathedral. As elsewhere this was of a depth of around 500mm, with all work observed and recorded by C.L.A.U. The Dean's Green is referred to below as area III, with the West Front as area IV. A further small trench dug in the lawn to the north-east of the Cathedral (adjacent to Tennyson's statue) was designated area VII.

Little in the way of modern archaeological investigations had taken place in this area prior to the project, the only exceptions being Dean's Green 1983 (site code DG83), and Cathedral North 1989 (site code CN89). Both of these excavations were quite small scale, with DG83 consisting of a 750mm x 750mm trench 65m long, excavated for the insertion of a new lightning conductor strip, while CN89 comprised two small trial holes excavated either side of the Cloister north wall. Results produced by both of these investigations provided details of the wall foundations, with DG83 further uncovering foundations of a possible defensive structure dating from the 11th century. This structure appeared to run north or north-east to protect the north flank of the Cathedral. Subsequent 12th century, and later, building and rebuilding were also identified.

### 5.2 Results

#### The Dean's Green (area III)

The earliest deposits encountered were seen at limit of excavation (L.O.E.) across the whole area, and

consisted of layers of mid-dark grey/brown earth and clay containing mortar and limestone rubble. One layer, [214], also contained tile, animal bone and traces of charcoal. Two small sections of wall were also seen at L.O.E. The first, [205], was oriented N-S, at a point approximately mid way along the the E-W section of the trench (see fig.18. for plan). Only one course was revealed, and the wall was seen to be only 300mm thick, possibly indicating a garden wall or similar rather than a structure. The second wall, [233]/[268], was of more substantial construction, and was made up of roughly faced limestone blocks bonded with grey mortar, to the south, with the north face made up of a, single course thick, brick wall [266]. Enclosed by the two faces of the wall was [267], a mix of masonry and mortar forming the wall core.

Overlying the earth/clay and rubble layers, and wall [205] (and present throughout the southernmost E-W trench) was [202], a grey-brown clayey earth containing quantities of brick and tile and one bronze Roman coin. This layer was in turn sealed by a series of sand and earth layers, again containing mortar and limestone pieces (some burnt). [202] was also sealed by [220]/[221], layers of dump/demolition material made up of limestone, tile and mortar, mixed with mid brown earth. At the western end of this area several layers of clayey earth were seen, also containing rubble etc, although more modern materials, including pieces of concrete paving slab were also included in these layers.

-In the central area of the E-W trench, the series of sand and earth layers overlying [202], were in turn sealed by a layer of yellow-brown sand containing small pieces of limestone, [262], and a layer of very dark grey-brown earth containing mortar flecks and limestone pieces, [296]. These layers were then sealed by two layers, the earliest being [204], limestone fragments, which was subsequently overlain by [203], a dark grey-brown clayey earth containing tile pieces.

Above these layers of sand and earth, the only human remains found during the external works were noted, consisting of partial remains of possibly five individuals being disturbed by trenching. The skeletons were largely disarticulated with no evidence of coffins or clothing noted. Remains were carefully stored, and re-interred at the original location, as soon as conditions allowed. It appeared that the remains had already been reburied at the site, and therefore detailed investigation, with the associated delay and disturbance, was not considered of primary importance. The only dating material recovered from amongst the remains was tile dating from the early-mid 16th century.

Overlying [203], and the burials, were two layers of limestone, mortar and earth, [256] and [201]. [201]

was present over the majority of the southern half of the trench, and was cut by a number of modern, linear service trenches (five in total), containing assorted water pipes and electrical cables. [201] was also sealed by a small cut, [240], filled with mid-dark grey brown earth containing small pieces of limestone, [239]. A concentration of limestone blocks, [217], forming a "V" shaped feature, possibly a drain, was also cut into [201]. In addition to the features already described, [201] was also sealed by several deposits, which can be summarised as follows. Towards the west, three layers of earth and ash were recorded, mixed with limestone, tile, slag and clinker, while further to the east, a layer of limestone, tile and grey-brown earth, [258], was seen surrounding the walls of the North Transept. The final deposit seen to seal [201] was a layer of friable mid grey-brown earth, containing pieces and flecks of limestone, and very occasional small tile pieces.

Layer [250] was in turn cut by a linear feature, [253], which was at least 500mm deep and contained two distinct fills. The earlier fill, [252], was a mid brown sandy earth containing limestone (some burnt), and several pieces of broken brick and tile. Above this, a later fill, [253], was recorded, this being a mid brown sandy earth containing limestone and occasional small pieces of bone.

Towards the northern end of area III (adjacent to the west end of the Cloister), the earth/clay and rubble layers, and wall [233]/[268], were sealed by a layer of demolition material, [271]. This layer consisted of a grey-brown sandy earth containing limestone pieces, slate, tile fragments and crushed mortar. Overlying [271], were two layers of sand containing no inclusions. South of wall [233]/[268], the rubble layers were also sealed by a surface made up of crushed limestone, pieces of limestone and tile fragments, [212]. Both sand layers and limestone surface were ultimately sealed by a series of six layers of grey-brown sandy earth, and orange sand. In general, these layers all contained demolition material, including pieces of limestone, tile, degraded mortar, shell, pebbles, brick and charcoal flecks.

The six layers of demolition debris at the north end of area III, together with all of the features, and layers, sealing [201] (and two layers of rubble [220]/[221]), were all beneath the layer of topsoil and turf, [200]. This layer was present over the majority of the area, and was itself sealed by a layer of earth mixed with ash and clinker, [222], present at the western end of area III. This was then cut by a modern service trench containing a large ceramic drainpipe, which was in turn sealed by the rough limestone driveway [215], which formed the surface layer at the western extreme of the area.

#### Cathedral West Front (area IV).

The stratigraphy encountered along the west front of the Cathedral (see fig.19. for ground plan) was markedly different from that seen towards the north (area III). Earliest features recorded were three concentrations of limestone. Of these, [289] was a large unworked slab standing on edge, oriented E-W and cut by both sections. [291] was a concentration of approximately 15 large blocks lying randomly at L.O.E., and the final group of stones, [276], was an apparently linear feature, oriented E-W, forming a possible channel, topped with broken stones/slabs.

Also seen at L.O.E. was a layer of orange/yellow-brown sandy clay containing no inclusions, [279], and a brick built feature made up of two parallel brick walls, [284]/[285], approximately 1.0m apart, enclosing [283], a light brown sandy clay containing limestone fragments, brick and tile.

Lying above the three limestone concentrations, and also above part of the brick feature, were a series of seven dump/levelling layers present over most of the (west front) trench. These layers were mixed earths, sands and clays containing limestone pieces, brick/tile, pebbles, bone, pot and slate. Layer [279], and again part of the brick feature, were sealed by [282], an irregular linear cut, and a small pit, [280], and its fill [281], a yellow-brown sandy clay containing limestone, pebbles and broken tile.

Overlying cuts [282] and [280]/[281], and also the seven levelling layers, was a shallow layer of very dark brown earth, [277], used as bedding for the flagstone paving, [275], forming the surface around the west front.

At the north-west corner of the Cathedral, trenching continued, via a small tunnel beneath a set of stone steps, around to the east to connect with area III. Between the steps and area III, the stratigraphy consisted of a thin lense of mid brown sandy earth, [294], containing limestone, tile, pebbles and concrete pieces. This was sealed by [293], a layer of sandy mortar, which was in turn sealed by [292], a layer of Yorkstone sets forming a driveway linking the modern street and the Dean's Green. At the boundary between areas III and IV, [292] was seen to lie, in part, beneath the rough drive surface [215].

#### North-East Lawn (West of Tennyson's statue) (area VII)

As previously mentioned, in addition to the trenches on the Dean's Green and Cathedral west front, another small trench, approximately 600mm wide and 500mm deep, was excavated to the north-east of the Cathedral, adjacent to Tennyson's statue. Very little of note was seen in this area, with the stratigraphy consisting of a

layer of homogeneous topsoil/garden soil material from surface to L.O.E. The only feature recorded was a well, originally open but since blocked, seemingly Post Medieval or Modern, although no finds were recovered.

### **5.3 Conclusions: External Works**

During the project it became clear that any important surviving archaeological remains lay beyond our limit of excavation (i.e. over 500mm below the present ground surface), with evidence of walls, surfaces and cuts visible in the base of the trenches. The material which was removed during trenching was mainly dump/levelling deposits, heavily disturbed by modern service insertions, and the construction of access tracks etc. Coupled with an almost total lack of any dateable finds, detailed interpretation of the land usage is impossible. It was however apparent that archaeological remains exist relatively close to the surface throughout the area of the excavation, especially close to the Cathedral.

## 6.0 GENERAL CONCLUSIONS AND RECOMMENDATIONS

The information retrieved from the archaeological investigation is highly important to our knowledge of Medieval and Post Medieval burial techniques, to cite but one aspect of the discoveries, and to our approach to dealing with the material once it has been excavated.

Because of the extent of preservation of structural and burial material, it would be most useful that the Cathedral have a comprehensive database and methods/policy statement for approach to archaeological intervention and recording so that it is able to manage these projects easily when they arise, whether pre-planned or crisis. This presupposes that research is as important an element as response to intervention works.

The next step in our work will be a post excavation assessment for the finds of COW92 which would outline and define the post excavation requirements as well as their importance for any comprehensive/further work on the finds. This should ideally be followed by an archaeological assessment of the Cathedral as a whole, including its grounds, which would provide a basis for management strategy in the future.

## 7.0 ACKNOWLEDGEMENTS

The CLAU would like to thank the Dean and Chapter of Lincoln Cathedral and Dr.L.Butler, The Cathedral Archaeological Consultant. Especial thanks to Gerald Burbage and Mick O'Connor of the Clerk of Works Office, Lincoln Cathedral and their team for providing access and accommodation during the project. Our thanks to John Campbell for putting up with all the disruption amidst Cathedral functions. Thanks also to the field and post excavation teams of the CLAU who carried out the archaeological work with good humour under somewhat trying and hectic circumstances and to all the specialists who provided us with information and advice during the project.

# APPENDIX A

## THE FINDS FROM THE 1992 CATHEDRAL EXCAVATION

During the 1992 excavations at the Cathedral (COW92) two hundred accessioned finds were recovered and fifty-nine samples taken. These have been recorded on the City of Lincoln Unit (CLAU) recording sheets/cards and database. The majority of the finds are associated with the five burials uncovered, which were exceptionally well preserved because all the bodies had been embalmed before they were interred. This is a particularly exciting assemblage to have recovered from a Cathedral and one that, as will be explained, is unparalleled.

Perhaps the most important aspect of the site is the opportunity afforded to try and understand how embalming was undertaken, for this reason a large number of discreet samples of the embalming substance were taken from all five cadavers. Organic chemistry, as applied to forensic and archaeological studies is still in its infancy, and these samples from the medieval bodies are the first to be studied using these methods. Detailed analysis of organic compounds demands that there is no contamination by contemporary modern organics in the environment, so with this in mind all samples were taken and stored in glass test tubes with tin foil seals. They were then immediately taken to a special deep freeze store in Bradford to ensure there would be no deterioration or risk from fungal attack. The precision of the work meant that even all the staff and specialists handling the bodies wear the same brand of plastic gloves (plastic is made from the organic compound petroleum). The work about to be undertaken at the Department of Archaeological Sciences, University of Bradford, will be an attempt to analyse and fingerprint the materials and methods used for embalming. There has already been a high degree of interest in this project from around the country. The results will produce a vital database and foundation for work in the future and will be of enormous significance to those tackling a much wider range of questions in the future.

A larger sample of embalmed substance has also been taken for environmental study. Botanists working at Birmingham University will be trying to isolate any seeds, pollen or other macro-organic remains that are encapsulated within this material.

Due to the exceptional state of preservation created by the embalming, textiles were found in all the graves and these have also been sampled. All the cadavers were probably wrapped in a winding cloth or shroud, and that from Burial 151 has been

provisionally identified as being made from a linsey-woolsey. There were also a variety of braids, perhaps the remains of edge trimmings from vestments (clerics were usually vested over the shroud pers. comm. J Litten), which are proving to be unusual and unlike those recovered from other Cathedrals. One particularly fine silk example is brocaded in geometric designs with gold or silver thread, another narrower piece is also decorated with silver. The degree of preservation means that dyes have probably survived and these will also be analysed and identified. Medieval textiles rarely survive and if found tend to be very small scraps, so the specialist studying this group (Ms P Rogers, Textile Research Associates) is particularly excited by the number of constructional features and seams that are present.

Unfortunately, due to the speed of the excavations, only Burial 151 was examined by palaeopathologists. The report on this cadaver has been received and is summarised here. The skeleton proved difficult to examine because of the presence of the winding cloth and the crumbling condition of many of the bones. The body seemed to be relatively undisturbed except for the feet where several of the bones were on the wrong side. It is surprisingly difficult to sex and age even a fairly complete skeleton, but the palaeopathologist has tentatively suggested that this was a male who died aged around sixty-five. He was probably about 5' 8" tall and generally fairly healthy, but suffered from swollen blood vessels in the legs, excessive use of the Achilles' tendon and had Osgood - Schlatter's disease which is traumatic in origin and usually has its onset during teenage years; it is particularly common amongst boys who participate in sports involving kicking, jumping and squatting.

Scientists at the University of Bradford will also attempt to identify the cause of some of the more unusual features noted associated with the cadavers during excavation. The most extraordinary of these was the purple staining that covered many of the bones on Burial 151 and seemed to have caused them to crystallise. The current tentative theories question if it could be either a dye from clothing that has since disintegrated or if it is very corroded silver also from clothing.

The two chalices and pattens found above the right shoulders of the cadavers in from Burials 179 and 180 will be conserved at The Lincoln Archaeological Conservation Laboratory. The base of one chalice has been folded and pieces of scrap metal inserted. It has been suggested that this was done to give added weight to the Chalice to prevent it rolling around on the body during the elaborate funeral procession and service, thereby maintaining the dignity of the corpse.

