# River Valley, Windmill Lands, Swords, Co. Dublin
# Archaeological excavation of exposed human remains

## Final Excavation Report

Client: Fingal County Council

Licence No: 20E0329

Archaeologist: Maeve McCormick

Report Date: Oct 2020

Testing | Surveying | Excavating |Analysing | Conserving | Reporting

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## SUMMARY

This report has been prepared by Archer Heritage Planning Ltd detailing the results of an excavation at River Valley, Windmill Lands, Swords. Excavation was undertaken on 23rd – 26th of June 2020 on the southern bank of a bend in the River Ward to the east end of Ward River Valley Park by Maeve McCormick of Archer Heritage Planning Ltd under licence (20E0329) from the Department of Culture, Heritage and the Gaeltacht (DCHG) in consultation with the National Museum of Ireland (NMI) due to erosion of the riverbank which exposed and damaged a skeleton (ITM 717858, 746524). A trench measuring c.7 sq m (2.3 N/S x 3m E/W) was opened, centred on the exposed skeleton. Excavation revealed the presence of one skeleton (SK1) which was fully recorded and excavated. Another burial (SK2) was partially exposed and preserved-*in-situ*. Two possible grave cuts with no associated surface bone present were also recorded and preserved-*in-situ*. Metal detection was undertaken on the spoil heap, the riverbed and within the excavation trench under consent (20R0132) in order to aid with finds retrieval.

An earlier excavation (Licence No. 99E0554) took place on this riverbank 4m to the NE of the excavation discussed within this report. It was undertaken by The Underwater Archaeological Survey Unit of Dúchas the Heritage Service in 1999. It was also commissioned as a result of the erosion of skeletons from the riverbank. The excavation resulted in the discovery of six articulated human remains comprising of four adult females and two infants which were dated to the 13th-14th century (DU011-090).

Excavation revealed a juvenile skeleton (SK1), aged between 9-11 years at time of death. A medieval radiocarbon date of 1045-1225calAD (UBA-43540, 883±29 BP) was returned from the left first metatarsal (Bone ID95) of this skeleton. The erosion by the Ward River caused the skull and left ribs to be exposed and resulted in the loss of the left side of the cranium, upper left arm and partial left shoulder.

SK1 was buried within a grave cut (C5), lying in an extended, supine position, orientated E/W with head to the west as is traditional for Christian burials. The position of both the arms across the stomach and straight legs with feet tightly together is strongly indicative of a tight shroud burial. There was no evidence of a coffin. The grave was marked with large stones placed on the surface after burial. The remains of SK1 showed no definitive signs of pathology or trauma and this individual appeared to have been relatively healthy with no signs of malnutrition at time of death. The lack of evidence for cause of death suggested this individual may have died as a result of a fast moving, highly infectious disease but this cannot be said with certainty.

The excavated remains of SK2, a juvenile aged 3-5 years at time of death, comprised loose fragments of skull and teeth which had been exposed when it was uncovered.The exposed remains were within a clear grave cut (C7) which was also aligned E/W with head to west as is traditional for Christian burials. Two further burials, C10 and C12 were also noted during excavation running into the west and east trench edge respectively. There were no surface bones uncovered. Large stones marked the grave cut, C10,in a similar manner to the grave cut (C6) of SK1.

The possible cause of death for SK1 is in line with the findings of the 1999 excavation who suggested the skeletons were hastily buried in shallow graves beneath the midden as a result of an infectious disease

epidemic. While the possible cause of death for SK1 seems to support this suggestion of an epidemic, the grave marking stones noted on grave cut C5 and C10 of the current excavation may seem to contradict the 'rapid burial' interpretation.

Prior to 1999 it was not known that there was a medieval burial ground within Ward River Valley Park. This current excavation suggests that the burial ground is more substantial than the 1999 excavation suggested. Those buried in this cemetery were Christians, some of whom may have died during an epidemic in the monastic town of Swords. It must be noted that further erosion to this riverbank is likely to expose more skeletons. It is recommended that a full scale excavation take place to preserve the burial ground by record before it is damaged further

## ACKNOWLEDGEMENTS

I would like to thank Christine Baker of Fingal County Council and Margaret Keane of the National Monuments Service for their help and guidance during the excavation. I would also like to thank Sharon Weadick (NMI) for collecting and keeping the human remains which had eroded from the riverbank and returning them to us for analysis. I would also like to acknowledge the locals of Swords who noticed the erosion, alerted the council and took great interest throughout the excavation. Finally, I would like to thank the excavation team of Bart Korfanty and Oisin Mc Guinness.

## 1. INTRODUCTION

This report has been prepared by Archer Heritage Planning Ltd detailing the results of an archaeological excavation undertaken at River Valley, Windmill Lands, Swords, Co. Dublin on behalf of Fingal County Council (FCC). Excavation was undertaken on 23rd – 26th of June 2020 by Maeve McCormick under licence (20E0329) from the Department of Culture, Heritage and the Gaeltacht (DCHG) in consultation with the National Museum of Ireland (NMI). The excavation was undertaken in response to continued river erosion at this location. In 1999, a skull was exposed c. 4m to the NE of the current works. Subsequently, a rescue excavation undertaken by the Underwater Archaeological Unit, *Dúchas* (99E0554) uncovered six burials which were dated to the 13th-14th century AD by artefact association (Brady & Kelleher, 1999). In April 2020, another skeleton was exposed by river action. Following inspection by the NMI and FCC, a second rescue excavation was commissioned by FCC. The current report presents the final results of the 2020 excavations, incorporating results of specialist analysis.

## 2. SITE DESCRIPTION

### *2.1 Receiving environment*

This green-field site is located c.250m to the west of Swords town centre (ITM 717858, 746524; Figure 1). The site is located on the southern bank of the River Ward on a pronounced bend situated to the east of the Ward River Valley Park. A trench measuring c.7 sq m (2.3 N/S x 3m E/W) was opened, centred on the exposed skeleton. The trench was located c.4m SW of the 1999 trench (99E0554) which uncovered six skeletons (DU011-090, ITM 717862, 746528).

Like many of the ancient towns in Fingal, Swords would appear to have an ecclesiastical origin. A monastery was founded here in the 6th century, reputedly by St Colmcille, who appointed St Fionnan Lobhar as the first abbot. The early monastery was established on the prominent ridge of high ground overlooking Main Street from the west and Brian Boru is said to have rested here following his death at the battle of Clontarf in AD 1014 en route to his burial at Armagh. Today, the most notable survival of the early monastic site is the round tower, dating to the 10th century (but subsequently 'restored' in the 17th century).

