

Church Cottage, Wheldrake

Archaeological Watching Brief Report



Site	Church Cottage, Main Street, Wheldrake, York YO19 6AA	
Site Code	CCW20	
County	North Yorkshire	
Location	National Grid Reference	SE 68258 44993
	Easting and Northing	468258 444993
	Latitude Longitude	53.896629 -0.96274808
Planning Reference	19/00589/FUL	
Development	Internal and external alterations including: re-roofing of Church Cottage, repairs to chimneys, reinstallation of chimney pots, repainting of brickwork, minor infilling of openings, internal reorganisation, installation of internal insulation & roof insulation, window repairs, removal & replacement of 1970's porch with an extension at the east end to provide a lobby, accessible WC, and a small store.	
Text, Images and Editing	LS Archaeology D. Signorelli, L. Signorelli, and F. Lawson-Jones	
Specialist Contribution	York Osteoarchaeology M. Holst and J. Ruiz Ventura	
Date of Issue	January 2021	
Work Commenced	November 2020	
Client	Ferrey and Mennim Ltd	

Summary

Archaeological evaluations were undertaken at the site of Church Cottage in Wheldrake during November 2020 prior to a programme of internal and external alterations and the construction of an extension. A minimal photographic record of the late 18th century east facing elevation of the cottage was undertaken to preserve an image of the cottage prior to its 21st century extension.

Ground preparation for the extension involved the displacement of a single gravestone belonging to the Beilby Family. This stone is to be replaced and repositioned within the churchyard.

Ground excavations revealed the presence of eleven burials and one possible cremation at 0.75m below ground level or >14.08m <14.20m AOD. The burials were not excavated and were preserved in situ.

The disarticulated human bone was retained and assessed. The minimum number of individuals represented by the bone assemblage numbered six, most being adult, with a small amount indicating younger adults and children, including one perinate. Some illness was noted in the bones, such as degeneration in joints, whereas dental assessment was suggestive of poor oral hygiene or protein rich diets and childhood stress (Ruiz Ventura and Holst, 2021).

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Introduction

This report summarises the results of a recent archaeological watching brief which took place at Church Cottage, Main Street, Wheldrake (Figure 1).

The monitoring was undertaken prior to a programme of internal and external works. Works included an extension to the late 18th century eastern range of the cottage.

York Osteoarchaeology and LS Archaeology were commissioned by Ferrey and Mennim Ltd to undertake the archaeological evaluations, including the post-excavation assessment and reporting.



Figure 1: The location of Church Cottage in relation to the village of Wheldrake, North Yorkshire.

Site works were commenced and concluded during November 2020.

Associated Reports

- York Osteoarchaeology (2014); Archaeological Watching Brief at St Helen's Church, Wheldrake
- York Osteoarchaeology (2015); Archaeological Watching Brief at St Helen's Church, Wheldrake

Planning

This development, which involves internal and external alterations including the construction of an extension, has been granted planning permission (Figure 2). Archaeological mitigations are required to fulfil condition 3 in accordance with NPPF Policy ENV28 and Section 16:

No work shall commence on site until the applicant has secured the implementation of a programme of archaeological work (a watching brief on all ground works by an approved archaeological unit) in accordance with a specification supplied by the Local Planning Authority. This programme and the archaeological unit shall be approved in writing by the Local Planning Authority before development commences.

The archaeological scheme comprises 3 stages of work. Each stage shall be completed and approved by the Local Planning Authority before it can be approved.

A) No development shall take place until a written scheme of investigation (WSI) for an archaeological watching brief has been submitted to and approved by the local planning authority in writing. For land that is

included within the WSI, no development shall take place other than in accordance with the agreed WSI. The WSI should conform to standards set by the Chartered Institute for Archaeologists.

B) The site investigation and post investigation assessment shall be completed in accordance with the programme set out in the Written Scheme of Investigation approved under condition (A) and the provision made for analysis, publication and dissemination of results and archive deposition will be secured. This part of the condition shall not be discharged until these elements have been fulfilled in accordance with the programme set out in the WSI.

C) A copy of a report (or publication if required) shall be deposited with City of York Historic Environment Record to allow public dissemination of results within 3 months of completion or such other period as may be agreed in writing with the Local Planning Authority.

Reason: The site lies within an area of archaeological interest and the development may affect important archaeological deposits which must be recorded prior to destruction/disturbance. NOTE: The proposed construction of the new porch, extension, additional services and additional paving may impact upon burials related to the church, which has at least medieval origins. Any groundworks associated with the scheme will need to be monitored by an archaeological watching brief. It would be advisable to build some time/budget into the scheme in order to deal with any intact burials which will need to be lifted under a faculty license and reburied, presumably in the same graveyard.

The archaeologist attending the watching brief will also be asked to take several images of the building prior to the construction of the extension in order to incorporate this into their final report.

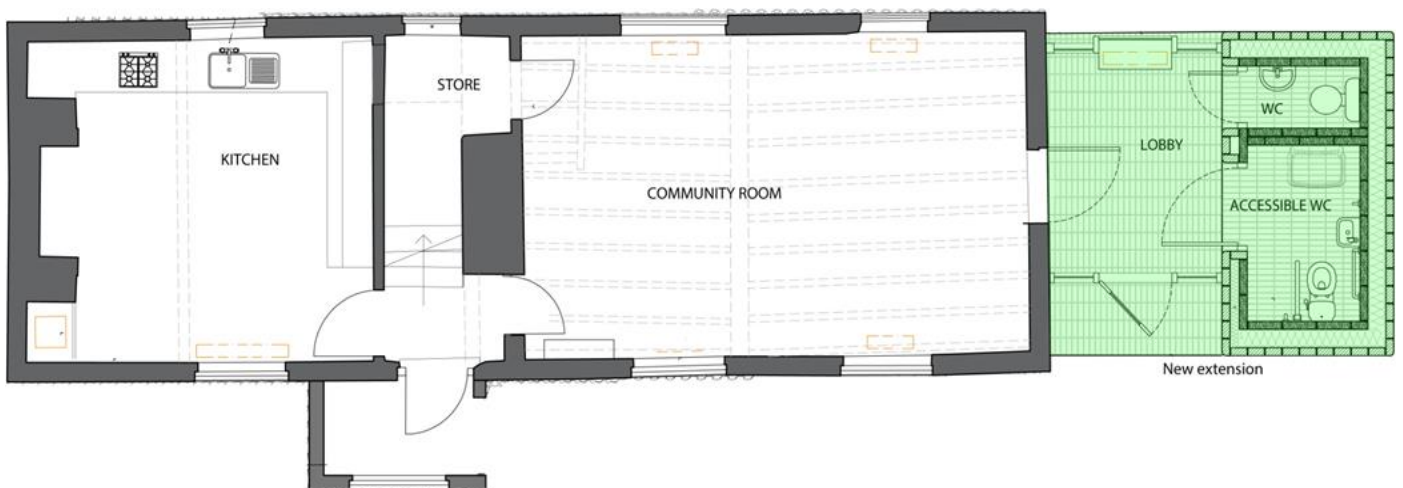


Figure 2: Plan of the lower ground floor of Church Cottage with the new extension highlighted in green, courtesy of Ferrey and Mennim Ltd.