Dating the burial sequence is problematical, as has been mentioned in the text. This is not aided by the

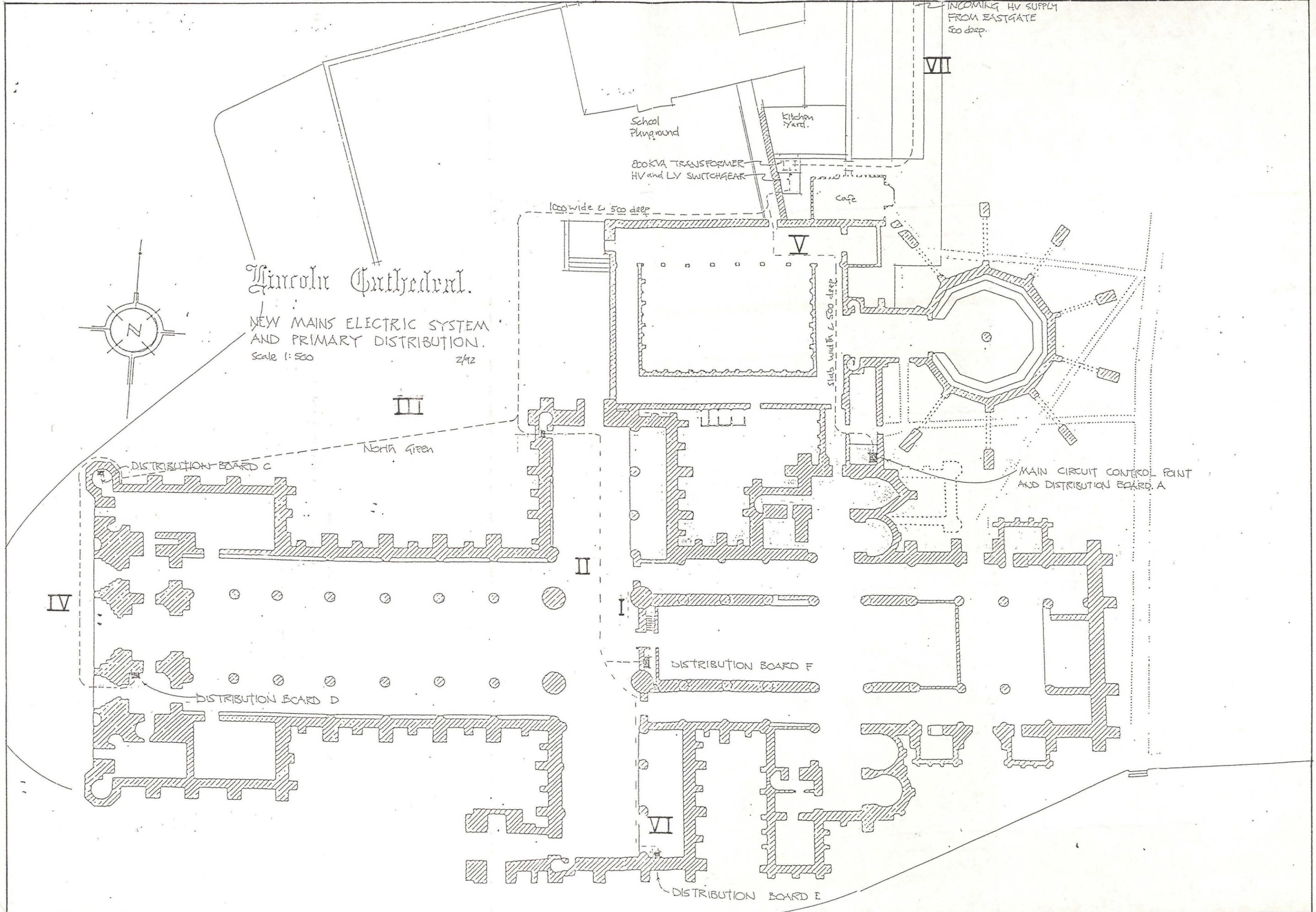
paucity of pottery recovered from the site, a type of finds that usually provides archaeologists with their dating framework. It may be possible to have fragments from some of the textile dated at the Oxford University Radiocarbon Accelerator Unit. These laboratories have pioneered a new technique which requires much smaller samples than needed in the past, so we hope we will have enough textile for this work.

A small quantity of post medieval coffin fittings were found, all of which seem to be of standard late 17th to 18th century types. One of the coffins was child sized. The wood used for constructing the coffins will be identified to determine the wood species used.

Aside from the finds found associated with the burials there is a good assemblage of material which has derived from the Cathedral structure. The most impressive group are the 117 fragments of medieval window glass, much of which is painted. This material will be studied in the future by David King, who will be able to put it into a wider context because of his involvement in writing the corpus vitrearum for Lincoln Cathedral. Several pieces of lead window-came waste were also found.

The potential and significance of these finds is of national importance, and it is hoped that the analytical work required will be able to proceed rapidly towards an end result of a major publication. The interest in the group will fascinate the public as well as academics and scientists studying the medieval period and traditions of burial.

*Jane Cowgill  
Finds Officer*



Lincoln Cathedral.

NEW MAINS ELECTRIC SYSTEM  
AND PRIMARY DISTRIBUTION.  
Scale 1:500  
2/42

INCOMING HV SUPPLY  
FROM EASTGATE  
500 deep.

School  
Playground

Kitchen  
Yard.