The monastic settlement was recorded in contemporary annals throughout the 10th–12th centuries AD. Much of the raiding activity recorded in the annals appears to have been carried out by Irish assailants. One particular attack in AD1035 was carried out in retaliation for a Norse attack at Ardbraccan, Co. Meath. This suggests that Swords was part of the Scandinavian kingdom of Dyfflinarskiri (Dublin) and therefore owes it heritage to Viking, as well as monastic settlement.

The second half of the 12th century saw the arrival of the Anglo-Normans and the transfer of control of the monastic lands to the archbishops of Dublin. Swords Castle which was built c. 1200, was a principal archiepiscopal residence in this period. Before the end of the 12th century, a borough was established. Borough

status granted privileges such as the right of self-government and trade protection from outside merchants to the towns' inhabitants. In 1193 the borough was granted the right to hold an eight-day fair centred on the feast of St Colmcille. The marketplace was located in Main Street, Swords and can still be seen where the street was widened to accommodate it. Later still, in 1395 a weekly market was established.

The medieval town was mainly arranged along a single linear street, High Street (Main Street). The focus of settlement was the gates of the archbishop's palace. By the late 16th century, a town wall was in existence, although currently no town defences survive above ground. The continued wealth and importance of the town in the medieval period is demonstrated by Swords being regarded as 'the golden prebend' because its revenues for the archbishops were so handsome. St Columba's parish church reflected this wealth through its size and its three side chapels. The present church was built around 1818 using the materials of the original medieval building and currently the only surviving medieval buildings are the 15th-century west tower and the round tower.

There were two previous excavations within Windmill Lands townland. The first was located off the Brackenstown road, c.250m NW of the current site. Excavations here by J. Kavanagh of Icon Archaeology in 2014 (14E0206, 2015:093) uncovered a circular enclosure with interior industrial activity. It was 18m in diameter, defined by a c.3m wide ditch and was heavily truncated by the Brackenstown road. Preliminary analysis suggested it was a prehistoric site reused for industrial purposes in the early medieval period. They also uncovered a small section of the townland and ecclesiastical boundary. The second recorded excavation in Windmill lands was that of the previously mentioned burials by Brady and Kelleher of the Underwater Archaeological Unit, Dúchas (99E0554, 1999:275, DU011-090). The 1999 trench was located c.4m to the NE of the present trench (ITM 717862, 746528). They uncovered the remains of six individuals ranging in age from newborn to older adult. They were buried beneath and within a large midden dated to the 13th-14th century.

## 3. METHOD STATEMENT

The overall aim of the excavation at River Valley, Swords was to preserve by record the skeleton which was exposed within the river bank and any associated archaeological features which may also be at risk of erosion. The site was excavated from 23rd to 26th of June 2020. Topsoil was removed by hand across a 7 sq m area and carefully stacked for reinstatement. The skeleton (SK1) was exposed, recorded and removed. Another skull (SK2) was uncovered in the middle of the trench. The skull likely belonged to an articulated skeleton and was located within grave cut, C7. Two additional possible grave cuts, C10 & C12, were recorded running into the east and west baulk respectively. The skull and two possible grave cuts were deemed not to be in immediate danger of erosion and so were left *in situ,* recorded, covered in plastic and reburied.

### *3.1 General Excavation Methodology*

An open area rescue excavation strategy was employed. The recording techniques used are based on a system that best suits a rural environment as outlined in Barker (1977). This was supplemented by the recording system described in the Museum of London Archaeological Service Site Manual (Spence 1990). A single context

recording system was used to record the site and multi-context plans were drawn at a scale of 1:20 or 1:50 (plans) & 1:10 or 1:20 (sections) as appropriate. Artefacts were labelled in accordance with NMI guidelines. The topsoil was removed by hand and stacked carefully for reinstatement. The trench was excavated by hand. The exposed site was then hand cleaned to aid identification and recording of the archaeological material. Metal detection was undertaken at every spit level within the trench and on the spoil heap and river bed under licence 20R0132. The identified features were assessed *in-situ* by licenced archaeologist Maeve McCormick MSc. All archaeological features were then planned and photographed. The principal goals of the excavation were:

- Establish the stratigraphical sequence of the site;
- Determine the various phases of activity;
- Examine the morphology of the various features/structures; and
- Establish the date & function of the features.

In the discussion of the site accompanying the final excavation report, the archaeological features will be considered within its local and wider archaeological context, comparing the material to other excavated sites and assemblages. The excavation was carried out within the agreed timeframe and to the specifications agreed with the licensing authorities.

### *3.2 Recording*

All archaeological features and deposits encountered during the works were given a unique context number in a continuous system recorded in the site archive. Entries were backed up by site-note books, and annotated multi-context drawings at appropriate scales. Site plans showed the location of all features recorded in the course of the excavation. Annotated sections were drawn at scales of 1:20. Heights of all principal features and levels were calculated relative to Ordnance Datum, correct to two decimal places. Site drawings were scanned and digitised using AutoCAD 2019 and geo-referenced to ITM projection. Digital photographs were taken of all archaeological features and deposits.

### *3.3 Sampling*

Environmental sampling was undertaken in accordance with recent professional guidelines (*e.g.* Environmental Sampling: Guidelines for Archaeologists IAI 2007). Three bulk samples were taken from the excavation, specifically targeting SK1 (one from the hands, the feet and the pelvis region). These were processed in a custom-made flotation tank, passing samples through successive, nested sieves of decreasing mesh diameter to collect charcoal, small bones, charred seeds etc. These samples were subsequently dried and retained for further analysis. Human remains were collected from the flot and retent in the form of small hand bones and epiphyses. There were no charred remains of plants or seeds found.

### *3.4 Archaeological Objects*

All archaeological artefacts collected in the course of the excavation were individually numbered with reference to the archaeological deposit from which they were retrieved. There were no immediate conservation requirements necessitating delivery to a conservator and all metal finds were bagged with silica gel.

#### *3.4.1 Metal Detection Device, licence 20R0132.*

The metal detector used by Archer Heritage Planning is the Minelab X–terra 705 with pre-set 28-segment discrimination scale that allows All Metal & Iron Mask functions. The X-terra 705 provides a 'depth to target' function allowing the location of objects to be pinpointed with greater accuracy. The site was excavated in spits of 0.25m. Metal detection was employed under licence 20R0132 at all spit levels, within the grave fill and along the riverbed.