Aims and Objectives

The broad aims of the evaluation:

- To ensure the watching brief, post-excavation and archive are carried out and fulfilled in accordance with guidance as stated in ClfA, (2014), Standard and Guidance for an Archaeological Watching Brief.

Site-Specific Value:

- If articulated inhumations are uncovered, what can they tell us about the lives of the people who lived in Wheldrake at that given period?

Geology and Topography

The topography of the site is low lying, but relatively elevated compared to the surrounding landscape. Church Cottage (SE 68258 44993) is located at approximately 17 metres AOD. The Main Street of the village runs along the Escrick Moraine ridge. The River Derwent is located approximately 1 kilometre to the south-east of the village centre. The land surrounding Wheldrake is mostly arable fields with occasional pockets of woodland. The local geology consists of Sherwood Sandstone with Escrick Moraine superficial deposits (Table 1).

Table 1: Local Geological Data.

Description	Geology	Characteristic of Natural	Archaeological relevance and preservation potential
1:50,000 scale superficial deposits	Escrick Moraine Member-Clay, sandy, gravelly. These sedimentary deposits are glacial in origin.	Mainly greyish-brown to yellowish-brown, poorly sorted, gravelly/ sandy clay to slightly gravelly clay matrix. Included gravel and cobbles, ranging in amounts from a lot to a little (Morainic Till). Soil World Reference Classification: Chromic Luvisols	Bone: Poor, Organics: Poor, Metals: Poor, Stratigraphy: Fair
1:50,000 scale bedrock geology description	Sherwood Sandstone	Sandstone coloured red, yellow and brown. Partly pebbly, conglomeratic in lower part (bgs.ac.uk).	

Archaeological Summary

Wheldrake village has an east/west aligned Main Street with long narrow plots of land extending to the North & South Back Lanes; a form which is typical of medieval settlement design. A 20th century housing development is located mostly to the north and east of Main Street, with South Back Lane retaining its open setting.

Wheldrake has a high proportion of Listed Buildings in relation to its size; twenty-four being Grade II listed (16th-18th centuries), as well as the Grade I listed Church of St Helen, with its 14th Century West tower and five-sided Apse.

In 1979 Wheldrake Conservation Area (York Conservation Area 26) was established. It concentrates upon the historic Main Street and its continuation as Church Lane, as well as the “Back Lanes” established as part of the medieval field pattern.

It is likely that activities in the burial ground of St Helen’s Church would have disturbed any earlier Iron Age or Romano-British features, however deposits from these periods and associated finds may be present (though disturbed). The data search was confined to the previous watching briefs undertaken by York Osteoarchaeology (Table 2).

Table 2: Prior local archaeological interventions and relevance to the development site.

Event Name	Event Type	Results	Key Points to Note during Watching Brief
Archaeological Watching Brief at St Helen's Church, Wheldrake. York Osteoarchaeology (2014)	Watching Brief	Watching brief of excavation of drainage run (average depth 0.30m) on the south side of the nave. Articulated inhumations were not encountered, however a small assemblage of disarticulated remains were encountered. Finds included a coffin handle and clay pipe dated to the C17th-C18th century.	Disarticulated human remains were found at shallow depths, indicating that burials have been disturbed. Check machine excavated spoil for finds.
Archaeological Watching Brief at St Helen's Church, Wheldrake. York Osteoarchaeology (2015)	Watching Brief	This watching brief took place inside the church nave and at depths of 0.30-0.38m, disarticulated human remains were revealed. Based on associated finds, the human remains of at least six individuals were found, dating to the C17th-C18th. Disarticulated remains discovered internally suggest church rebuilding in the C18th.	Disarticulated remains close to the existing walls of Church Cottage are likely due to its construction during the C18th. Away from the existing cottage, elevations could be due to articulated burials.



Figure 3: 1854 Ordnance Survey Map of Wheldrake.

The place name Wheldrake is recorded in the 1086 Domesday Book as 'Coldrid' and was a small settlement of around six households. Its current name Wheldrake ('wells near a ridge of land' - Escrick Moraine) is of uncertain heritage.

The village has evidence of Iron Age/ Romano-British farming, as seen in aerial photographs of extensive field systems and track ways to the north of the village. Excavations revealed a Romano-British farmstead, graves, animal bones, pottery and a road surface.

The planned origins of the village can be observed in the village layout, with long strips of land fronting Main Street and stretching back to either North Lane or Back Lane South (Figure 3). This type of village design was common during the restructuring of the countryside and its assets after the Harrowing of the North during 1069-1070.

The Church of St Helen with its 14th century tower, the rectory, and the site of the Old Hall all sit at the eastern head of the village; a hub of authority as you enter the village from the direction of the River Derwent.

Most of the Listed Buildings in Wheldrake date to the 18th century. Church Cottage is Grade II listed and dates from the early C18th with late C18th additions. It was formerly a school and later, a former post office.

Methodology and Mitigation

Watching Brief

- A faculty order regarding the exhumation of human remains was agreed before any works commenced.
- A site visit was made to photograph the cottage elevations prior to renovations & extensions to record the Grade II listed Church Cottage in its current state, as recommended by the City of York Archaeologist.
- An archaeologist monitored all groundworks relating to the construction of the new porch, extension and additional services.



Figure 4: Representatives from York Osteoarchaeology and LS Archaeology.