800kVA TRANSFORMER  
HV and LV SWITCHGEAR

Cafe

1000 wide & 500 deep

Slabs width & 500 deep

MAIN CIRCUIT CONTROL POINT  
AND DISTRIBUTION BOARD A

DISTRIBUTION BOARD C

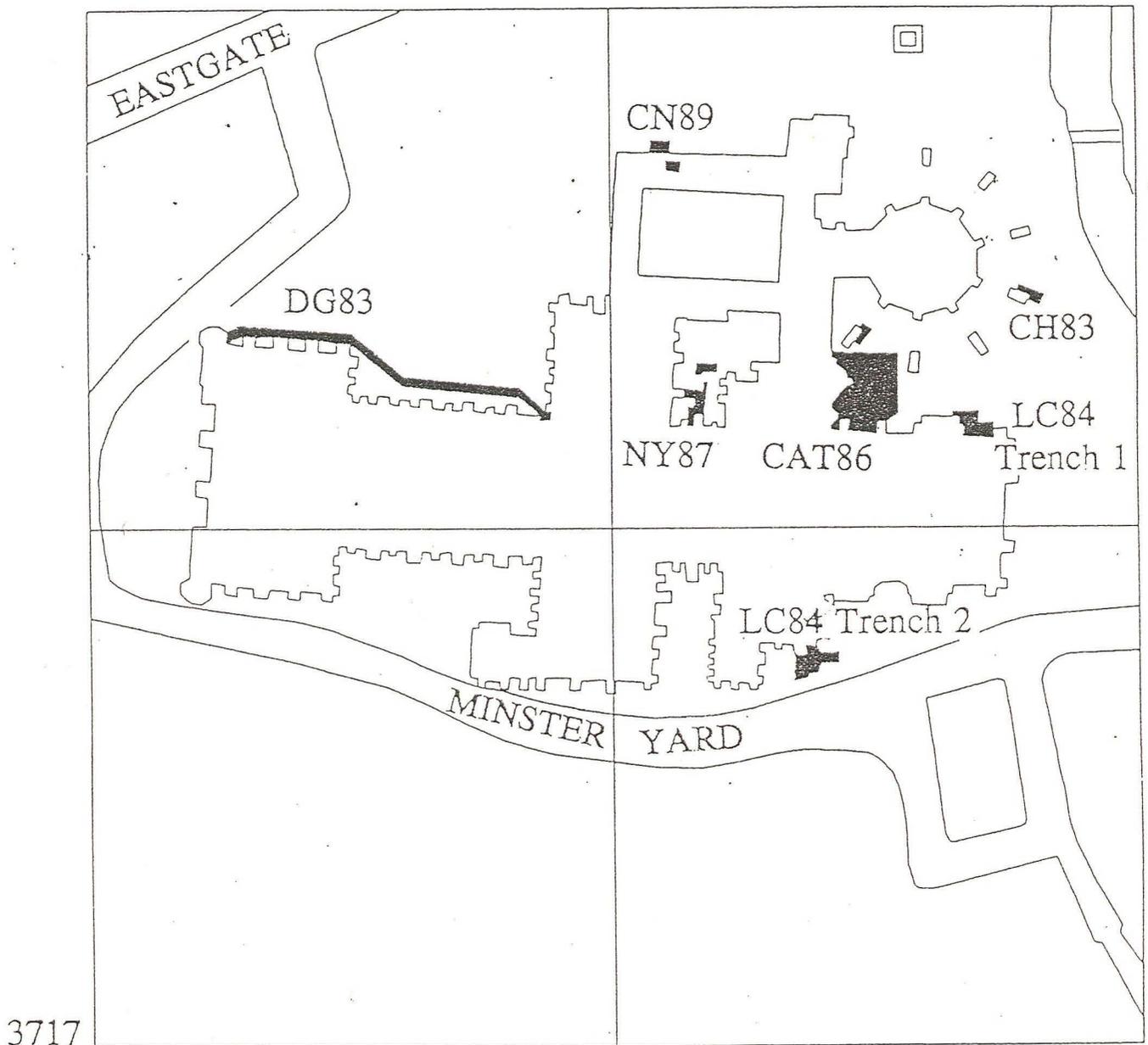
North Green

DISTRIBUTION BOARD D

DISTRIBUTION BOARD F

DISTRIBUTION BOARD E

Fig.2



3717

SK 4977

Fig.3

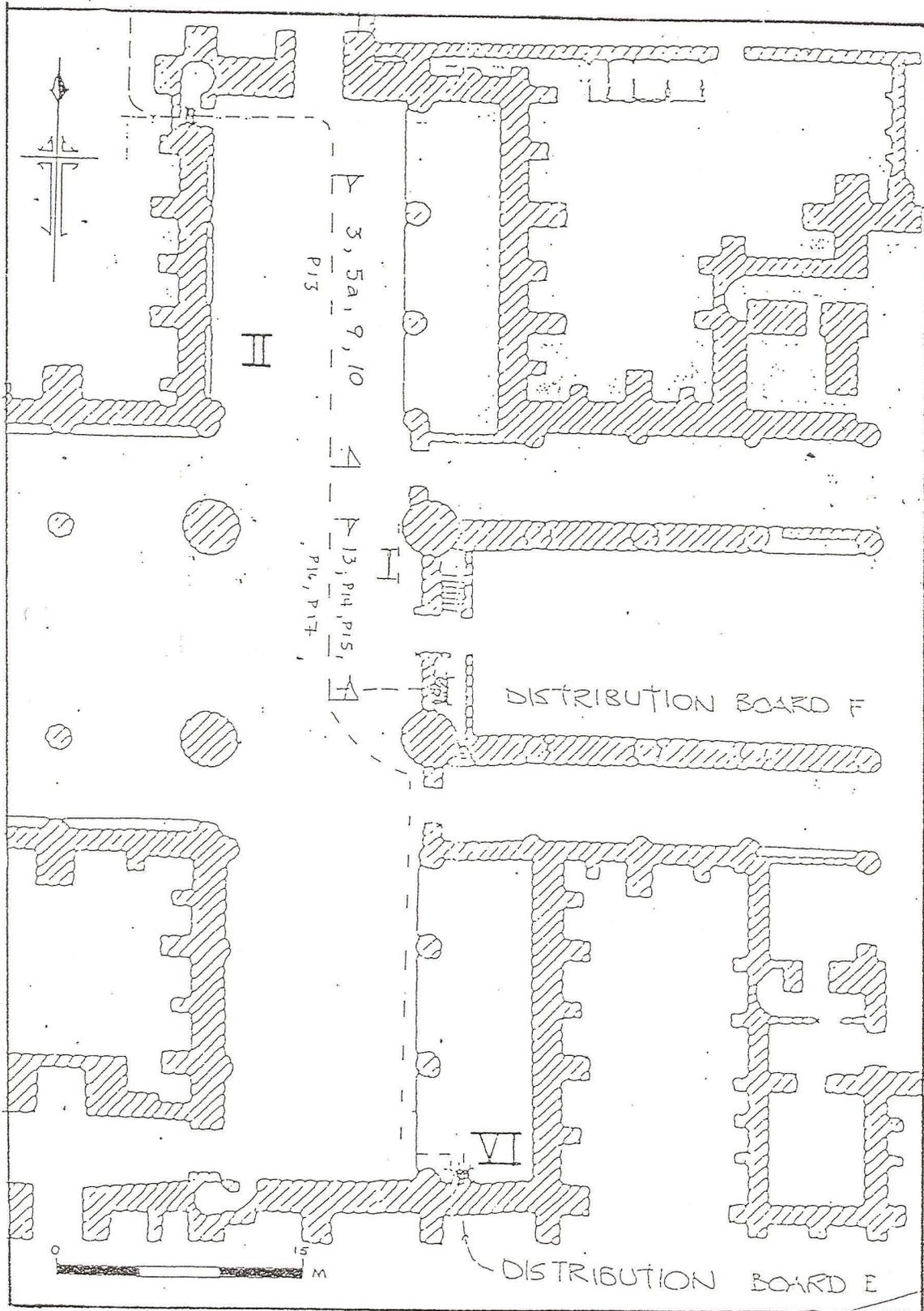


Fig. 4

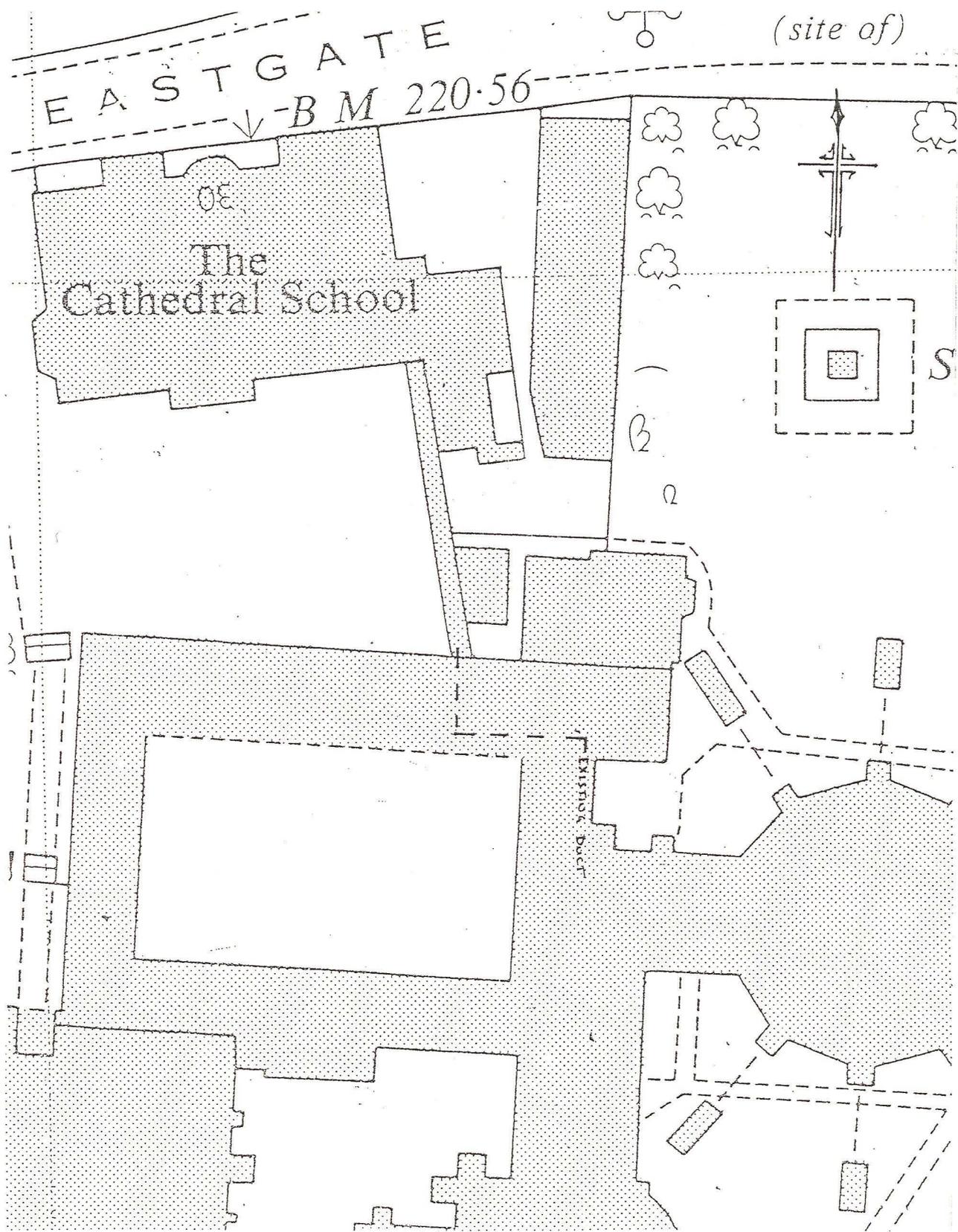
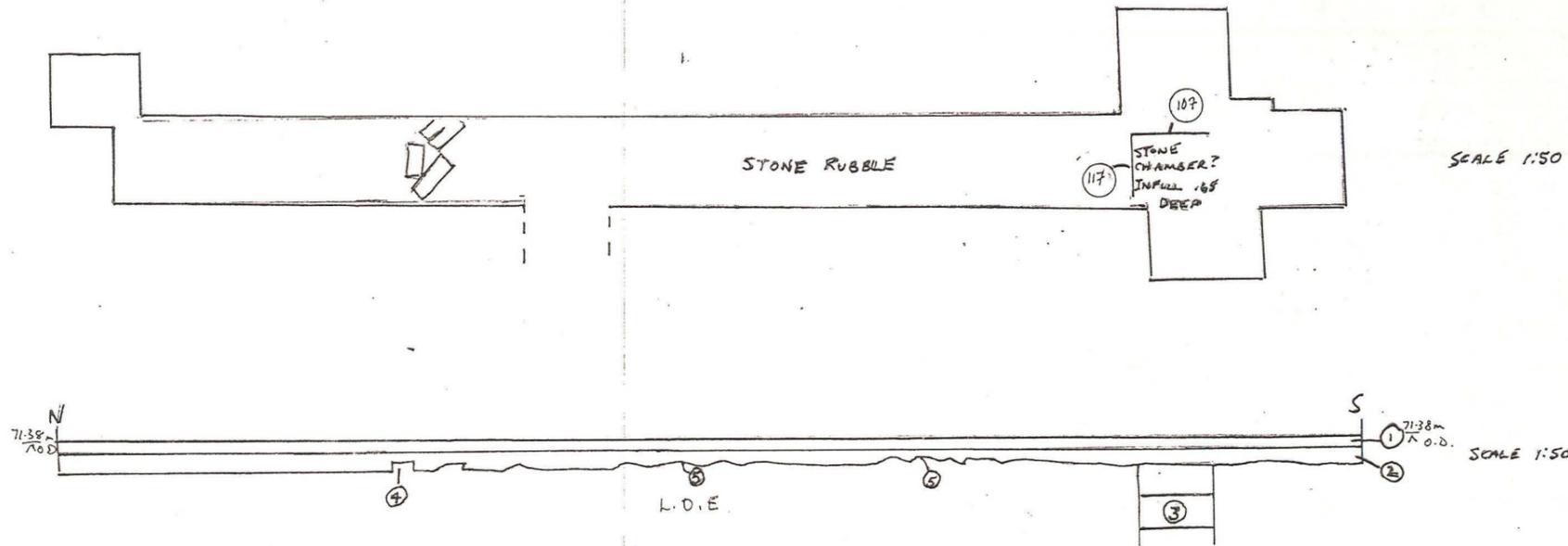
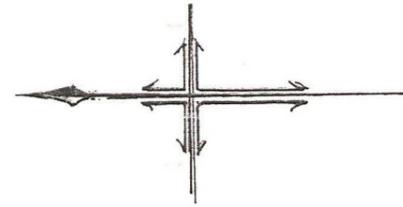


Fig.5

SITE CODE: ON 424	PLAN/SECTION NO: 2 (int.)
DESCRIPTION: REMOVAL OF SLABS AT LINCOLN CATHEDRAL TRENCH 3	
SCALE: 1:50	DATE: 17/2/92
DRAWN BY: L.G.D.	CHECKED:
ARCHIVE NO:	



- |                             |   |
|-----------------------------|---|
| ① SLAB                      | ⑩ |
| ② SAND/MORTAR               | ⑪ |
| ③ STONE WALL / CHAMBER      | ⑫ |
| ④ BLOCKS OF STONE (DRESSED) | ⑬ |
| ⑤ STONE RUBBLE              | ⑭ |
| ⑥ STONE WALL                | ⑮ |

Fig.6

CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: COW 92	PLAN/SECTION NO: 5a (wr.)	
CLIENT: LINCOLN CATHEDRAL		
DESCRIPTION: W. FACING SECTION / PLAN OF 112 / 119 / 141		
SCALE: 1:20	ARCHIVE NO:	
DRAWN BY: 490	CHECKED: 490	DATE: 4/2/92

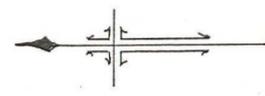
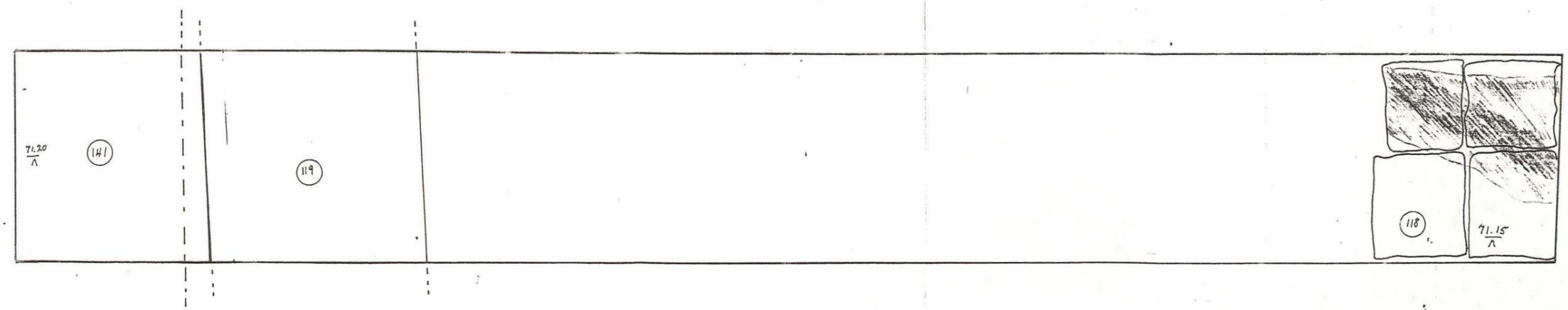
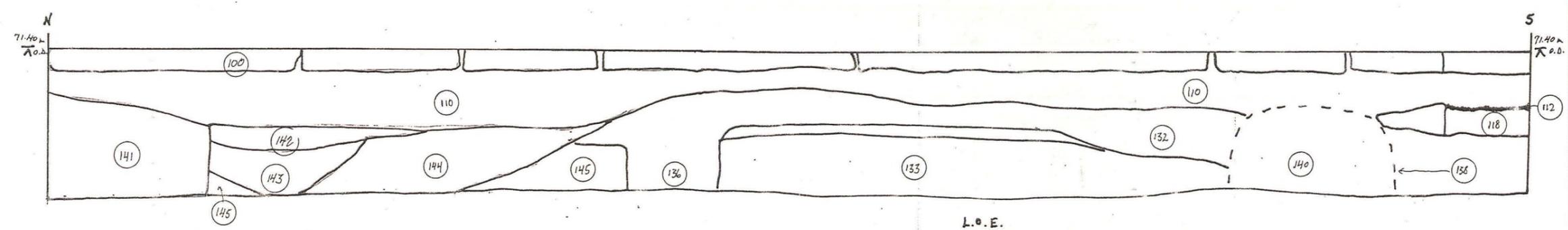
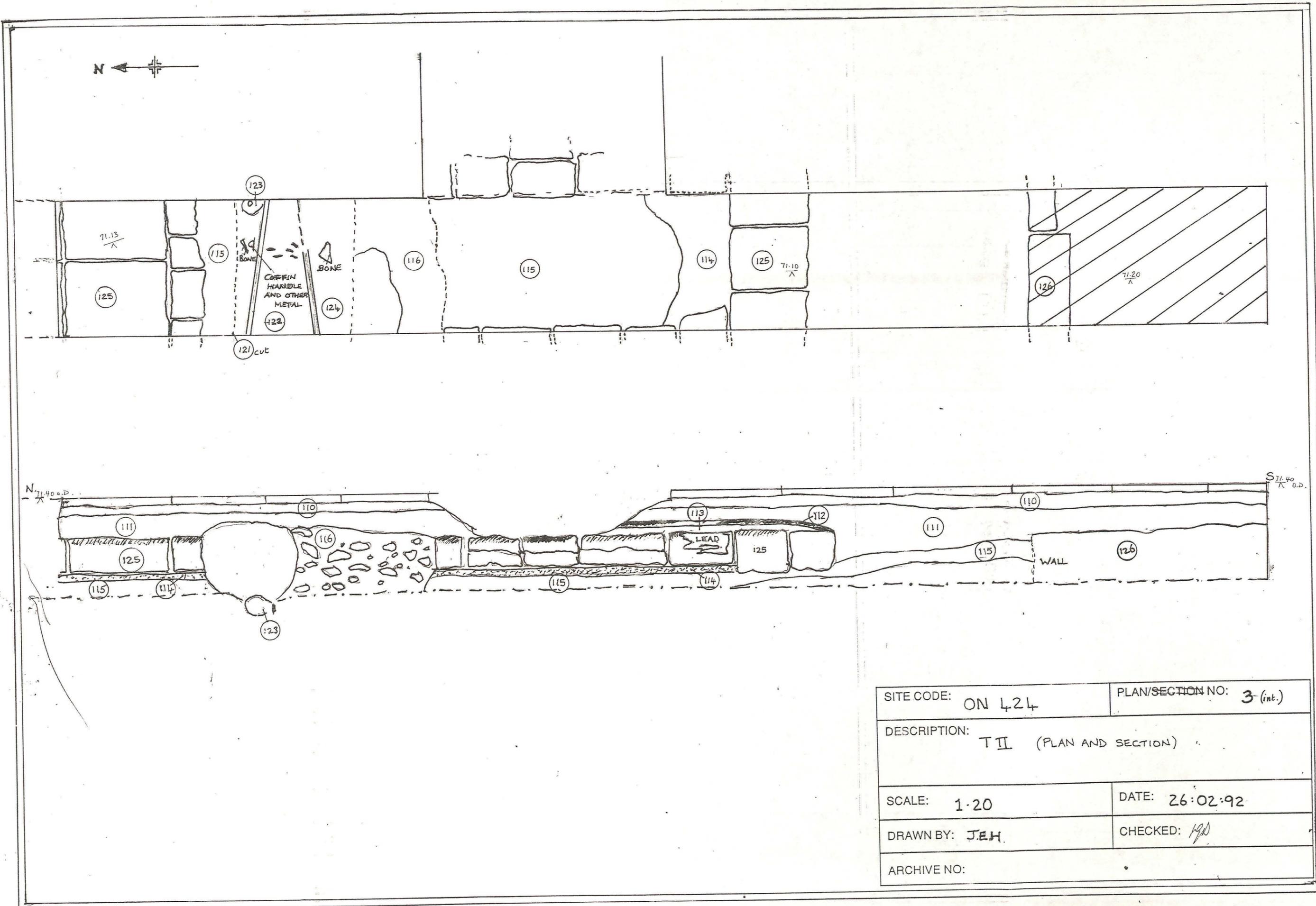