### *3.5 Human Inhumation*

Human remains were excavated in accordance with best practice and professional guidelines (e.g. Treatment of Human Remains, 2004, IAI and Guidelines to the Standards for Recording Human Remains, 2004, BABAO, NMI & IFA). All human remains were assessed *in situ*, recorded and excavated by onsite Osteologist Maeve McCormick, MSc.

## 4. EXCAVATION RESULTS

### *4.1 Introduction*

A trench measuring c.7 sq m (2.3 N/S x 3m E/W) was opened by hand, centred on the exposed skeleton (SK1) in the river bank (ITM 717858, 746524). The trench was excavated in 0.25m spits. The following sections outline the excavation results. General descriptions are presented of each feature while detailed feature descriptions are given in Appendix 1.1.

#### *4.1.1 Landscaping Layer, C2*

A 0.65m deep layer (C2) of introduced soil (rubble clayey silt and animal bone) was recorded beneath topsoil (C1). It comprised compact, dark brown, clayey silt with frequent stone (<100mm in diameter), moderate large stone (100-250mm in diametre), moderate shell and animal bone inclusions. The layer was very organic with frequent insects noted. It was excavated in three spits (spit 2, 3 & 4).

Two body sherds of a Black Glazed Ware storage jar (20E0329:2:1) and a single rim sherd of Glazed Red Earthenware bowl (20E0329:2:6) dated from late 17$^{th}$ to 19$^{th}$ century was recovered from this context. A single sherd of a Transfer Printed Ware bowl base (20E0329:2:2) dated from late 18$^{th}$ to 20$^{th}$ century was also recovered alongside modern (19$^{th}$-20$^{th}$ century) white glazed pottery (20E0329:2:5). Two post medieval clay pipe

stems (20E0329:2:4) and a square nail (20E0329:2:3) found by metal detection were also retrieved from this context. (See section 5 for details)

Fourty eight fragments of animal bone weighing 717g were recovered from this layer (32% of total bone assemblage, 49% of total bone weight). The faunal remains from this context represented that of one bird, one horse, one pig and one sheep/goat along with a large amount of unidentifiable bone.

This layer was interpreted as a rubble dump used to raise and landscape the park grounds resulting in less waterlogging and less frequent flooding from the Ward River. Based on the artefacts recovered it can be assumed these landscaping works took place between the late 18th and early 20th century.

### *4.1.2 Midden layer, C3*

The landscaping layer C2 overlay C3, a stoney midden layer measuring 0.10-0.15m deep. This layer comprised a compact, blackish brown, clayey silt with frequent small stones (<100mm in diameter), animal bone and shell inclusions. The only artefact recovered from this layer was a single iron rivet (20E0329:3:1) found by metal detection.

There were 80 bone fragments amounting to 633g (53% of total bone assemblage, 43% of total assemblage weight) recovered from this context. The remains from this context represented one cow and one sheep/goat along with a large amount of unidentifiable bone.

This context was noted in a previous excavation (99E0554) which took place only c.4m to the NE. It was interpreted as a midden dump used to hastily bury the six shallowly buried skeletons uncovered during that excavation which were dated to the 13th-14th century (DU011-090). It is likely this context served the same purpose in this excavation as the grave cuts were uncovered beneath this layer.

### *4.1.3 Burials*

Upon removing the midden layer C3, a buried turf layer C4, most likely the original ground surface, was uncovered. Four grave cuts (C5, C7, C10 & C12) were visible at this level and cut through the buried topsoil. Excavation revealed that at least 2 of these graves contained burials. Skeleton 1 (SK 1) was a juvenile aged between 9-11 years and located within a discrete grave cut (C5). This burial was exposed by river action and in immediate danger of further erosion. It was consequently fully excavated and recorded. An additional skull (SK2) was noted in the middle of the trench within a discrete grave cut (C7). It was located 1.10m south of the river bank and not in immediate risk from erosion. As a result it was preserved *in situ*. Two other possible grave cuts (C10 & C12) were recorded, running under the east and west baulk. No skeletal remains were recorded at the surface these graves, which were set back from the riverbank.

#### *4.1.3.1 Skeleton 1 (SK1)*

SK1 was located at the northern limit of the trench on the southern bank of the Ward River. It was a supine extended inhumation aligned west-east with the head at the west. The skeletal remains were recorded within a grave cut (C5), which was oval in plan and measured 1.5m E/W x 0.55m N/S x 0.40m deep. The left arm was flexed with the hand resting within the pelvis. The upper left arm had been lost to river erosion. The right arm was bent at a right angle and the forearm crossed the torso with the right hand resting on the left elbow. The legs were extended straight with feet tightly together. The position of the body indicates this was most likely a shroud burial. The E/W orientation of the gravecut is suggestive of a Christian burial. The remains were those of a juvenile aged 9-11 years at time of death. It was not possible to determine sex or stature. There were no definitive signs of pathology or trauma noted.

The grave was marked by 6 large stones (0.15-0.25m diameter) which were placed on the top of the grave following the burial (see Figure 4 & Plates 5-11). The grave contained no artefacts but did contain a small amount of animal bone. There were only 10 animal bone fragments within the grave amounting to 51g (7% of total bone assemblage, 3% of total assemblage weight). The faunal remains from this context represented one sheep/goat, the rest of the bones were unidentifiable.

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#### *4.1.3.2 Skeleton 2 (SK2)*

SK2 comprised the exposed remains of the skull of a juvenile aged 3-5 years at time of death. The exposed remains were within a clear grave cut (C7) which measured 0.50m E/W x 0.40m N/S (See Figure 3 & Plates 12-13). They were aligned E/W with head to west as is traditional for Christian burials. The grave was located 1.10m south of the eroding river bank and was therefore deemed not in immediate risk from erosion. As a result the remainder of SK2 was left *in situ.* The excavated remains of SK2 comprised loose fragments of skull and teeth which had been exposed when it was uncovered. The development pattern of the teeth allowed for age estimation. It was not possible to determine sex or stature and there were no pathological conditions noted.

#### *4.1.3.3 Additional Burials*

Two additional possible burials (C10 and C12) were also noted during excavation. Possible grave cut C10 was recorded running into the western trench edge. It was located 0.60m south of eroding riverbank. The visible cut measured 0.50m N/S x 0.40m E/W. Large stones marked the grave cut in a similar manner to the grave cut (C6) of SK1. (See Figure 3 & Plate 11-13) There were no exposed bones associated with this grave cut which was preserved-*in-situ*. Finally, possible grave cut C12 was recorded running into the eastern trench edge and measured 0.35m E/W x 0.45m N/S. It had no grave markers and no exposed bones. It was located 0.65m south of eroding riverbank and was deemed 'not in immediate danger of erosion' and as a result it was also left *in situ*.