Archaeological mitigation works involved appropriate investigation and recording of all potential archaeological features and spot finds. They also required a short phase of post-fieldwork analysis, reporting, and digital archiving. The supervising archaeologist was Luigi Signorelli with site archaeologist Ewan Chipping from LS Archaeology, with Jordi Ruiz Ventura and Malin Holst from York Osteoarchaeology overseeing the assessment of the human remains on and off site (Figure 4). The guidelines for archaeological excavation issued by the Chartered Institute for Archaeologists (2014) were adhered to throughout.

Before groundworks commenced, a site visit was made to photograph Church Cottage prior to the addition of the side extension. These images and a brief description are included in in the results section below.

The area of graveyard allocated for the extension included the standing remains of one gravestone, in poor condition. The gravestone belongs to members of the Beilby Family who were buried within the allocated area. Living relatives of the family supported the construction of the extension, including the removal of the existing stone. They requested that their family's grave was not to be disturbed during groundworks and that the stone should be replaced. A new stone is to be commissioned by the client on behalf of the Beilby Family and will be, at a later date, positioned within a mutually agreed area of the graveyard. The gravestone was photographed in situ and after removal. A brief description is contained within the results section below.



Figure 5: Level of excavation with slight staining, indicating grave cuts.

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During the archaeological ground evaluation, a mini digger fitted with a toothless bucket was used to remove the existing turf and topsoil. The machine removed the soil in shallow spits of 0.1m. The monitoring archaeologist assessed any potentially significant features or deposits for further investigation, and the area was hand cleaned by trowel. This process was repeated until the first horizon of burials were reached at a depth of 0.75m below ground level, or 14.15 AOD (Figure 5). It was at this depth that groundworks ceased and all visible grave cuts were recorded in plan.

It was agreed between all parties that the full excavation of the burials was not required to enable building works to progress. Adequate depths had been reached and mini piling would be used for the extension foundations. York Osteoarchaeology and the engineer working on behalf of Ferrey and Mennim Ltd mutually agreed the locations for fourteen mini piles. The ground was tested and the mini piles were positioned on a plan, in designated spots, identified as not affecting burials. After recording, the area was temporarily sealed with black polypropylene weed control fabric and backfilled with the excavated spoil until extension works commenced later in 2021 (Figure 6).

Recording

A standard single context recording system was used to keep a record of all archaeology encountered. One site plan was drawn at 1:20 on an archive stable *permatrace*. All archaeological features and sections were digitally photographed and saved as uncompressed TIFF files.

Bulk soil samples were not taken, as there was dating evidence available and there was no potential for identifying the survival of paleo-environmental ecofacts or industrial residues. Human remains were encountered. A faculty order was in place prior to excavation. The Human remains were treated in accordance with *Guidance for best practice for treatment of human remains excavated from Christian burial grounds in England* (EH, 2005).



Figure 6: Excavation area sealed with the polypropylene fabric

Post-excavation Analysis

On the completion of work, all records and photographs were suitably stored and catalogued in accordance with the *Institute for Archaeologists* guidance (2008) and the *First Aid for Finds* manual (Watkinson and Neal, 2001). A small quantity of human and animal bone was encountered. The human bone was assessed by York Osteoarchaeology during the post-excavation stage (Appendix 1), whereas the animal bone underwent rapid identification on site.

Results

Church Cottage East Facing Elevation

Historic England's List Entry description of the cottage:

Church Cottage GV II School and former Post Office, now a house. Early C18 with late C18 addition. Red brick with pantile roofs and 2 gable stacks. Raised and tumbled brick gables to earlier range. 2 storey, 3 bay. Single bay early C18 range to west, with a single plank door, now covered by a C20 wooden gabled porch. To the left a 3-light sliding sash with a similar window above. To the east a lower, 2 bay late C18 range with dentilated eaves. Two 3-light sliding sashes with shallow segment heads on the ground floor, with above 2 similar windows above and a small casement. Interior contains chamfered beams. (List Entry Number: 1148484) (Figures 7-10).



Figure 7: Rear aspect of Church Cottage and its position with St Helen's Churchyard.



Figure 8: Front aspect of Church Cottage and proximity to St Helen's Church.



Figure 9: Tumbled brick gable detail as seen on the east facing elevation of the late 18th century range.



Figure 10: The exposed foundations of the late 18th century range comprised of a single course of bricks laid in rowlock, bonded with clay straight onto the ground. Above this row are six courses of brick laid in stretcher, bonded with light brown mortar.

Displacement of the Beilby Family Gravestone

The standing Beilby Family Gravestone (Figures 11-14) was removed due to its location within the footprint of the new extension. Cracked in places, the stone was inscribed:

In Memory of Elizabeth, Widow of William Beilby, Late of this Parish, Died June 23rd, 1867, Aged 69. Also of Hannah Beilby, Daughter of the Above, Who Died Jan 30th, 1879, Aged 33 Years.



Figure 11: Beilby Family gravestone in situ, facing east.



Figure 12: West facing Beilby Family gravestone with an oval top and straight ends facing west.



Figure 13: Beilby Family gravestone, Victorian inscribed carboniferous sandstone.



Figure 14: Gravestone measured approximately 0.72m in width, 1.7m in length.

Excavation

The deposits encountered during the archaeological watching brief consisted of thirty-one contexts (Table 3 and Appendix 2).

The majority of the contexts were burial fills and associated cuts (5) [6], (7) [8], (9) [10], (11) [12], (13) [14], (15) [16], (17) [18], (19) [20], (21) [22], (23) [24], (30) [31] (Figure, 15).

A possible cremation (28) [29] was noted in the west facing section (Section 2).

All burials were aligned east/west and extended up to the eastern elevation of the late 18th century range of Church Cottage [27]. Gas fixtures associated with the cottage were present (25) [26].