Fig.7



SITE CODE: ON 424	PLAN/SECTION NO: 3 (int.)
DESCRIPTION: T II (PLAN AND SECTION)	
SCALE: 1-20	DATE: 26-02-92
DRAWN BY: J.E.H.	CHECKED: J.E.H.
ARCHIVE NO:	

Fig.8

SITE CODE: COW 92	PLAN/SECTION NO: 9 (int.)
DESCRIPTION: E/W WALL (141) STONE FEATURE (149) STONE COFFIN (127) AND L/S BLOCK (150)	
SCALE: 1:20	DATE: 12:03:92
DRAWN BY: J.E.H	CHECKED: LPH
ARCHIVE NO:	

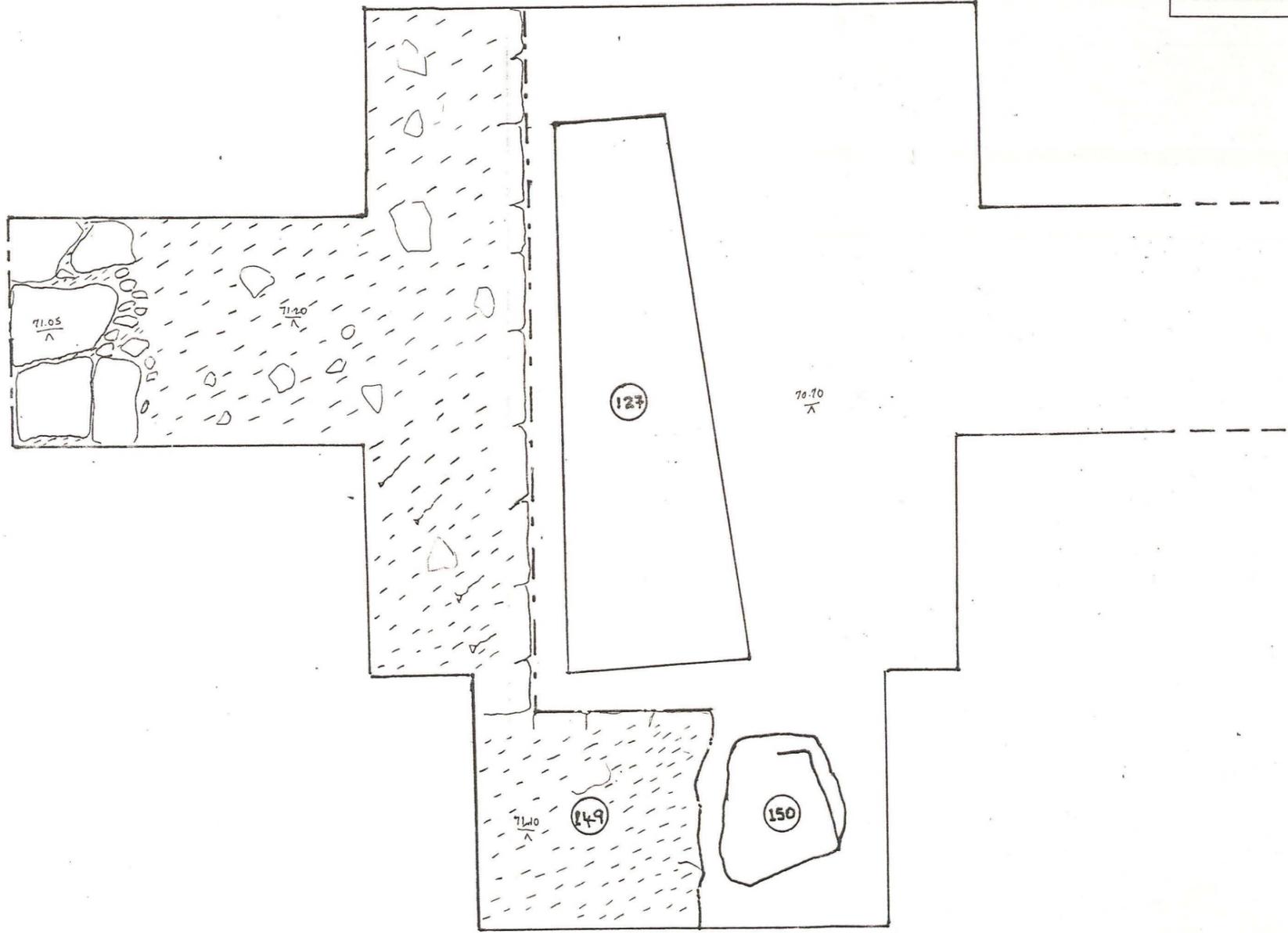
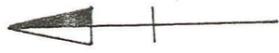


Fig.9

CITY OF LINCOLN ARCHAEOLOGY UNIT

SITE CODE: COW 92 PLAN/ELEV/SECTION NO: 10 (int.)

CLIENT:

DESCRIPTION: SOUTH-FACING SECTION OF WALL (162)  
AND PLAN OF (162) / (163)

SCALE: 1:10 ARCHIVE NO:

DRAWN BY: Jam CHECKED: LJA DATE: 14.05.92

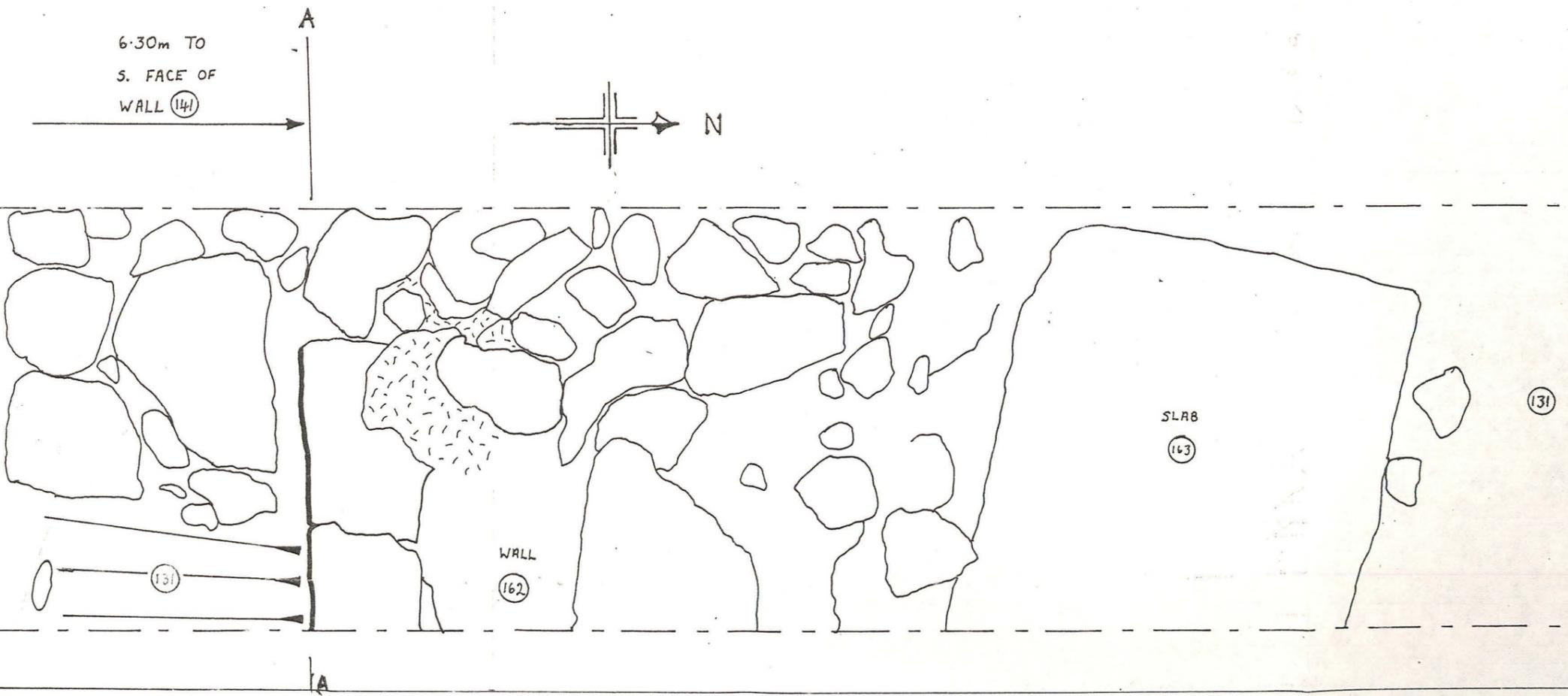
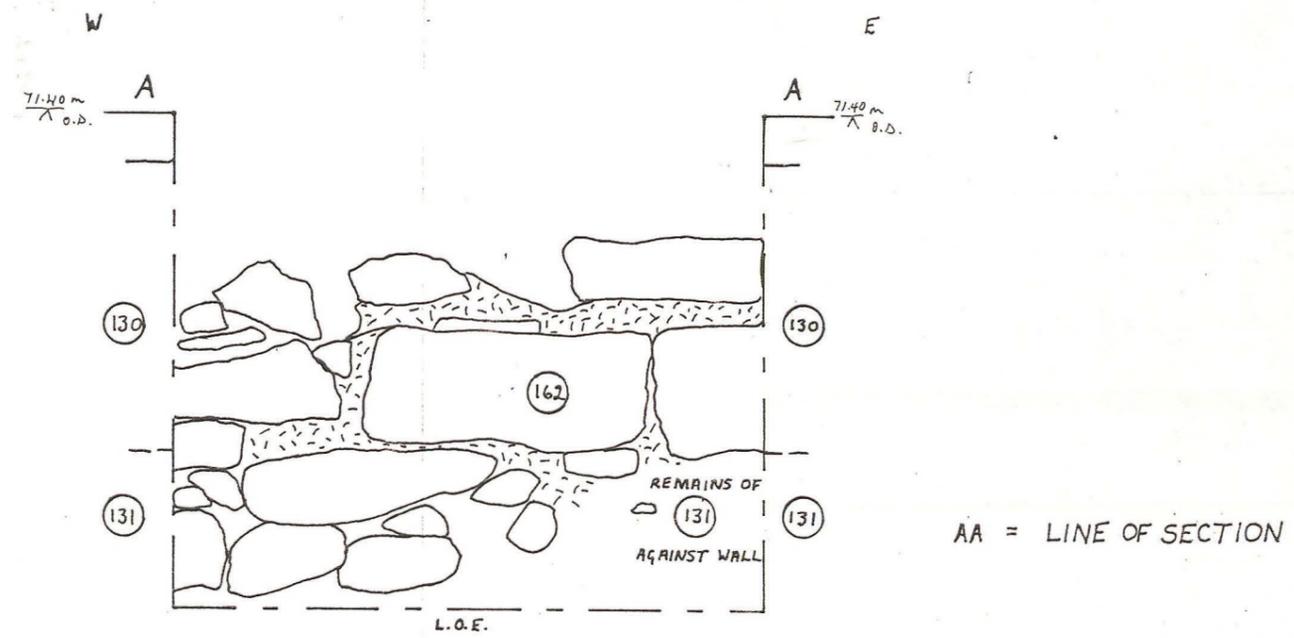


Fig.10

CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: COW 92	PLAN/ELEV/SECTION NO: 13 (b) + (c) int.	
CLIENT:		
DESCRIPTION: WEST AND NORTH FACING SECTIONS		
SCALE: 1:10	ARCHIVE NO:	
DRAWN BY: Y.R.	CHECKED: 19D	DATE: 15-06-92

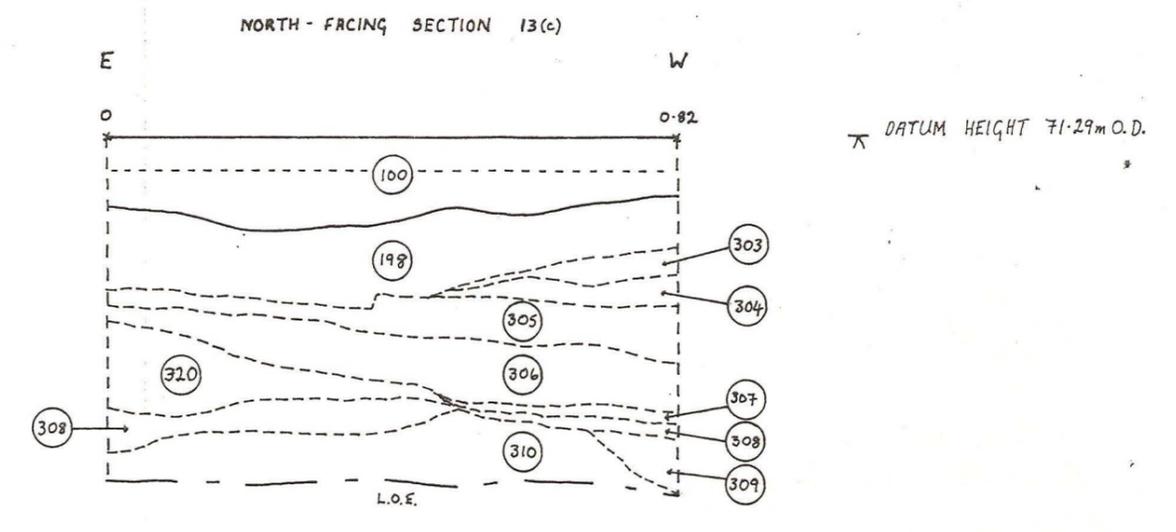
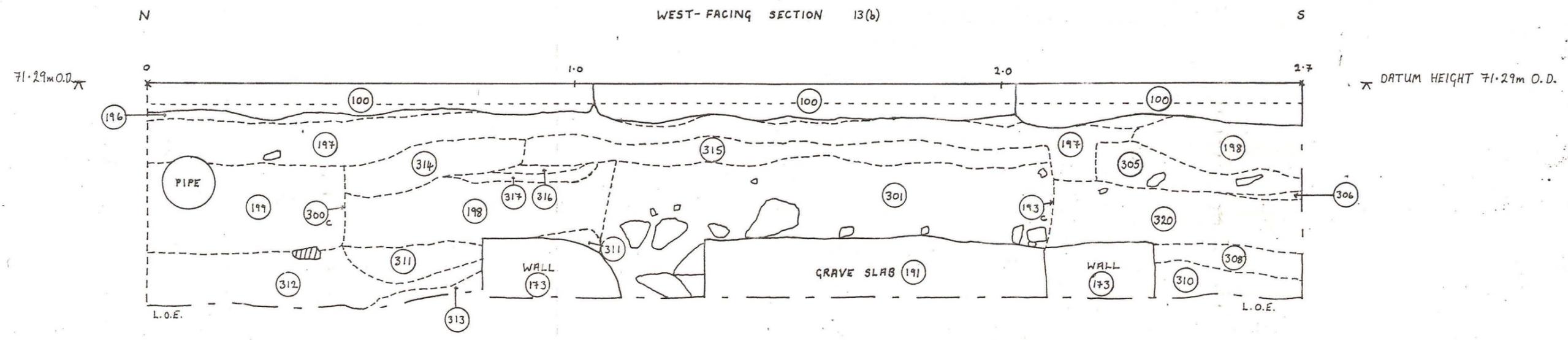