#### *4.1.4 Riverbed*

The erosion by River Ward caused the skull and left ribs of SK1 to become exposed in the riverbank. It also resulted in the loss of the left side of the cranium, upper left arm and partial left shoulder. The left mandible was recovered by a member of public from the riverbed prior to excavation and transferred to the NMI. The mandible was reunited with the remainder of SK1prior to analysis.

### *4.2 Reinstatement*

The archaeological excavation at River Valley involved the targeted removal of an exposed skeleton, in a 7 sq m trench. The skeleton (SK1) had been exposed by the erosion of the river bank by the Ward River. The excavation involved the systemic removal of the top archaeological layers and one of the four possible burials present. The lower layers and three remaining burials were left in situ as they were not in immediate danger of erosion. It is noted that further skeletons may be exposed in the future as erosion of the riverbank continues.

Following completion of the excavation, the site was reinstated to previous ground levels. This involved backfilling the excavation cutting with spoil generated in the course of the excavation. The work was undertaken by hand. A revetment wall comprising metal rebars and wooden sleepers was built along the riverbank to contain the backfill (See Plate 14 & 15). Following backfilling of the excavation cutting, the ground was levelled, topsoil replaced and reseeded.

# 5 ARTEFACTS

## *5.1 Introduction*

Eight artefacts were recovered during the works. These included pottery and metal objects typical of the late medieval and post medieval periods. A full list of objects recovered is provided in Table 1 below.

| Context No. | Find No | Material | Description |
|---|---|---|---|
| 2 | 1 | Pottery | Post medieval pottery- Black glazed x 3 (Spit 2) |
| 2 | 2 | Pottery | Modern tableware, Glazed floral pattern (Spit 2) |
| 2 | 3 | Metal | Iron rivet (Metal Detector) (Spit 2) |
| 2 | 4 | Pipe | Clay pipe stem x 2 (Spit 2) |
| 2 | 5 | Pottery | Fragments of thin white glazed potter x 2, one rim sherd.(Spit 2) |
| 2 | 6 | Pottery | Post medieval pottery- Black glazed, Rim sherd (Spit 4) |
| 3 | 1 | Metal | Iron nail (Metal Detector) |
| 14 | 1 | Pottery | Late medieval pottery |

**Table 1: List of artefacts from River Valley, Swords**

## *5.2 Ferrous Objects*

Metal detection was undertaken upon the spoil heap, the riverbed and within the trench during excavation under licence 20R0132. An iron rivet(20E0329:2:3) and an iron nail (20E0329:3:1) were uncovered during the excavation using the metal detector. Apart from these two finds, only modern finds such as tin cans and metal bottle caps were recovered as a result of the metal detection survey. The iron nail (20E0329:3:1) was conserved by Dr. Susannah Kelly of UCD. The list of ferrous finds is detailed below in Table 2.

| Context No. | Find No. | Material | Type | Description |
|---|---|---|---|---|
| C2 | 20E0329:2:3 | Metal | Fe | An Iron rivet |
| C3 | 20E0329:3:1 | Metal | Fe | an iron nail |

Table 2: Register of ferrous objects

### *5.3 Late Medieval Pottery*

Five pottery fragments were discovered during the excavation and the list is detailed below in Table 3 (see McCutcheon, Appendix 5).

| Context No. | Find No. | Material | Type | Period | Description |
|---|---|---|---|---|---|
| 2 | 20E0329:2:1 | Ceramic | Pottery | Post Medieval | 2 x sherds of a Black Glazed ware storage jar dated from late 17th-19th century |
| 2 | 20E0329:2:2 | Ceramic | Pottery | Post Medieval | 1 x sherd of a transfer printed ware bowl dated to late 18th- 20th century |
| 2 | 20E0329:2:5 | Ceramic | Pottery | Post Medieval | Fragments of thin white glazed potter x 2, one rim sherd. Dated 19th – 20th century |
| 2 | 20E0329:2:6 | Ceramic | Pottery | Post Medieval | 2 x sherds of a Glazed red earthenware bowl dated to the late 17th-19th century |
| 14 | 20E0329:14:1 | Ceramic | Pottery | Medieval | 1 x sherd of a Leinster Cooking Ware cooking jar, dated to the late 12th- mid 14th century |

**Table 3: Register of pottery objects**

The assemblage comprised mainly of post medieval pottery which were collected from C2, the 17th-19th century layer consisting of levelling material for landscaping works near the river. There were two sherds of a Black Glazed ware storage jar (20E0329:2:1), one sherd of a transfer printed ware bowl (20E0329:2:2), two sherds of thin white glazed pottery (20E0329:2:5) and two sherds of a Glazed red earthenware bowl (20E0329:2:6). All date from between the late 17th to early 20th century.

A singular sherd of medieval pottery; Leinster Cooking Ware (20E0329:14:1) was found *ex situ* on the riverbed, C14, near the exposed skeleton (SK1). This single body sherd is most likely from a cooking jar .

## 6. ENVIRONMENTAL REMAINS

### *6.1 Soil Samples*

Environmental sampling was undertaken in accordance with recent professional guidelines (*e.g.* Environmental Sampling: Guidelines for Archaeologists. IAI 2007). Bulk samples were taken from stratified, undisturbed deposits only and were selected for the perceived potential to produce dating and other environmental material. Samples were floated off-site in a custom made flotation tank that passed the samples through successive sieves to capture charcoal, small bones, charred seeds *etc.* These samples were dried and sent for analysis. All animal bone from stratified deposits were retained and processed similar to the finds assemblage. Animal bone recovered from bulk samples was also retained for analysis. Unstratified animal bone was not retained. All

human bone was retained to be sent for osteological analysis. Detailed below Table 4 is the sample register with soil-sieving results. There were no charcoal or carbonised remains within these samples.

| Sample # | Context # | Volume (litres) | Flot Weight (g) | Retent Weight (g) | Context details | Results |
|---|---|---|---|---|---|---|
| 1 | 6 | 4 | 2g | 150g | SK1, Stomach Sample | Occ. Bone |
| 2 | 6 | 4 | 2g | 100g | SK1 Hand sample | Occ. Bone, Rare shell |
| 3 | 6 | 3.5 | 3g | 120g | SK1 Feet sample | Common Bone |

**Table 4: Soil Sample register from River Valley**

## 7. DISCUSSION

Excavation was undertaken on 23rd – 26th of June 2020 on the southern bank of a bend in the River Ward to the east end of Ward River Valley Park by Maeve McCormick under licence (20E0329) due to erosion of the riverbank which exposed and damaged a skeleton (ITM 717858, 746524). A trench measuring c.7 sq m (2.3 N/S x 3m E/W) was opened, centred on the exposed skeleton. Excavation revealed the presence of one skeleton (SK1) which was fully recorded and excavated. Another burial (SK2) was partially exposed and preserved-*in-situ.* Two possible grave cuts with no associated surface bone present were also recorded and preserved-*in-situ*. Metal detection was undertaken on the spoil heap, the riverbed and within the excavation trench under consent (20R0132) in order to aid with finds retrieval.