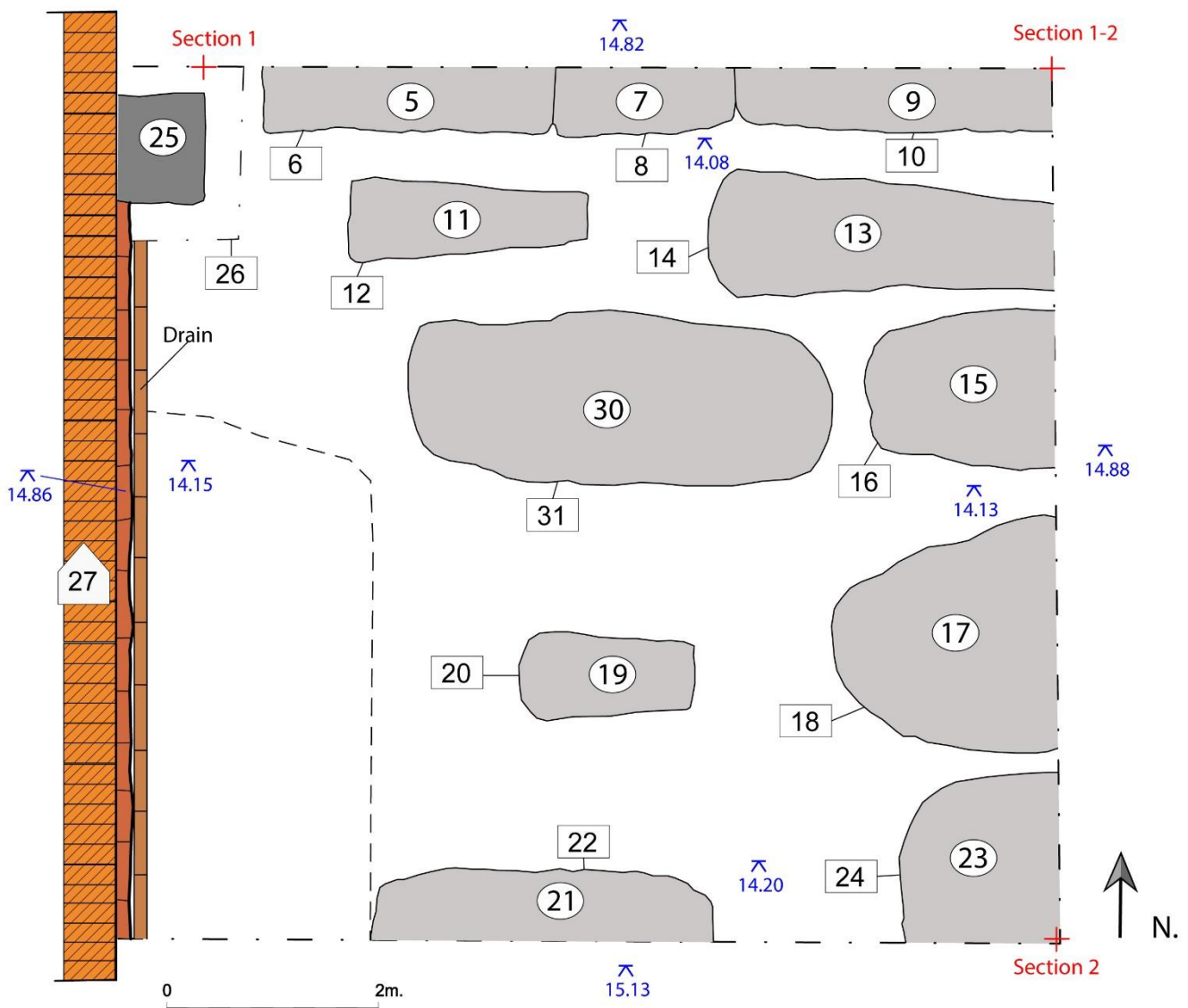


Figure 15: Site plan with features indicated in relation to Church Cottage [27].

Table 3: Context Index.

Context	Feature	Description	Type	Identified As
1		Surface	Deposit	Grass surface of cemetery
2		Topsoil	Deposit	Topsoil
3		Made Ground	Deposit	Mixed disturbed made ground. Grave backfill.
4	4	Redeposited/disturbed sand and clay natural	Deposit	Redeposited/disturbed natural Escrick Moraine
5	6	Fill	Fill	Fill of burial [6]
6	6	Burial	Cut	Cut of burial
7	8	Fill	Fill	Fill of burial [8]
8	8	Burial	Cut	Cut of burial
9	10	Fill	Fill	Fill of burial [10]
10	10	Burial	Cut	Cut of burial
11	12	Fill	Fill	Fill of burial [12]
12	12	Burial	Cut	Cut of burial
13	14	Fill	Fill	Fill of burial [14]
14	14	Burial	Cut	Cut of burial
15	16	Fill	Fill	Fill of burial [16]
16	16	Burial	Cut	Cut of burial
17	18	Fill	Fill	Fill of burial [18]
18	18	Burial	Cut	Cut of burial
19	20	Fill	Fill	Fill of burial [20]
20	20	Burial	Cut	Cut of burial
21	22	Fill	Fill	Fill of burial [22]
22	22	Burial	Cut	Cut of burial
23	24	Fill	Fill	Fill of burial [24]
24	24	Burial	Cut	Cut of burial
25	26	Fill	Fill	Backfill sealing gas box [26]
26	26	Cut	Cut	Cut of 20th century gas box
27	27	Wall	Structure	East wall of cottage
28	29	Fill	Fill	Fill feature [29]
29	29	Burial	Cut	Cut of Cremation?
30	31	Fill	Fill	Fill of Burial [31]
31	31	Burial	Cut	Cut of Burial

The cemetery grass, (1), sealed a dark brown sandy silt topsoil (2) which contained the majority of disarticulated human remains and animal bone (Table 4) and extended to a depth of 0.15m. Small fragments of unstratified ceramic building material and C20th pottery were present in the topsoil.

Underneath the topsoil (2) was a burial backfill comprised of a mixed made ground (3) that sealed all twelve internments. This made ground (3) looked extremely similar to the natural aside from containing infrequent inclusions, and was visible to a depth of 0.6m in which the faint backfills of multiple burials were observed. These multiple burial fills were observed at approximately the same level.

It was at this level that excavation stopped and no further burials were excavated. The graves were cut into a disturbed ground consisting of redeposited natural Escrick Moraine sand and clay (4).

The vertical cuts for burials [6], [8] and [10] were recorded in the south facing section of the excavation limits (Figure 16).