Fig.11

CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: COW 92	PLAN/ELEV/SECTION NO: 14 int.	
CLIENT:		
DESCRIPTION: SERVICE TRENCH ACROSS NAVE. LOCATION: PLAN OF COFFINS		
SCALE: 1:20	ARCHIVE NO:	
DRAWN BY: Jan + Y.R.	CHECKED: 190	DATE: 13-06-92

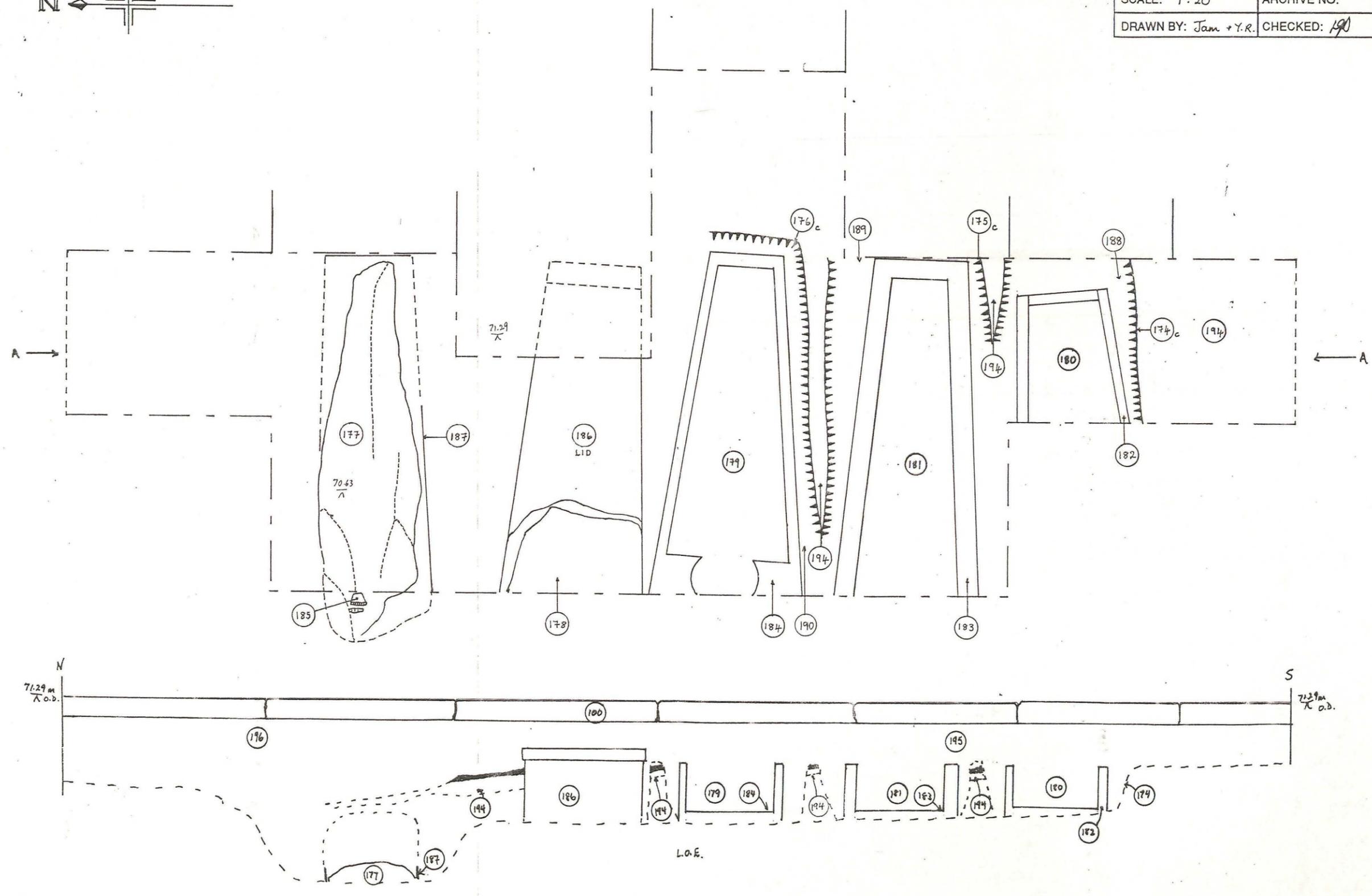
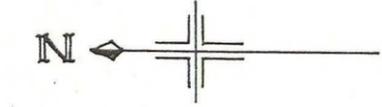
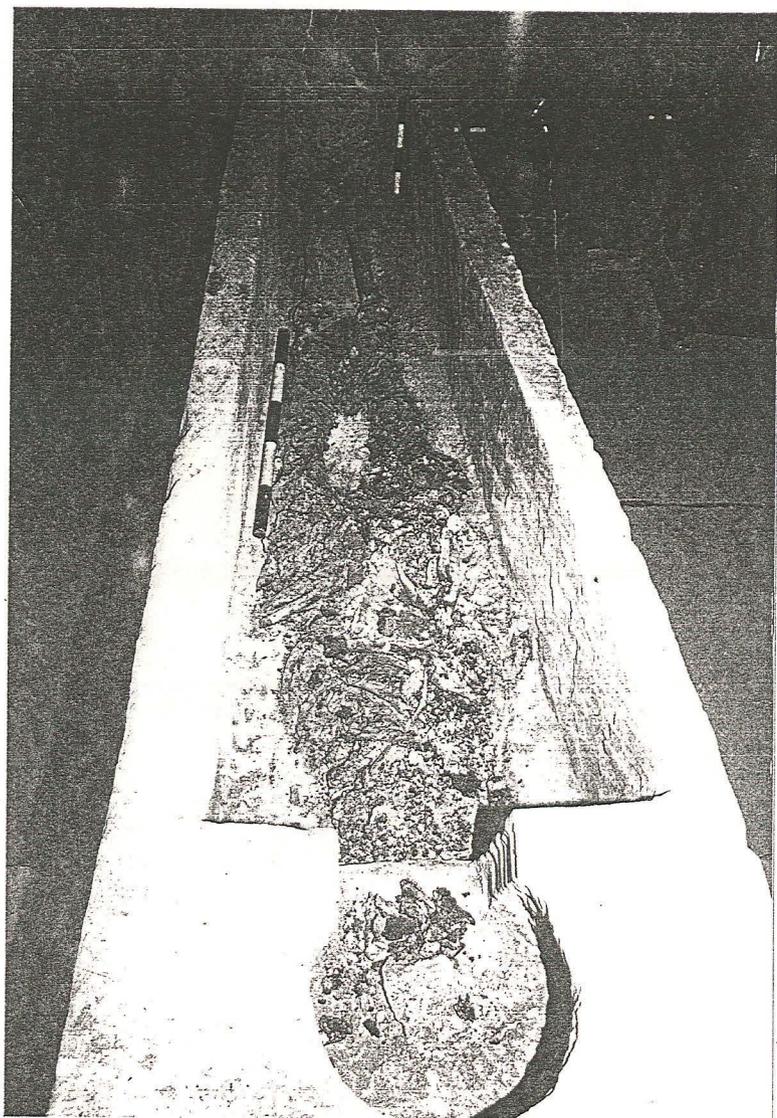


Fig.12



Site code:

low 92

Context N°:

127/151

Direction:

From N.

NOT IN SITU

Photo Neg N°:

35/3/2

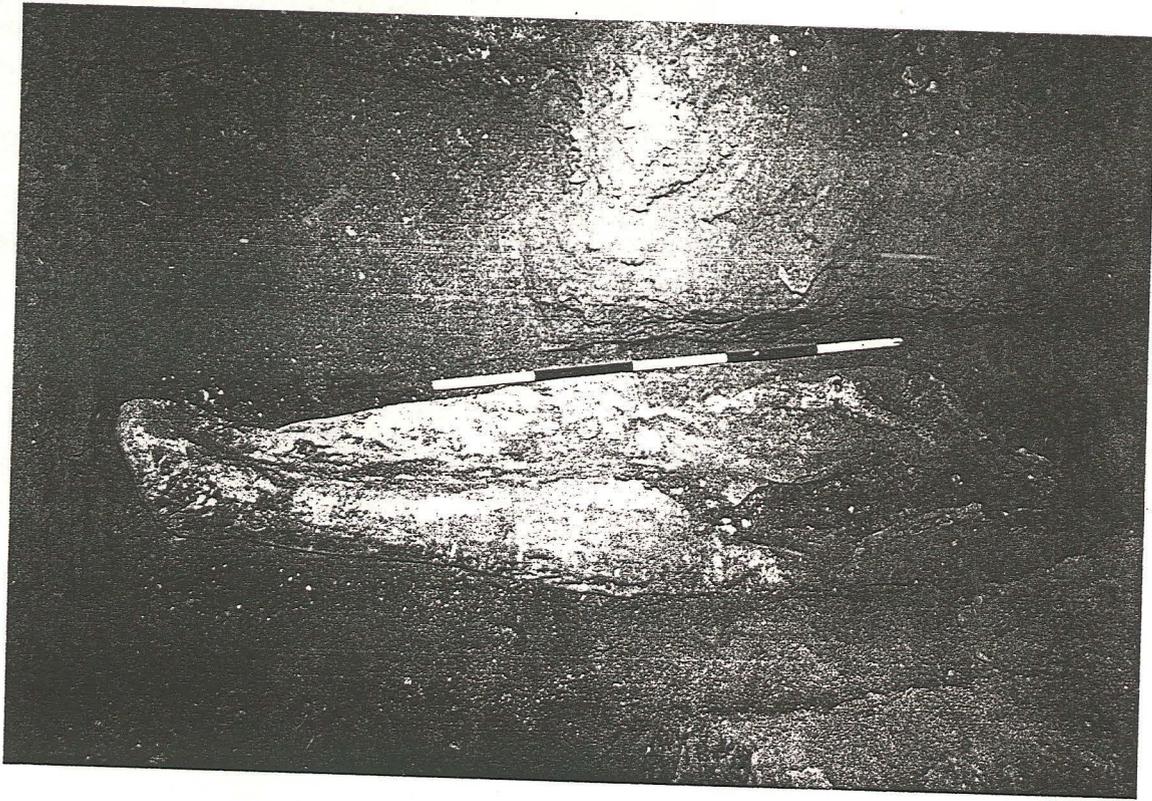
Description:

Site code:

COW 92

Context N°:

177



Description:

Direction: From N.

Photo Neg N°:

35/9/22

Site code:

CoW 92

Context N°:

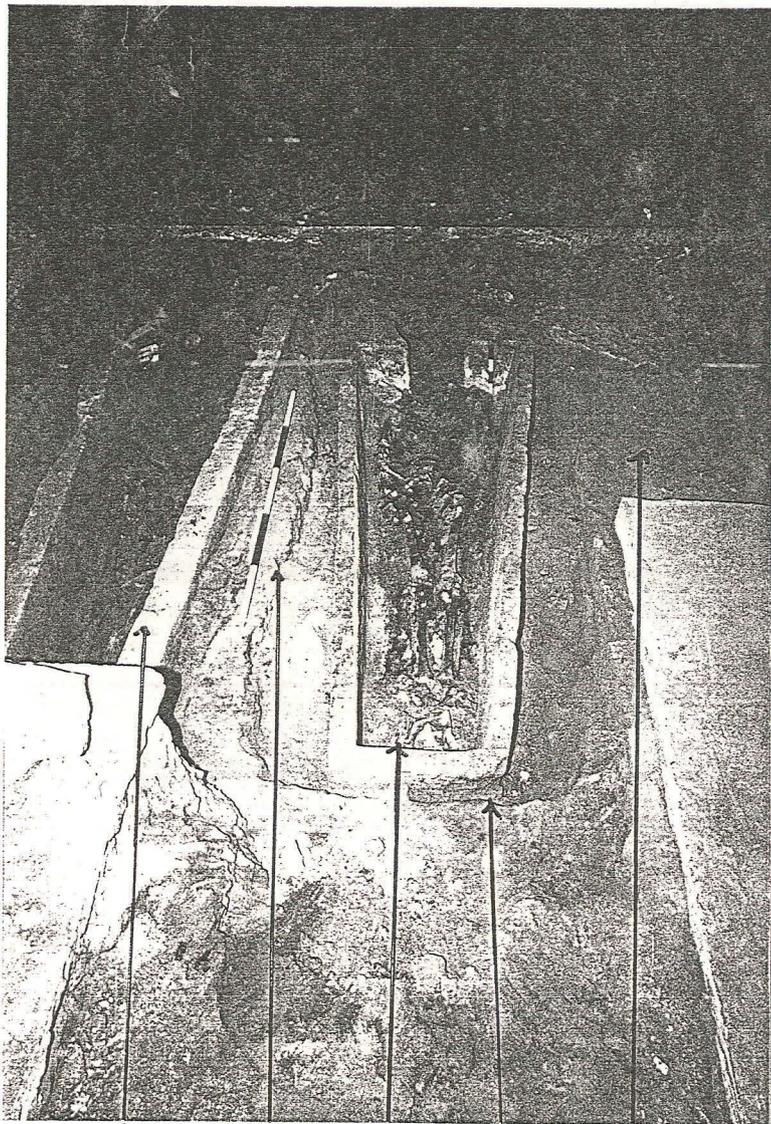
181/183 / 179/184 / 178/  
186 / 194

Direction:

From E.