An earlier excavation (Licence No. 99E0554) took place on this riverbank 4m to the NE of the excavation discussed within this report. It was undertaken by The Underwater Archaeological Survey Unit of Dúchas the Heritage Service in 1999 (Brady & Kelleher, 1999). It was also commissioned as a result of the erosion of skeletons from the riverbank. The trench measures 2m x 2m. The excavation resulted in the discovery of six articulated human remains comprising of four adult females and two infants which were dated to the 13th-14th century (DU011-090).

Beneath the topsoil C1, lay a 0.65m deep landscaping layer (C2) which contained Several sherds of post medieval pottery, clay pipe stems and a nail dating from the late 17th to Early 20th century. The landscaping layer C2 overlay C3, a stoney midden layer measuring 0.10-0.15m deep. The only artefact recovered from this layer was a single iron nail (20E0329:3:1) found by metal detection. This context was similar to one noted in the previous excavation (99E0554) which was interpreted as a midden dump used to hastily cover the six shallowly buried skeletons uncovered during that excavation.

Grave cuts were noted cut through a buried turf layer C4 which lay beneath this midden layer, C3. Excavation revealed a juvenile skeleton (SK1), aged between 9-11 years at time of death. A medieval radiocarbon date of 1045-1225calAD (UBA-43540, 883±29 BP) was returned from the left first metatarsal (Bone ID95) of this skeleton. The erosion by the Ward River caused the skull and left ribs to be exposed. It also resulted in the loss of the left side of the cranium, upper left arm and partial left shoulder. The left mandible was recovered by a

member of public from the riverbed prior to excavation and transferred to the NMI. The mandible was reunited with the remainder of SK1prior to analysis.

SK1 was buried within a grave cut (C5), lying in an extended, supine position, orientated E/W with head to the west as is traditional for Christian burials. It comes from the belief that on the day of judgement they must be able to sit up and face the rising sun to the east (Tsaliki 2008). The position of both the arms across the stomach and straight legs with feet tightly together is strongly indicative of a tight shroud burial (Sprague 2005). There was no evidence of a coffin. The grave was marked with large stones placed on the surface after burial. .

Severe calculus (plaque) was recorded upon the teeth of SK1. This was not unusual for the medieval or post medieval period. Calculus is common in archaeological samples and is linked with poor oral hygiene (Waldron 2009). The cervical vertebrae displayed a harmless but uncommon feature called a bifurcated spinous process. This feature tends to run in families and could be used to tentatively suggest familial links with other skeletons in future excavations of this burial ground.

The remains of SK1 showed no definitive signs of pathology or trauma and in fact this individual appeared to have been relatively healthy with no signs of malnutrition at time of death. A small portion of infectious diseases such as tuberculosis, syphilis, polio and leprosy are slow moving and as a result affect the bone, evidence of which can be recorded on skeletons. Other diseases spread faster through the community in waves of epidemics which kill the infected quickly, leaving no skeletal markers. At various times the plague, smallpox and cholera all accounted for terrible, episodic periods of mortality in Europe. Crowded, unsanitary conditions and contaminated water supplies allowed for the spread of such illnesses (Waldron 2009). The lack of evidence for cause of death on SK1 suggested this individual may have died as a result of a fast moving, highly infectious disease but this cannot be said with certainty.

The excavated remains of SK2 comprised loose fragments of skull and teeth which had been exposed when it was uncovered. The development pattern of the teeth allowed for age estimation. SK2 was a juvenile, aged 3-5 years at time of death. The exposed remains were within a clear grave cut (C7) which was also aligned E/W with head to west as is traditional for Christian burials. There was no evidence of pathology, malnutrition or trauma on the remains recovered.

Two additional possible burials, C10 and C12 were also noted during excavation. Possible grave cut C10 was recorded running into the western trench edge, located 0.60m south of eroding riverbank. Large stones marked the grave cut in a similar manner to the grave cut (C6) of SK1. Possible grave cut C12 was recorded running into the eastern trench. It had no grave markers and no surface remains. It was located 0.65m south of eroding riverbank. Both C10 and C12, along with the unexcavated remains of SK2 were deemed not in immediate danger of erosion and as a result were preserved *in situ*.

The burials from the 1999 excavation were beneath and partially within a 13th-14th century midden layer. The radiocarbon date of 1045-1225calAD (UBA-43540, 883±29 BP) returned from SK1 of the current excavation places it slightly earlier but still overlapping in date with the skeletons from the earlier 1999 excavation. The possible cause of death for SK1 is in line with the findings of the 1999 excavation who suggested the skeletons

were hastily buried in shallow graves beneath the midden as a result of an infectious disease epidemic. It was interpreted that some degree of haste was involved in the burial of the skeletons excavated in 1999 due to the position of the hands which suggested the bodies had been thrown in rather than placed with any degree of time and ritual (Brady & Kelleher, 1999). While the possible cause of death for SK1 seems to support this suggestion of an epidemic, the grave marking stones noted on grave cut C5 and C10 of the current excavation may seem to contradict the 'rapid burial' interpretation.

Prior to 1999 it was not known that there was a medieval burial ground within Ward River Valley Park. It is not depicted on any maps and there is no evidence of an enclosure or church in the area. This current excavation suggests that the burial ground is more substantial than the 1999 excavation suggested. Those buried in this cemetery were Christians, some of whom may have died during an epidemic in the monastic town of Swords. It must be noted that further erosion to this riverbank is likely to expose more skeletons. It is recommended that a full scale excavation take place to preserve the burial ground by record before it is damaged further

## 8. REFERENCES

Barker, P. 1997 *Techniques of Archaeological Excavation*, London.