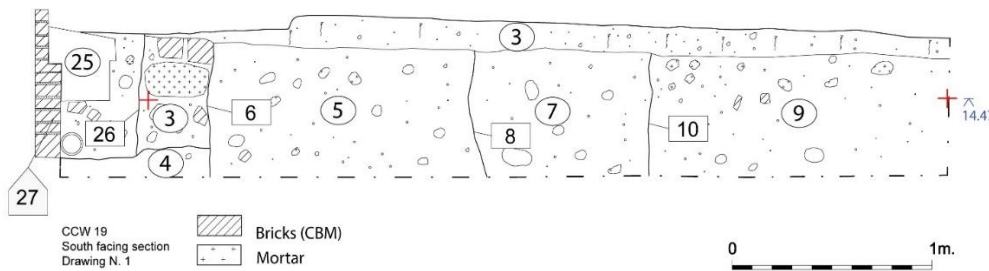


Figure 16: South facing section of excavation limits.

In the west facing section the cuts for burials [10], [14], [16], [18] and [24] were visible and recorded. Possible cremation [29] was noted located between cuts [14] and [16] (Figure 17).

Table 4: Disarticulated animal bone from contexts (2) and (3).

Cattle	
Radius	1
Tooth	1
Ribs	3
Vertebrae	1
Mandible	1
Calcaneus	2
Astragalus	1
Pig	
Tooth	1
Mandible	1
Femur	1
Pelvis	1
Calcaneus	1
Chicken	
Uncertain	3
Sheep	
Tibia	1
Metatarsal	1
Metapodial	1
Pelvis	1
Horse	
Tooth	1
Tibia	1
Unidentified	
Uncertain	25

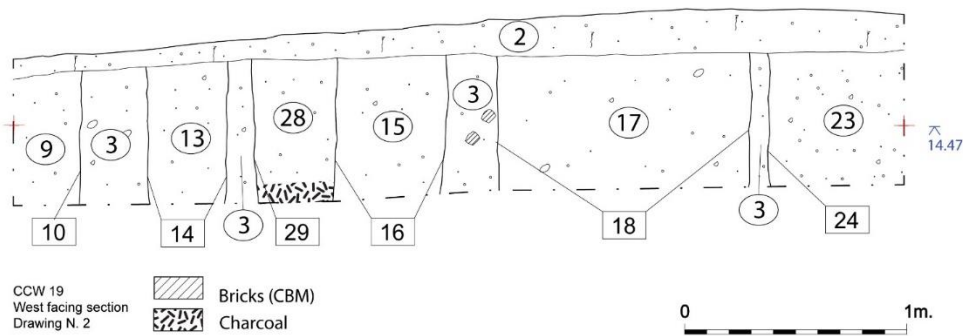


Figure 17: West facing section of excavation limits.

Discussion and Summary

Archaeological evaluations were undertaken at the site of Church Cottage in Wheldrake during November 2020 prior to a programme of internal and external alterations and the construction of an extension. A minimal photographic record of the late 18th century east facing elevation of the cottage was undertaken to preserve an image of the cottage prior to its 21st century extension.

Ground preparation for the extension involved the displacement of a single gravestone belonging to the Beilby Family. This stone is to be replaced and repositioned within the churchyard.

Ground excavations revealed the presence of eleven burials and one possible cremation at approximately 0.75m below ground level or >14.08m <14.2m AOD. The burials were not excavated and were preserved in situ.

A small quantity of disarticulated human and animal bone was found within backfill soils and these were assessed (Chipping, 2020). The animal bone was dominated by cattle fragments although, pig, sheep, chicken and horse bone were present in smaller quantities. The animal bone is likely to be residual and associated with past activities either linked to the cottages' previous function as a school or post office. A cottage garden may have been present.

The disarticulated human bone was retained and assessed. The minimum number of individuals represented by the bone assemblage numbered six. Most of these were adult, with a small amount indicating younger adults and children, including one perinate. Some illness was noted in the bones, such as degeneration in joints, whereas dental assessment was suggestive of poor oral hygiene or protein rich diets and childhood stress (Ruiz Ventura and Holst, 2021).

Archive

This watching brief produced no physical archive, however a digital copy of this report will be deposited with the:

- ✓ City of York Historic Environment Records.
- ✓ OASIS (Online Access to the Index of archaeological Investigations) for inclusion on the Archaeology Data Service LS Archaeology grey literature records page.

<https://archaeologydataservice.ac.uk/archives/view/greylit/browse.cfm?unit=LS%20Archaeology>

Bibliography

CIfA, (2014); *Standard and Guidance for an Archaeological Watching Brief*.

CIfA, (2014); *Code of Conduct*.

York Osteoarchaeology (2014); *Archaeological Watching Brief at St Helen's Church, Wheldrake*

York Osteoarchaeology (2015); *Archaeological Watching Brief at St Helen's Church, Wheldrake*

Online Resources

mapapps.bgs.ac.uk

heritagegateway.org.uk

historicengland.org.uk

freemaptools.com/elevation-finder.htm

opendomesday.org

ancientmonuments.uk

Appendix 1: Osteological Assessment

02 February 2021

OSTEOLOGICAL ASSESSMENT OF HUMAN SKELETAL ASSEMBLAGE FROM CHURCH COTTAGE, WHELDRAKE, NORTH YORKSHIRE

Jordi Ruiz Ventura and Malin Holst

Introduction

In November 2020 York Osteoarchaeology Ltd was commissioned by Ferry and Mennim to carry out an archaeological watching brief in the interior of St. Helen's Church, Wheldrake, North Yorkshire (SE 68227 44952) during the excavations for an extension to Church Cottage, a small building located in the churchyard, to the west of St Helen's Church.

Watching Brief

Site visits were made by a representative of York Osteoarchaeology Ltd to St. Helen's Church in Wheldrake the 25th and the 26th of November of 2020. The visits were intended to monitor the excavation, archaeologically excavate and record any features, including skeletons, and if necessary, to osteologically assess any human remains *in situ*.

A small quantity of disarticulated human remains (39 fragments) were recovered from the subsoil/graveyard soil (Contexts 2 and 3). However, no articulated inhumations were identified. The human bone was briefly osteologically assessed and the results are discussed below. The human remains were reburied by the grave digger after the assessment within the cemetery.

Osteological Methods

Osteological analysis is concerned with the determination of the identity of a skeleton, by estimating its age, sex and stature. Robusticity and non-metric traits can provide further information on the appearance and familial affinities of the individual studied. This information is essential in order to determine the prevalence of disease types and age-related changes. It is crucial for identifying sex dimorphism in occupation, lifestyle and diet, as well as the role of different age groups in society.