Photo Neg N°:

35/911



Description:

181/183

179/184

178/186

194

176

Site code:

COW 92

Context N°:

175, 180, 182, 183

Direction:

From E

Photo Neg N°:

35/9/10



Description :

182

180

175

183

Fig.16

Site code:

COW 92

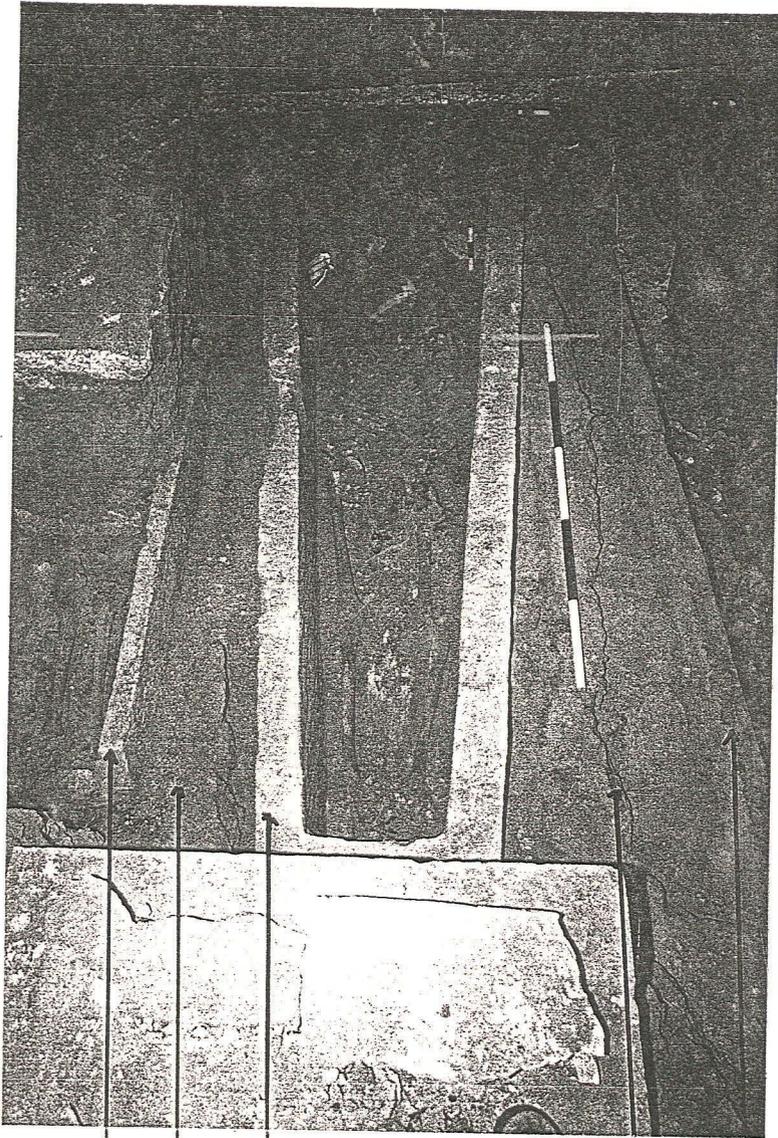
Context N°:

Direction :

From E.

Photo Neg N°:

35/9/12



Description :

182

175

183

176

184

Fig.17

CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: COW 92	PLANE/ELEV/SECTION NO: FIG 18	
CLIENT: CATHEDRAL		
DESCRIPTION: AREA III GROUND PLAN SHOWING SECTION LOCATIONS		
SCALE: 1:500	ARCHIVE NO:	
DRAWN BY: K.W.	CHECKED:	DATE: 12/10/92

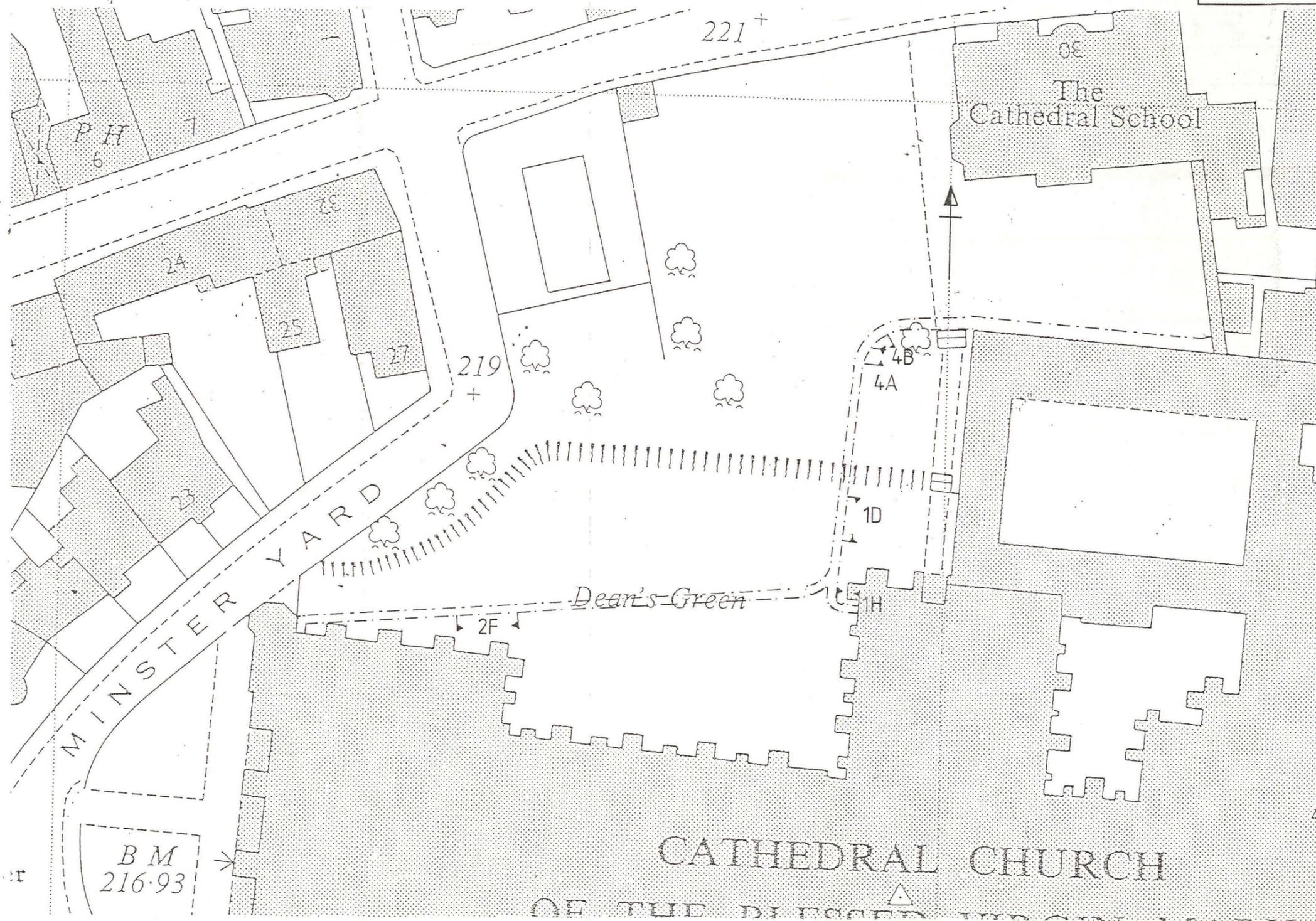
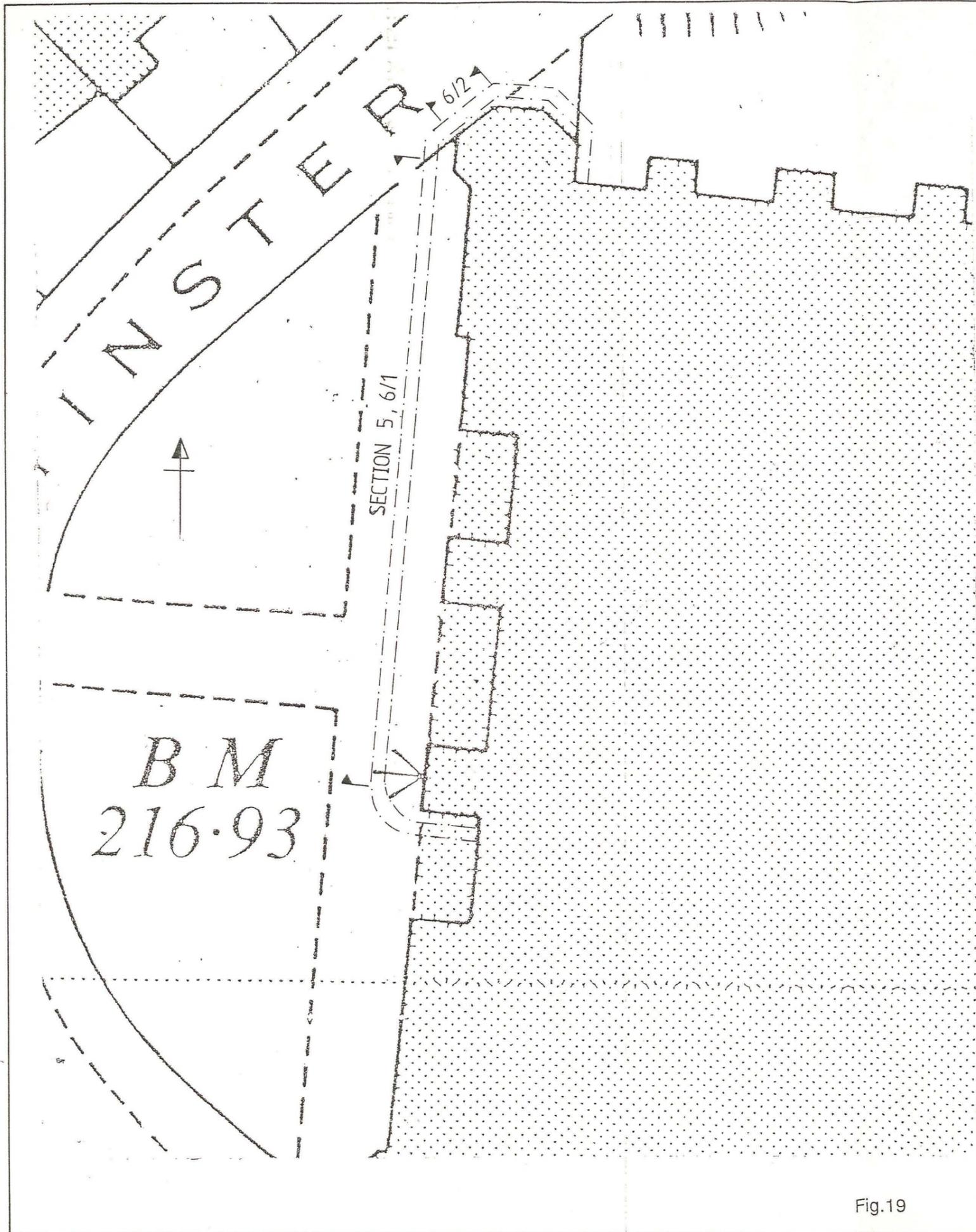
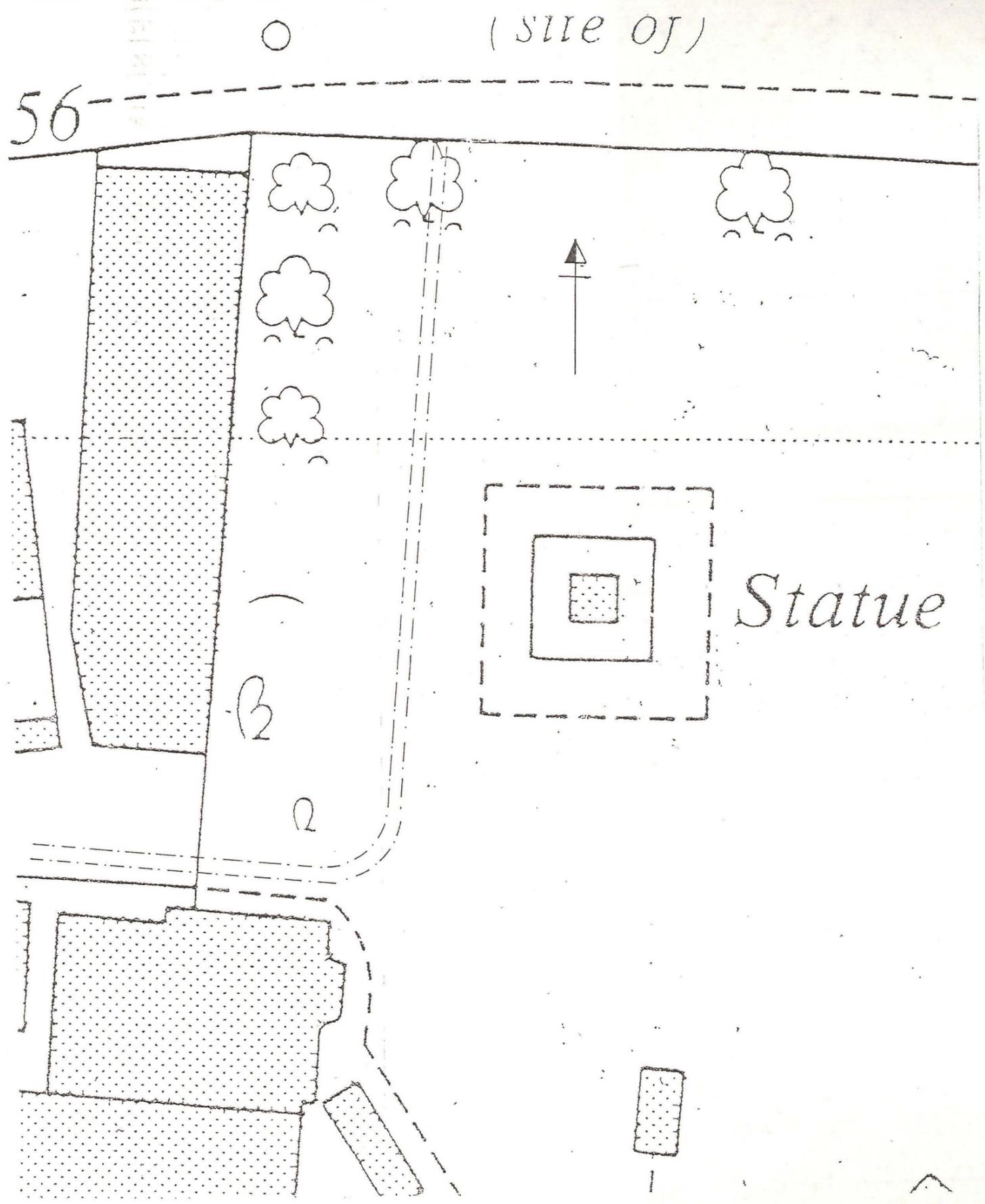