Brady, K. & Kelleher, C. 1999. 'Preliminary Report of Rescue Excavations at windmill Lands, River Valley, Swords, Co. Dublin'. Unpublished report prepared by The Underwater Archaeological Survey Unit, *Dúchas* the Heritage Service.

Bradley, J. 1998 'The Medieval Boroughs of County Dublin' in C. Manning. (ed). *Dublin and Beyond the Pale: Studies in honour of Patrick Healy*, Wordwell Ltd, Bray Co. Wicklow.

D'Alton, J. 1838. *History of the County Dublin*, Hodges & Smith, College Green, Dublin.

Edwards, N 1990. *The archaeology of early medieval Ireland.* Routledge, London.

Gwynn, A., and Hadcock, R. N. *1988 Medieval religious houses*: Ireland. New ed. Dublin and London.

IAI 2007 *'Environmental Sampling: Guidelines for Archaeologists'*.

Joyce, P.W. 1995. *Irish Names of Places*, Edmund Bourke, Dublin.

McCutcheon, C. 2000 'Medieval pottery in Dublin: new names and some dates', in S. Duffy (ed.), *Medieval Dublin I: Proceedings of the Friends of Medieval Dublin Symposium1999*. 117-25. Dublin.

O'Donovan, E. 2005. 'Archaeological Excavations, Mount Gamble, Townparks, Swords, Co. Dublin'. Unpublished report for Margaret Gowen Ltd.

Spence, C. (ed.) 1990. *Archaeological Site Manual, 3rd ed.,* Museum of London Archaeology Service, London.

Waldron, T. 2009. *Palaeopathology.* Cambridge University Press, Cambridge.

Maeve McCormick, MSc. Oct 2020

# APPENDIX 1 Site Archive

## *Appendix 1.1 Feature list*

All cuts in **bold**

| No | Strat above | Strat below | Description | Interpretation | Artefacts | Samples |
|---|---|---|---|---|---|---|
| 1 | 2 | | Moderately compact, dark brown, humic silt. Freq small stones, grass and roots, 0.25m deep (spit 1) | Topsoil of manicured park | | |
| 2 | 3 | 1 | Compact, dark brown clayey silt. Freq stone (<100mm), mod large stone (100-250mm), mod shell and mod animal bone & Occ pottery inclusions. freq worms etc Measures 0.65m deep (spit 2,3 & 4) | Rubble, landscaping layer | 1-6: Post med and Modern Pottery, nail and clay pipe stem x2 | |
| 3 | 4, 5, 7, 10, 12 | 2 | Compact, blackish brown, clayey silt with freq small stones (<100mm) inclusions. Measures 0.10-0.15m deep. Contains freq animal bone and shell frags (Spit 5) | stoney midden layer | 1: iron rivet | |
| 4 | 9 | 3,5, 7, 10, 12 | Orange brown, silty clay, moderately compact. Graves cut through this layer, | Buried turf layer/ original ground surface. Left *in situ* | | |
| **5** | **4** | **3, 6** | **Cut: Oval in plan, truncated to N by river Ward. Measures 1.5m E/W x 0.55m N/S x 0.40m deep. Steep sided, gentle break of slope at top and base, undulating flat base, orientated E/W, Filled with SK1 and C6. River erosion caused the skull and left ribs to be exposted at a depth of 0.30m from top of cut.** | **Grave cut for SK1** | | |
| 6 | 5 | 3 | Mod compact, mottled orange brown, clayey silt, Freq charcoal and mod small stone (<100mm) inclusions. 6 large stones (0.15-0.25m diametre) surrounding grave cut on south west side. Grave marker? Contained occ animal bone | Fill of Grave cut C5 (SK1) | | 1,2,3 |
| **7** | **4** | **3, 8** | **Cut: only partially uncovered, measuring 0.50m E/W x 0.40m N/S, located 1.10m south of the eroding river bank. Deemed 'not at risk' from erosion and left *in situ*** | **Grave cut for SK2** | | |
| 8 | 7 | 3 | Mod compact, mottled orange brown clayey silt, Freq charcoal inclusions. Contains SK2 | Fill of grave cut C7 (SK2), Left *in situ* | | |
| 9 | 4 | 14 | Natural subsoil, varies from grey silty sand to stoney silt, measures 0.15-0.25m deep | Naturally deposited (by river) silty layer | | |
| **10** | **4** | **11, 3** | **Possible grave cut protruding from the western trench edge. Located 0.60m south of eroding riverbank. Measures 0.50m N/S x 0.40m E/W (would be the easternmost edge of a grave cut)** | **Possible grave cut. Not in immediate danger of erosion so left *in situ*. No protruding bones** | | |

| No | Strat above | Strat below | Description | Interpretation | Artefacts | Samples |
|---|---|---|---|---|---|---|
| 11 | 10 | 3 | Dark black, clayey silt with freq charcoal. Large stones mark the grave similar to C6 | Fill of possible grave cut left *in situ* | | |
| **12** | **4** | **13, 3** | **Possible grave cut protruding from the eastern trench edge, located 0.65m south of eroding riverbank. Deemed not at risk so remains *in situ*. Exposed section measures 0.35m E/W x 0.45m N/S, would be the western edge of grave cut** | **Possible grave cut. Not in immediate danger of erosion so left *in situ*. No protruding bones** | | |
| 13 | 12 | 3 | Dark brown, clayey silt with freq charcoal inclusions | Fill of possible grave cut left *in situ* | | |
| 14 | 9 | | Stoney layer of water rolled stones (0.10-0.25m diam on average), within a dark brown, sandy silt matrix. Contained occ. Animal bone. | Riverbed | 1: Late medieval pottery | |

**Table 5: Feature List**

## *Appendix 1.2 Drawing Register*

| Sheet No | Format | Scale | Description |
|---|---|---|---|
| 1 | Trimble (DFX) | 01:50 | Pre-ex of trench showing trench edge and possible features. |
| 2 | | 01:20 | Mid Ex Plan of SK1 |
| 3 | Trimble (DFX) | 01:50 | Post-ex of trench displaying trench edge, grave cut and OD m levels across site. |
| 4 | | 01:20 | Riverbank section face |