Preservation

Skeletal preservation depends upon a number of factors, including the age and sex of the individual as well as the size, shape and robusticity of the bone. Burial environment, post-depositional disturbance and treatment following excavation can also have a considerable impact on bone condition. Preservation of human skeletal remains is assessed subjectively, depending upon the severity of bone surface erosion and post-mortem breaks, but disregarding completeness.

Preservation was assessed using a grading system of five categories: very poor, poor, moderate, good and excellent. Excellent preservation implied no bone surface erosion and very few or no breaks, whereas very poor preservation indicated complete or almost complete loss of the bone surface due to erosion and severe fragmentation.

Minimum Number of Individuals

A count of the 'minimum number of individuals' (MNI) recovered from a cemetery is carried out as standard procedure in osteological reports on inhumations in order to establish how many individuals are represented by the articulated and disarticulated human bones (without taking the archaeologically defined graves into account). The MNI is calculated by counting all long bone ends, as well as other larger skeletal elements recovered. The largest number of these is then taken as the MNI. The MNI is likely to be lower than the actual number of skeletons which would have been interred on the site, but represents the minimum number of individuals which can be scientifically proven to be present.

Assessment of Age

Age was determined using standard ageing techniques, as specified in Scheuer and Black (2000a; 2000b) and Mays and Cox (2000). Age estimation relies on the presence of the pelvis and uses different stages of bone development and degeneration in order to calculate the age of an individual. Age is split into a number of categories, from foetus (up to 40 weeks in *utero*), neonate (around the time of birth), infant (newborn to one year), juvenile (1-12 years), adolescent (13-17 years), young adult (ya; 18-25 years), young middle adult (yma; 26-35 years), old middle adult (oma; 36-45 years), mature adult (ma; 46+) to adult (an individual whose age could not be determined more accurately as over the age of seventeen).

Sex Determination

Sex determination was carried out using standard osteological techniques, such as those described by Mays and Cox (2000). Assessment of sex in both males and females relies on the preservation of the skull and the pelvis and can only be carried out once sexual characteristics have developed, during late puberty and early

adulthood.

Metric Analysis

Stature depends on two main factors, heredity and environment. However, stature can also fluctuate between chronological periods. Stature can only be established in skeletons if at least one complete and fully fused long bone is present.

Non-Metric Traits

Non-metric traits are additional sutures, facets, bony processes, canals and foramina, which occur in a minority of skeletons and are believed to suggest hereditary affiliation between skeletons (Saunders 1989). The origins of non-metric traits have been extensively discussed in the osteological literature and it is now thought that while most non-metric traits have genetic origins, some can be produced by factors such as mechanical stress (Kennedy 1989) or environment (Trinkhaus 1978).

Pathological Analysis

Pathological conditions (disease) can manifest themselves on the skeleton, especially when these are chronic conditions or the result of trauma to the bone. The bone elements to which muscles attach can also provide information on muscle trauma and excessive use of muscles. All bones were rapidly assessed for evidence of pathological changes.

The term joint disease encompasses a large number of conditions with different causes, which all affect the articular joints of the skeleton. Factors influencing joint disease include physical activity, occupation, workload and advancing age, which manifest as degenerative joint disease and osteoarthritis. Alternatively, joint changes may have inflammatory causes in the *spondyloarthropathies*, such as septic or rheumatoid arthritis. Different joint diseases affect the articular joints in a different way, and it is the type of lesion, together with the distribution of skeletal manifestations, which determines the diagnosis (Rogers 2000, Roberts and Manchester 2005).

Dental Health

Analysis of the teeth from archaeological populations provides vital clues about health, diet and oral hygiene, as well as information about environmental and congenital conditions.

If plaque is not removed from the teeth effectively (or on a regular basis) then it can mineralise and form concretions of calculus on the tooth crowns or roots (if these are exposed), along the line of the gums (Hillson 1996, 255-257). Mineralisation of plaque can also be common when the diet is high in protein (Roberts and

Manchester 2005, 71). Calculus is commonly observed in archaeological populations of all periods, although poor preservation or damage caused during cleaning can result in the loss of these deposits from the teeth (Roberts and Manchester 2005, 64).

Dental enamel hypoplasia (DEH) is the presence of lines, grooves or pits on the surface of the tooth crown, and occurs as a result of defective formation of tooth enamel during growth (Hillson 1996). Essentially, they represent a period when the crown formation is halted, and they are caused by periods of severe stress, such as episodes of malnutrition or disease, during the first seven years of childhood. Involvement of the deciduous (milk) teeth can indicate pre-natal stress (Lewis 2007). Trauma can also cause DEH formation, usually in single teeth.

Results

The preservation of the majority of the human bone was good, with very little surface erosion or abrasion, however, a large quantity of the bones recovered were fragmented. The fragmentation of the bone and the fact that it was no longer *in situ* would suggest that existing burials had been disturbed in the past.

The total MNI for all of the human remains recovered was six, which included three left distal humeri, which belonged to adults, a perinate frontal bone, a left femur belonging to an old juvenile, and a fragment of mandible that belonged to a possible adolescent.

Age was rapidly assessed and was based on as many criteria as possible. As no os coxae (pelvis) were identified amongst the disarticulated bones, age was only estimated according to the developmental status. The majority of the assemblage (28 bones) belonged to adult individuals (18+ years). Approximately one third of the assemblage belonged to non-adult bones and consisted of at least one perinate (around birth), an old juvenile (aged 7-12 years), and one possible adolescent (13-17 years). Based on the presence of dimorphic traits of the mandible, one adult appeared to be a possible female.

Due to the fragmentation of all the skeletal elements, it was not possible to estimate stature from any of the long bones. Only one non-metric trait was observed in small skeletal assemblage of disarticulated human bone. A third trochanter was found on a right adult femur.

A fragment of distal ulna and a fragment of distal humerus displayed marginal osteophytes, indicative of degenerative changes on the joints.

One partial adult mandible, and one partial adolescent mandible were recovered from the disarticulated assemblage. Between the dentitions, ten tooth positions and four teeth were present, whereas six teeth had been lost post-mortem.