Fig.18



CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: COW 92	PLAN/ELEV/SECTION NO: FIG 19	
CLIENT: CATHEDRAL		
DESCRIPTION: AREA IV		GROUND PLAN SHOWING SECTION LOCATIONS
SCALE: 1:200	ARCHIVE NO:	
DRAWN BY: K.W.	CHECKED:	DATE: 12/10/92

Fig.19



CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: COW 92	PLAN/ELEV/SECTION NO: FIG 20	
CLIENT: CATHEDRAL		
DESCRIPTION: AREA VII GROUND PLAN		
SCALE: 1:200	ARCHIVE NO:	
DRAWN BY: K.W.	CHECKED:	DATE: 12/10/92

Fig.20

CITY OF LINCOLN ARCHAEOLOGY UNIT

SITE CODE: COW 92 | PLAN/ELEV/SECTION NO: 233/266

CLIENT: CATHEDRAL

DESCRIPTION: E-W WALL 233/268 AND 286

SCALE: 1:20

ARCHIVE NO:

DRAWN BY: M.G.

CHECKED: K.W.

DATE: 28/05/92

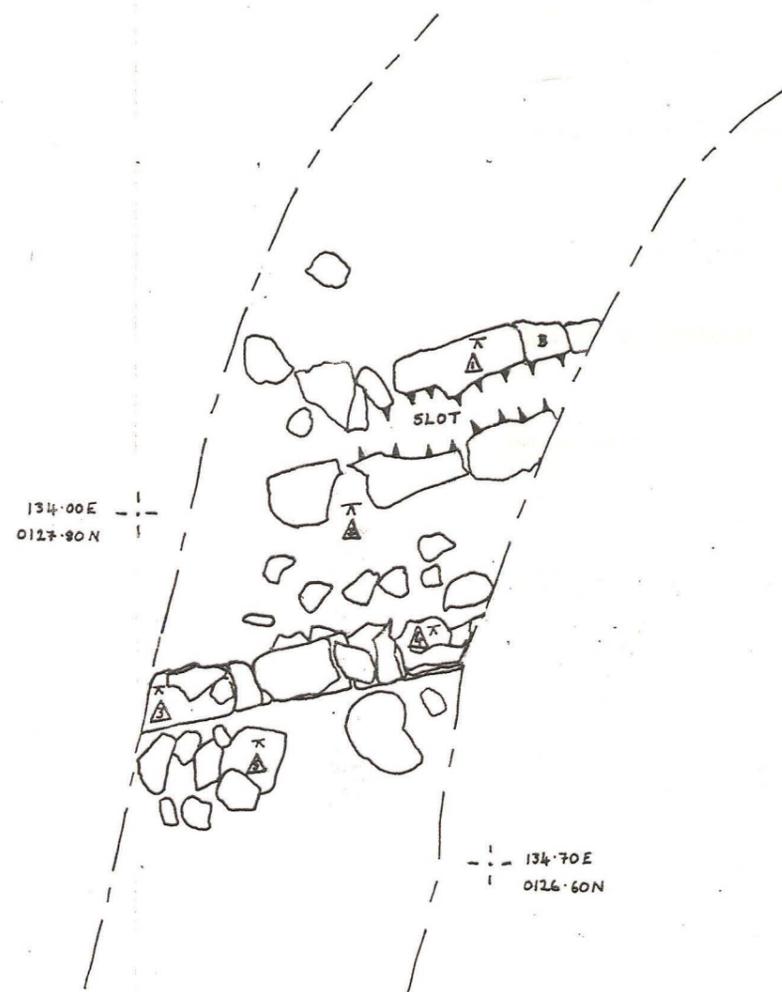
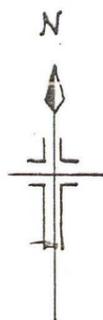


Fig.21

CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: COW 92	PLAN/ELEV/SECTION NO: 1D	
CLIENT: CATHEDRAL		
DESCRIPTION: WEST FACING SECTION SHOWING 157 LAYER CONTAINING BURIALS		
SCALE: 1:20	ARCHIVE NO:	
DRAWN BY: M.W./Y.R.	CHECKED: K.W.	DATE: 18/05/92

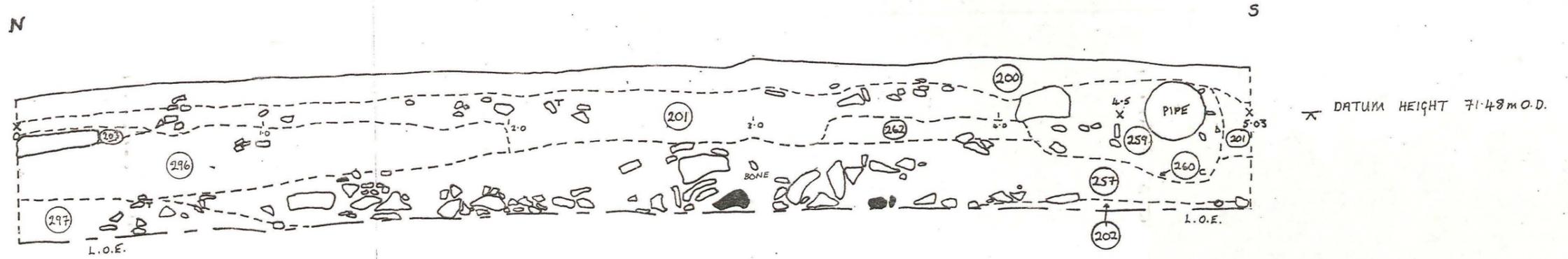


Fig.22

CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: COW 92	PLAN/ELEV/SECTION NO.: 1H	
CLIENT: CATHEDRAL		
DESCRIPTION: S. FACING SECTION		
SCALE: 1:10	ARCHIVE NO:	
DRAWN BY: Y.R.	CHECKED: K.W.	DATE: 29/05/92

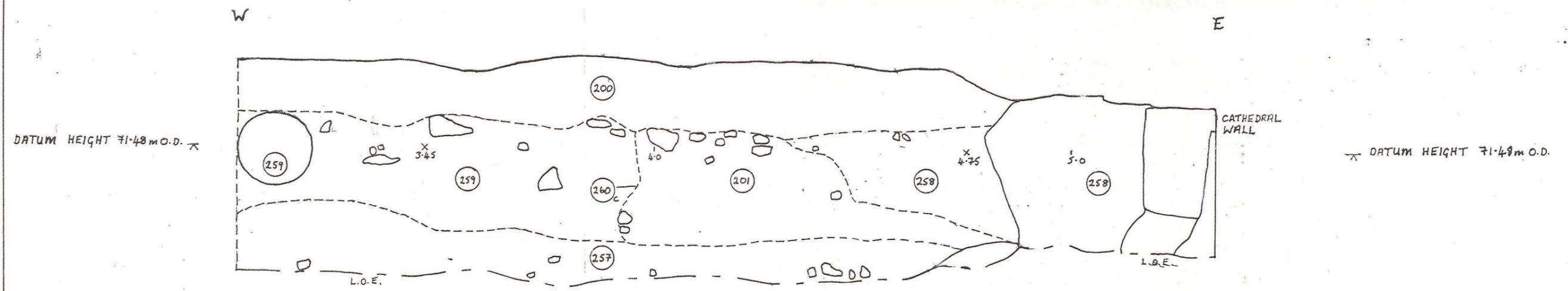


Fig.23

CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: COW 92	PLAN/ELEV/SECTION NO: 2 F	
CLIENT: CATHEDRAL		
DESCRIPTION: NORTH FACING SECTION (Part 6)		
SCALE: 1:20	ARCHIVE NO:	
DRAWN BY: K.W.	CHECKED:	DATE: 22/05/92

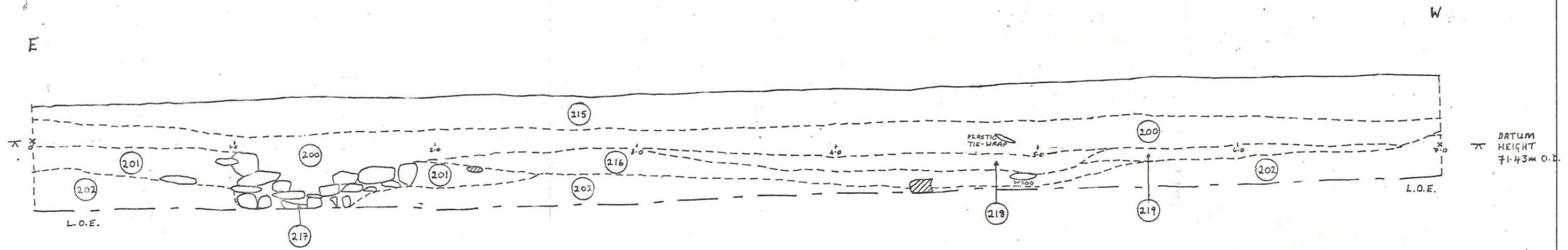


Fig.24

CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: COW 92	PLAN/ELEV/SECTION NO: 4A/4B	
CLIENT: CATHEDRAL		
DESCRIPTION: N. AND W. FACING SECTIONS (ROUND CORNER OF TRENCH)		
SCALE: 1:20	ARCHIVE NO:	
DRAWN BY: H.G.	CHECKED: K.W.	DATE: 29/05/92