**Table 6: Drawing Register**

## *Appendix 1.3 Photograph Register*

| Photo No. | Camera No. | Facing | Description |
|---|---|---|---|
| 1 | 1591 | W | Pre-ex of site |
| 2 | 1592 | NW | Pre-ex of site |
| 3 | 1593 | E | Pre-ex of site |
| 4 | 1594 | SW | Early Mid-ex, Spit 1, Topsoil removal |
| 5 | 1595 | W | Early Mid-ex, Spit 1, Topsoil removal |
| 6 | 1596 | W | Early Mid-ex, Spit 1, Topsoil removal |
| 7 | 1597 | NW | Early Mid-ex, Spit 1, Topsoil removal |
| 8 | 1598 | NE | Early Mid-ex, Spit 1, Topsoil removal |
| 9 | 1599-1600 | E | Early Mid-ex, Spit 1, Topsoil removal |
| 10 | 1601-03 | S | Pre-ex of exposed skeleton (SK1) in eroded riverbank |
| 11 | 1604-05 | S | Pre-ex of exposed skeleton (SK1) in eroded riverbank with tape measure |
| 12 | 1606-08 | S | Pre-ex of exposed skeleton (SK1) in eroded riverbank with ranging rods |
| 13 | 1609 | W | Pre-ex of grave cut C5 (SK1) |
| 14 | 1610 | NW | Pre-ex of grave cut C5 (SK1) |
| 15 | 1611 | NE | Pre-ex of grave cut C5 (SK1) |

| | | | |
|---|---|---|---|
| 16 | 1612 | NW | Pre-ex of grave cut C5 (SK1) |
| 17 | 1613 | N | Pre-ex of grave cut C5 (SK1) |
| 18 | 1614 | E | Pre-ex of grave cut C5 (SK1) |
| 19 | 1615-1616 | | SK1 protruding from bank |
| 20 | 1617-23 | | Action shot: Metal detecting |
| 21 | 1624 | NW | Mid ex SK1 C5 |
| 22 | 1625-26 | E | Mid ex SK1 C5 |
| 23 | 1627-28 | N | Mid ex SK1 C5 |
| 24 | 1629 | E | Mid ex SK1 C5 |
| 25 | 1630 | NW | Mid ex SK1 C5 |
| 26 | 1631-33 | | Eastern trench section face (from River) |
| 27 | 1634 | S | Riverbank section face (from river) |
| 28 | 1635 | | Western trench section face (from river) |
| 29 | 1636-39 | S | SK 1 protruding into river bank, mid-ex |
| 30 | 1640-44 | | SK2, C7, Skull partially visible- remaining *in situ* |
| 31 | 1645 | W | Post-ex of grave cut C6 (SK1 lifted) |
| 32 | 1646 | NE | Post-ex of grave cut C6 (SK1 lifted) |
| 33 | 1647 | N | Post-ex of grave cut C6 (SK1 lifted) |
| 34 | 1648 | N | Post-ex of trench showing C6 empty, SK2 skull *in situ* and possible grave cuts C10 & C12 |
| 35 | 1649 | E | Post-ex of trench showing C6 empty, SK2 skull *in situ* and possible grave cuts C10 & C13 |
| 36 | 1650 | W | Post-ex of trench showing C6 empty, SK2 skull *in situ* and possible grave cuts C10 & C14 |
| 37 | 1651 | N | Post-ex of trench showing C6 empty, SK2 skull *in situ* and possible grave cuts C10 & C15 |
| 38 | 1652 | W | Post-ex of trench showing C6 empty, SK2 skull *in situ* and possible grave cuts C10 & C16 |
| 39 | 1653 | E | Post-ex of trench showing C6 empty, SK2 skull *in situ* and possible grave cuts C10 & C17 |
| 40 | 140951, 59 | SW | Reinstatement works, showing revetment boards on riverbank |
| 41 | 141022, 31 | NE | Reinstatement works, showing fencing and signage |
| 42 | 141052, 056, 105 | W | Reinstatement works, showing river, park, revetment boards, fencing and signage |
| 43 | 0183-0188 | | Drone: Overhead, pre-ex |
| 44 | 0189-0196 | | Drone: Pre-ex with river bend |
| 45 | 0198-0211 | | Drone: Mid-ex Skeleton Excavation (SK1) |
| 46 | 0212-0226 | | Drone: SK1 Mid ex |

**Table 7: Photograph Register**

### *Appendix 1.4 Skeleton Register*

| Skeleton | Context | Description |
|---|---|---|
| 1 | C5/ C6 | SK 1: Adolescent, truncated across skull and left shoulder and upper arm by River Ward |
| 2 | C7/C8 | SK2: Skull only, Partially exposed, unexcavated- Left *in situ* as not in immediate danger of erosion. |

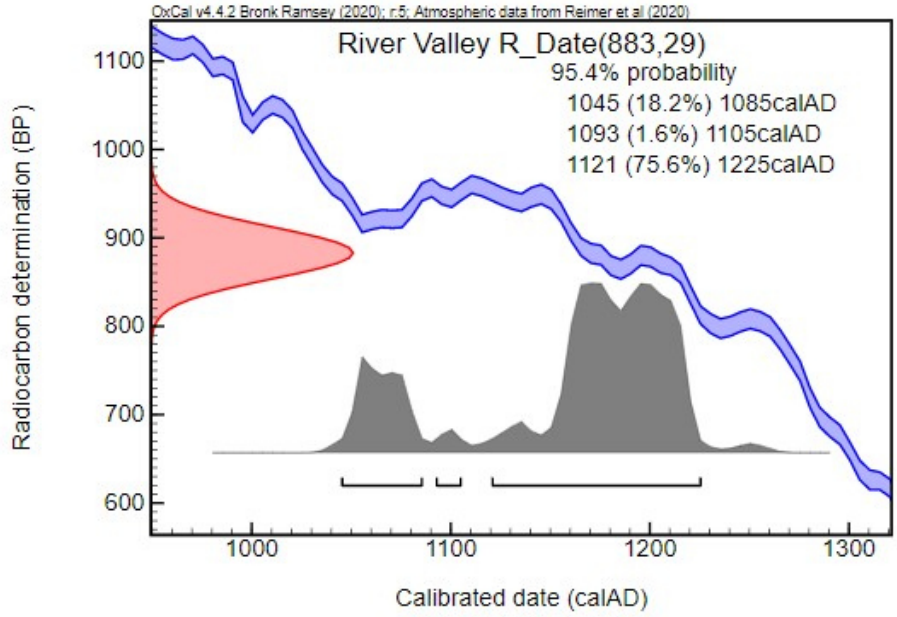
**Table 8: Skeleton register**

## APPENDIX 2 Radiocarbon dates

One bone sample, a left first metatarsal from SK1 (Bone ID95), was sent for radiocarbon dating. The bone was identified and recorded by osteologist Maeve McCormick prior to its removal. After receipt of both Licence to Export and Licence to Alter, the sample was submitted to the 14Chrono Centre laboratory at Queens University Belfast. The dates quoted in the text have been calibrated to 95.4% probability using OxCal v4.4.2 Bronk Ramsey (2020); r:5; Atmospheric data from Reimer et al (2020). The sample returned a date of 1045-1225calAD (UBA-43540, 883±29 BP).