Two of four teeth present in the disarticulated assemblage showed evidence for slight deposits of calculus, suggesting a lack of dental hygiene or that diet were rich in protein. Dental enamel hypoplasia was represented as horizontal lines in two teeth of the mandible of a possible adolescent and suggested early childhood stress.

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CATALOGUE OF DISARTICULATED HUMAN REMAINS

Context	Bone Element	Bone	Side	%Bone	SP	Frag	Age	Sex	Notes
2	Mandible	Right hemimandible, 2nd lower right premolar, 3rd lower right molar	Right	50	3	1	Ad	F?	No DJD. 5 tooth positions. 2 teeth present, 3 teeth left post-mortem. 2/2 teeth had moderate wear.
2	Femur	Proximal shaft	Right	60	3	1	Ad	?	
2	Tibia	Proximal, central shaft, distal joint	Left	75	3	6	Ad	?	No DJD
2	Ribs	Indeterminate rib fragments	Right	30	3	3	Ad	?	
2	Clavicle	Central shaft	Right	50	2	3	Ad	?	
2	Fibula	Proximal shaft	Right	40	2	1	OJ	?	
2	Ribs	1st rib	Right	100	1	1	OJ?	?	
2	Metatarsal	4th	Left	100	2	1	Ad	?	No DJD
2	Ulna	Distal shaft + distal joint	Left	15	2	1	Ad	?	DJD distal joint
2	Scapula	Acromion, coracoid, blade	Right	50	2	4	Ad	?	No DJD
2	Scapula	1 blade fragment	Right	10	2	1	Ad	?	
2	Humerus	Distal shaft, fragment of distal joint	Right	30	2	1	Ad	M?	Slight DJD
2	Humerus	Distal shaft, distal joint	Right	15	2	1	Ad	?	Apparently, no DJD.
2	Humerus	Distal shaft, fragment of distal joint	Left	15	2	1	Ad	?	
2	Hand phalanx	2nd or 3rd proximal hand phalanx	Left	100	1	1	Ad	?	No DJD
2	Mandible	Body, from C to M3	Right	20	2	1	ADOL?	?	5 tooth positions. 2 teeth present, 3 teeth lost post-mortem. 2/2 teeth had DEH, slight calculus, and slight enamel

YORK OSTEOARCHAEOLOGY LTD

75 Main Street • Bishop Wilton • York • YO42 1SR • Tel 01759 368483 • Mobile 07803 800806

E-mail malinholst.yoa@gmail.com • Website : www.yorkostearch.co.uk

Context	Bone Element	Bone	Side	%Bone	SP	Frag	Age	Sex	Notes
									wear.
2	Femur	Proximal-central-distal shaft	Right	70	2	2	Ad	?	3rd trochanter
2	Tibia	Distal joint	Left	10	2	1	Ad	?	
2	Metatarsal	5th	Left	95	2	1	Ad	F?	
2	Radius	Central shaft	Left	60	2	1	Ad	?	
2	Fibula	Central shaft	Left	50	2	1	Ad?	?	
2	Fibula	Proximal joint, proximal shaft	Right	25	2	1	Ad?	?	
2	Fibula	Proximal joint, proximal-central shaft	Right	50	2	1	Ad?	?	
2	Leg	Long bone fragments	-	5	2	3	Ad?	?	
2	Ribs	2nd rib	Right	100	1	1	Juv	?	
3	Skull	Frontal bone	Right	100	1	1	Perinate	?	No cribra orbitalia
3	Humerus	Proximal, central shaft	Right	50	1	1	Juv	?	
3	Scapula	Glenoid, blade fragment	Left	40	2	1	Juv	?	
3	Femur	Proximal-central-distal shaft	Left	100	1	1	Juv	?	
3	Tibia	Central shaft	Left	20	2	1	Ad?	?	
3	Fibula	Proximal-central shaft	Right	70	3	8	Juv?	?	
2	Skull	Parietal	U	5	3	2	Ad?	?	
2	Humerus	Distal shaft	Right	25	3	1	Ad	?	
2	Ribs	Indet, mid shaft	Right	5	2	1	Ad?	?	
2	Metatarsal	3rd	Right	100	2	1	Ad	?	No DJD
2	Metatarsal	1st (proximal)	Left	25	2	1	Ad	?	
2	Ribs	Indet. R rib, head+shaft	Right	90	1	1	Ad	?	
2	Scapula	Glenoid, blade	Right	20	2	1	Juv	-	
2	Metacarpal	2nd, 3rd or 4th	Right	100	1	1	Juv	-	

Appendix 2: Context Data

Context	Type	Shape	Profile	Length cm	Width cm	Depth cm	Notes	Period
1	Surface	Layer	Layer	410	440	5	Grass surface covering all of the graveyard.	21st Century
2	Topsoil	Deposit	Layer	410	440	15	Dark brown silty loose topsoil containing CBM, mortar, human and animal bones and 20th century pottery (not retained).	20th Century
3	Made-up ground	Deposit	Layer	410	440	60	Mixed disturbed, made ground. Dark brown silt and redeposited clay from natural. Inclusions of CBM, mortar and animal bones. Extremely varied made ground into which burials have been cut. Not seen in plan, almost no difference to burial fills.	Post Medieval
4	Redeposited natural	Deposit	Deposit	410	440	0	Redeposited natural, yellowish-brown sand and clay. Observed at a depth of 0.75m from ground surface, at the base of the foundation trench. Disturbed ground due to grave preparation (multiple burials).	
5	Fill	Rectangular	NA	138	32	60	Loose fill comprising, mixed clay redeposited natural and dark brown silt. Contains CBM and mortar. Fill of burial cut [6]. Not seen until down to natural due to mixed nature of ground above.	Post Medieval
6	Cut	Rectangular	NA	138	32	60	Cut for a burial, rectangular shape in plan, filled with context (5). Cut for burial. Not seen when stripping due to very mixed nature of ground. Seen in section 1 cutting from below topsoil (2).	Post Medieval
7	Fill	Rectangular	NA	84	32	60	Loose fill comprising, mixed clay redeposited natural and dark brown silt. Contains CBM and mortar. Fill of burial cut [8]. Not seen until down to natural due to mixed nature of ground above.	Post Medieval