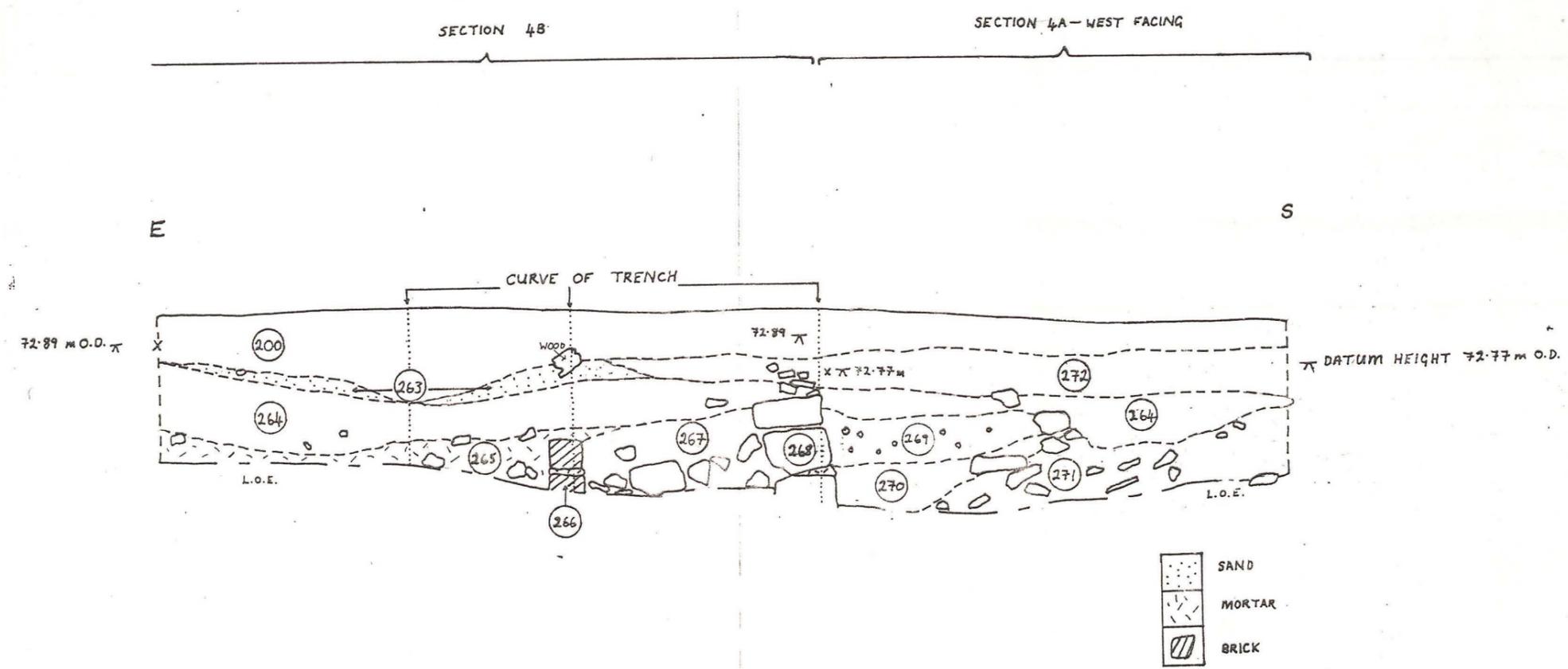


Fig.25

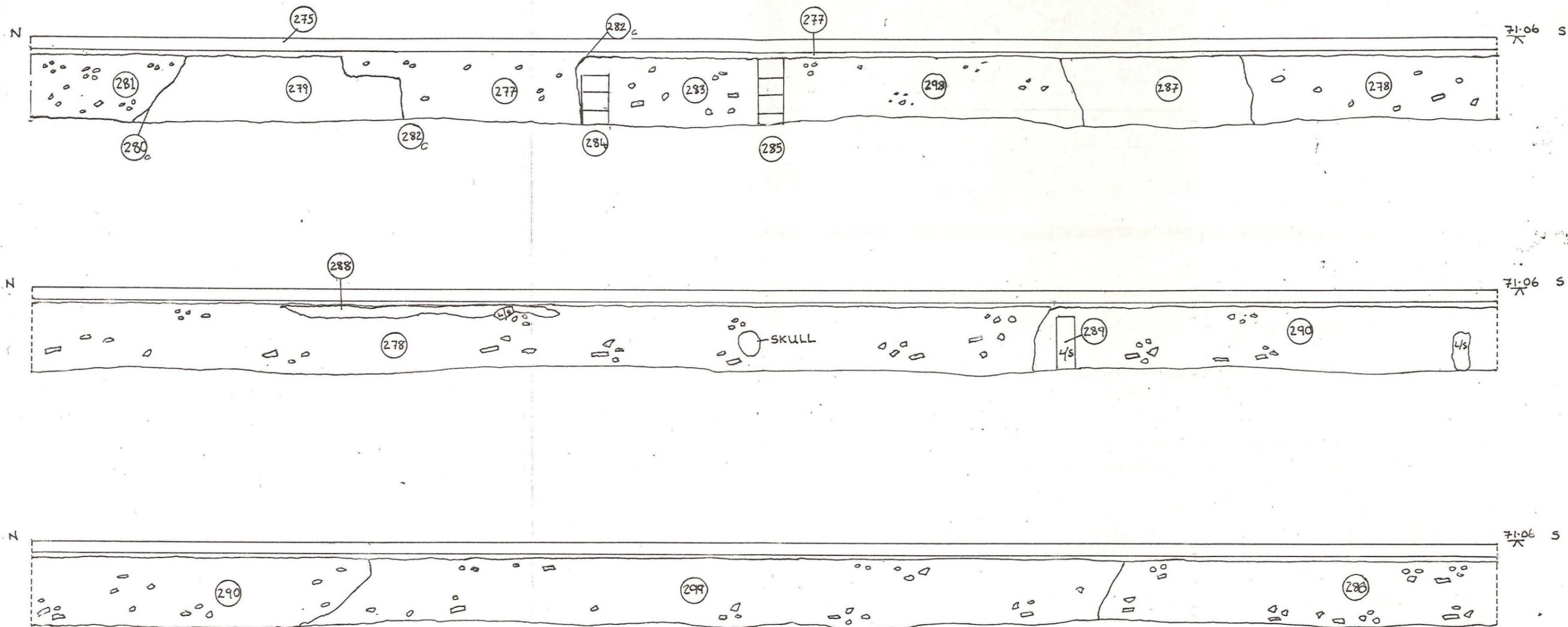
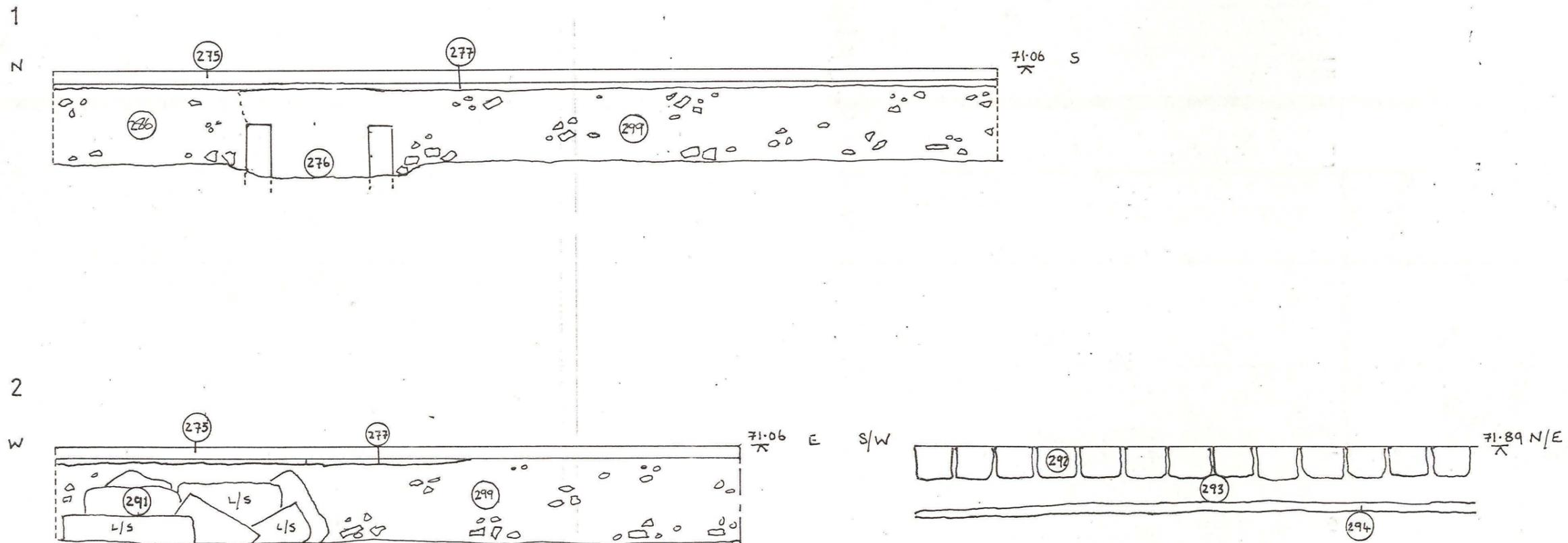


Fig.26

CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: COW 92	PLAN/ELEV/SECTION NO: 5	
CLIENT: CATHEDRAL		
DESCRIPTION: WEST FACING SECTION WEST FRONT TRENCH		
SCALE: 1:20	ARCHIVE NO:	
DRAWN BY: JEH.	CHECKED:	DATE: 21:07:92



GENERAL SECTION OF TRENCH AROUND N. BUTTRESS

Fig.27

CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: COW 92	PLAN/ELEV/SECTION NO: 6	
CLIENT: CATHEDRAL		
DESCRIPTION: 1 W. FACING SECTION N-S TRENCH		
2 S. " " WE "		
SCALE: 1:20	ARCHIVE NO:	
DRAWN BY: JEH.	CHECKED:	DATE: 22:07:92

Site code : COW 92

Context N°: 233/268



Description:

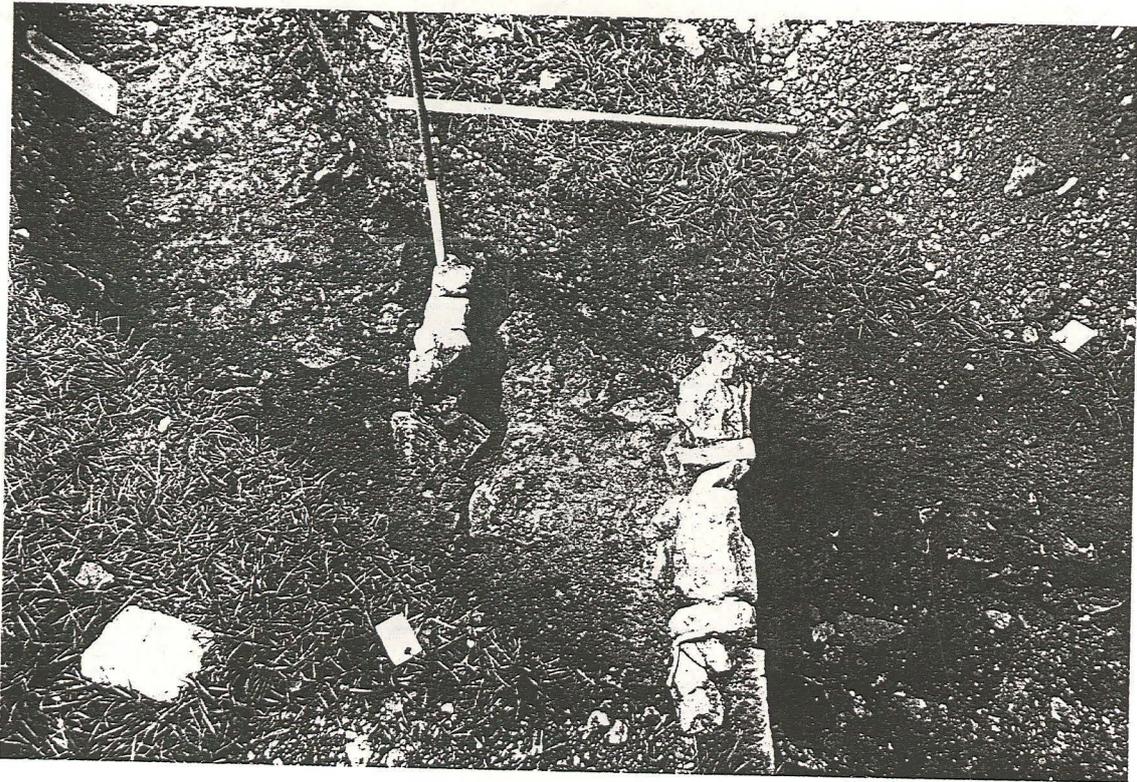
Fig.28

Direction: From south

Photo Neg N°: 35/8/12

Site code : COW 92

Context N°: 266/267/268



Description:

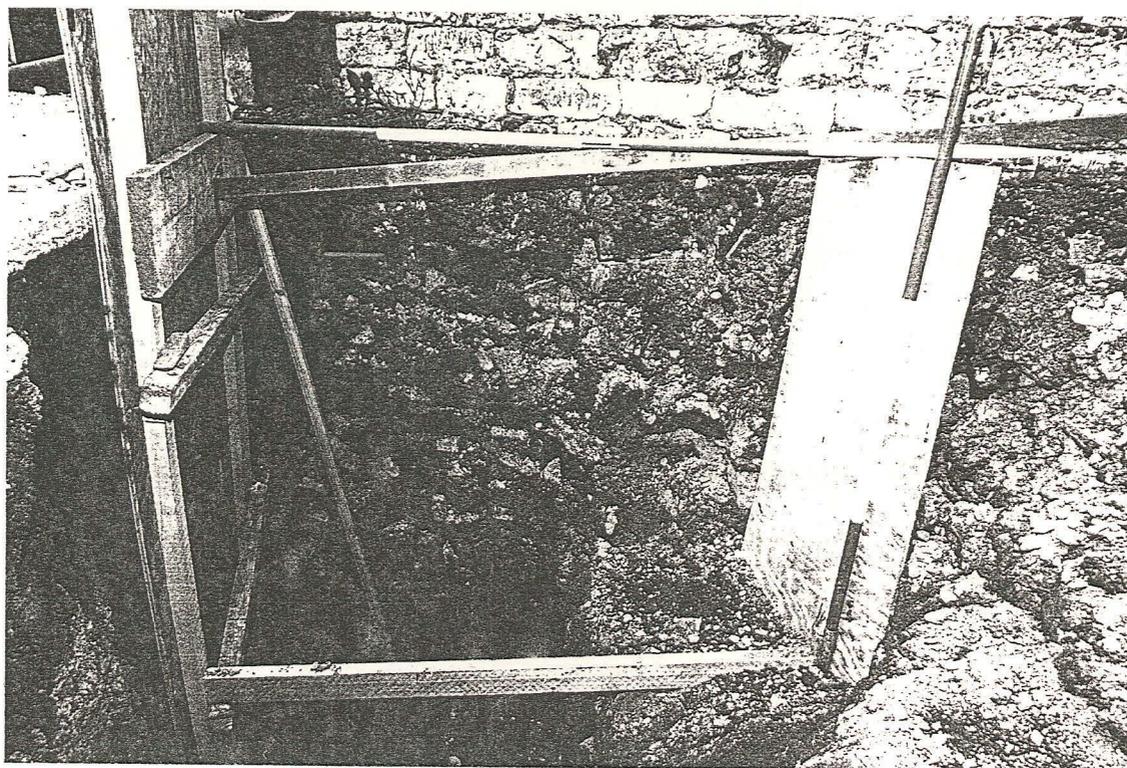
Fig.29

Direction: From west

Photo Neg N°: 35/8/20

Site code : COW 92

Context N°:



Description:

Fig.30

Direction: From west

Photo Neg N°:35/7/14