Context	Type	Shape	Profile	Length cm	Width cm	Depth cm	Notes	Period
8	Cut	Rectangular	NA	84	32	60	Cut for a burial, rectangular shape in plan, orientated east to west, filled with context (7). Not seen when stripping due to very mixed nature of ground, seen in section 1. Placed between burials [6] and [10].	Post Medieval
9	Fill	Rectangular	NA	150	30	60	Loose fill comprising, mixed clay redeposited natural and dark brown silt. Contains CBM and mortar. Fill of burial cut [10]. Not seen until down to natural due to mixed nature of ground above.	Post Medieval
10	Fill	Rectangular	NA	150	30	60	Cut for a burial, rectangular shape in plan, orientated east to west, filled with context (9). Not seen when stripping due to very mixed nature of ground. Seen in section 1 and 2, cutting from below topsoil (2). Associated with burials [6] and [8].	Post Medieval
11	Fill	Rectangular	NA	112	38	60	Loose fill comprising, mixed clay redeposited natural and dark brown silt. Contains CBM and mortar. Fill of burial cut [12]. Not seen until down to natural due to mixed nature of ground above.	Post Medieval
12	Cut	Rectangular	NA	112	38	60	Cut for a burial, rectangular shape in plan, orientated east to west, filled with context (11). Not seen when stripping due to very mixed nature of ground. Seen in section 2, cutting from below topsoil (2).	Post Medieval
13	Fill	Rectangular	NA	162	60	60	Loose fill comprising, mixed clay redeposited natural and dark brown silt. Contains CBM and mortar. Fill of burial cut [14]. Not seen until down to natural due to mixed nature of ground above.	Post Medieval
14	Cut	Rectangular	NA	162	60	60	Cut for a burial, rectangular shape in plan, orientated east to west, filled with context (13). Not seen when stripping due to very mixed nature of ground. Seen in section 2, cutting from below topsoil (2).	Post Medieval

Context	Type	Shape	Profile	Length cm	Width cm	Depth cm	Notes	Period
15	Fill	Ovate	NA	88	79	60	Loose fill comprising, mixed clay redeposited natural and dark brown silt. Contains CBM and mortar. Fill of burial cut [16]. Not seen until down to natural due to mixed nature of ground above.	Post Medieval
16	Cut	Ovate	NA	88	79	60	Cut for a burial, rectangular shape in plan, orientated east to west, filled with context (15). Not seen when stripping due to very mixed nature of ground. Seen in section 2, cutting from below topsoil (2).	Post Medieval
17	Fill	Ovate	NA	105	70	60	Mixed fill containing dark brown silt and clay from deeper natural. Very loose compaction. Fill of burial cut [18]. Not seen until down to natural due to mixed nature of ground above.	Post Medieval
18	Cut	Ovate	NA	105	70	60	Rectilinear cut extending under the eastern trench edge. Cut for burial filled with context (17). Not seen until cutting approximate natural. Seen in section 2, cutting from below topsoil (2).	Post Medieval
19	Fill	Rectangular	NA	80	40	60	Dark brown silt very loose compaction contains some mixed CBM and mortar. Fill of burial. Infant / child. Not seen until in plan against natural.	Post Medieval
20	Cut	Rectangular	NA	80	40	60	Cut for a burial, filled with context (19). Not seen in section and only seen in plan after strip to natural.	Post Medieval
21	Fill	Rectangular	NA	160	35	60	Dark brown fill containing mortar and CBM. Very loose compaction. Extending under the south trench edge. Fill of burial seen in plan only. In section is very mixed and disturbed.	Post Medieval
22	Cut	Rectangular	NA	160	35	60	Cut for a burial, extending under south trench edge. Containing fill (21). Only seen in plan.	Post Medieval

Context	Type	Shape	Profile	Length cm	Width cm	Depth cm	Notes	Period
23	Fill	Ovate	NA	72	80	60	Loose dark brown, orange silt with some redeposited natural clay, contains fragments of mortar and flakes, similar to context (3). Fill of burial [24] only seen in plan, similar to made ground. Caped with loose mortar. Belong to the Beilby family, of at least two internments (Elizabeth and Hannah). Gravestone removed for the excavation and will be replaced with a new. Only the western edge of the burial was present in the south east corner of the trench.	Post Medieval
24	Cut	Ovate	NA	72	80	60	Cut for a burial, Rectangular shape in plan, filled with context (23). First seen in plan and later in section 2. This burial belonged to the Beilby family with at least two internments (Elizabeth and Hanna). Not excavated.	Post Medieval
25	Fill	Linear	Square	45	40	62	Very dark brown loose sandy silty clay mixed with rubble. Identified as the fill of the installation of a gas box, at the base of the cut under the gas box there is a drain clay pipe Of 12cm in diameter and each segments measures 34cm in length. the drain runs along the easter wall [27] of the cottage.	20th Century
26	Cut	Linear	Square	45	40	62	Cut for the installation of 20th century gas box and a clay pipe drain. Vertical edges and flat base, it runs adjacent to the eastern cottage wall.	20th Century
27	Wall	Linear	Square	460	25	NA	East elevation of the church cottage made of bricks and mortar. Mortar is light brown mixed with sand and fine angular gravel. Bricks laid in a Common bond (Flemish bond). Brick dimensions are: 26cm long, 11cm wide, and 6cm high. The foundation for this wall is 6 courses of bricks laid in stretcher bond above a single course of rowlock bricks, bonded with clay.	19th Century

Context	Type	Shape	Profile	Length cm	Width cm	Depth cm	Notes	Period
28	Fill	NA	Square	NA	35	65	Dark brown clay silt contains 20% of charcoal. Interpreted as the fill of a possible cremation. Only seen within the easter section 3 of the excavation.	Post Medieval
29	Cut	NA	Square	NA	35	65	Vertical cut with a flat base identified and recorded from section 2 (eastern section of the excavation) as the cut for a possible cremation, cuts burial [16], filled by (28). Not seen in plan. Not excavated.	Post Medieval
30	Fill	Rectangular	NA	200	80	NA	Loose fill comprising of a mixed dark brown and orange clay silt. Clay part of redeposited natural. Contains fragments of CBM and mortar. Fill of burial [31]. Due to the mixed nature of the ground the burial was fully identified when excavation reached the natural.	Post Medieval
31	Cut	Rectangular	NA	200	80	NA	Cut for burial, orientated on an east to west alignment. Filled with context (30). Located to the west of burial [16]. Not seen when stripping due to very mixed nature of ground.	Post Medieval