| Lab Code | Sample ID | Material | Details | Conventional Radiocarbon Age | Calibrated date range |
|---|---|---|---|---|---|
| UBA-43540 | 20E0329:SK1:MT1 | Left MT1 from SK1 (Bone ID 95) | Removed from excavated skeleton | 883±29 AD | AD 1045-1225 |

**Table 9: Radiocarbon date information**



## APPENDIX 3 Osteoarchaeological analysis of faunal remains

**River Valley, Windmill Lands, Swords, Co. Dublin**

**Osteoarchaeological analysis of Faunal Remains**

**Report by: Maeve McCormick MSc**

### *1. Introduction*

This report presents the results of an osteoarchaeological analysis of faunal remains from an excavation at River Valley, Windmill Lands, Swords on the southern bank of a bend in the River Ward (ITM 717858, 746524). Excavation at this site was carried out by Maeve McCormick of Archer Heritage Planning Ltd under licence (20E0329) from the Department of Culture, Heritage and the Gaeltacht (DCHG) in consultation with the National Museum of Ireland (NMI) from 23rd – 26th of June 2020.

The excavation took place on the southern bank of the River Ward at the east end of the River Valley Park. It was commissioned due to the erosion of the riverbank which led to the skull and ribs of a late medieval skeleton becoming exposed. A trench measuring c.7 sq m (2.3 N/S x 3m E/W) was opened, centring on the exposed skeleton. Three other possible graves were records but were not excavated as they are not in immediate danger from erosion. Previous excavations on the same river bend in 1999 (99E0554) uncovered six burials dated by associated pottery to the 13th to 14th century (DU011-090). The 1999 trench was located 4m to the NE of the present trench (ITM 717862, 746528). It is reasonable to assume these burials are contemporary with SK1.

A total number of 59 entries consisting of 152 bones/ bone fragments weighing approximately 1.4kg were analysed from the River Valley assemblage. See Table 10 below. These were retrieved from 4 separate contexts. The animal bone assemblage was recovered by hand-collection during excavation. The remains represented the most common domesticated animals: cattle, horse, pig and sheep/goat. There was also evidence of wild birds in the assemblage. Butchery was evident on 15% of the assemblage (only 23 fragments). One large mammal mandible displayed burning in the form of slight charring. There was no pattern which may indicate a cooking pit or area. Carnivore gnawing was evident on 9% of the assemblage (14 fragments). Root etching was only noted on one bone. The majority of the assemblage is noted to be in fair to good condition. Fresh breaks were noted on 8% of assemblage (12 fragments). These would have been caused during excavation or post excavation processing.

The assemblages suggest the contexts C2 and C3 comprised middens which were either *in situ* or relocated in order to bury the skeletons recorded and/or level the land. However as a result of the highly fragmented nature of the assemblage it is not possible to discuss slaughtering or butchery habits of the Ward River Valley community.

| Context | No. Of Bags | Description |
|---|---|---|
| 6 | 1 | Small bag from fill of grave cut C5, SK1 |
| 2 | 1 | Small bag from main trench fill (Spit 2)- Rubble/ Landscaping layer |
| 2 | 1 | Medium bag from main trench fill (Spit 3)- Rubble/ Landscaping layer |
| 2 | 1 | Medium bag from main trench fill (Spit 4)- Rubble/ Landscaping layer |
| 3 | 1 | Medium bag from lower fill of trench (spit 5), a stoney midden layer |
| 14 | 1 | Small Bag taken from river bed near eroding SK1 |
| 14 | 1 | Small bag, collected by public from riverbed assumed to be human |

**Table 10: List of animal bones**

### *2. Methodology*

During the analysis each specimen was identified and recorded according to species, skeletal element, age and sex where possible. Identification was aided by reference to von den Driesch (1976) and France (2009). Age was determined by using bone fusion, dental eruption and tooth wear as noted in Reitz and Wing (2008).

The categories “large mammal”, “medium mammal” and “small mammal” were used for specimens (mainly ribs, vertebrae, skull and long bone shaft fragments) which were recognisable but could not be assigned to a species. The specimens categorised as large mammals are likely to belong to cattle, horse or red deer. Medium mammal specimens are most likely to consist of sheep/goat or pig bones: however, the presence of fallow deer, dog and native wild fauna (fox, badger) is possible. The category “small mammal” includes bones from cat, hare, rabbit and possibly other non-mammal native fauna such as birds, amphibians, lizards or fish.

Bones marked as ‘unidentified’ were too fragmented or in too poor a condition to identify or to assign to either large, medium or small mammal. These fragments were counted and weighed so a percentage of unidentified to identified bone could be gathered in both aspects. Identifiable bones were each given a unique Bone ID number. A collection of unidentifiable bones from a single context were counted and weighed and then given a single Bone ID number.

Measurements were only taken on an identifiable bone which could be confidently assigned to species using digital callipers or a bone board to the nearest millimetre following von den Driesch (1976). During the analysis pathological changes, carnivore and rodent gnawing, signs of burning and butchery marks were recorded where present.

All data was initially recorded using the Faunal Analysis York coding system and transferred to Microsoft Office Excel format for analysis. One large database containing all bone (identified and unidentified) was created with columns containing all the information mentioned above for each individual bone.

Both the Author and Archer Heritage Planning Ltd have copies of the raw data available if required.

## *3. Results*

A total number of 59 entries consisting of 152 bones/ bone fragments weighing approximately 1.4kg were analysed from the River Valley assemblage. See Table below.

| Species | Fragments | | Weight (g) | | Butchery | Burning |
|---|---|---|---|---|---|---|
| Bird | 1 | (<1%) | 4 | (<1%) | 1 | n/a |
| Cattle | 1 | (<1%) | 62 | (4%) | n/a | n/a |
| Horse | 1 | (<1%) | 59 | (4%) | n/a | n/a |
| Pig | 1 | (<1%) | 4 | (<1%) | n/a | n/a |
| Sheep/Goat | 7 | (4%) | 58 | (4%) | 1 | n/a |
| Medium Mammal | 33 | (21%) | 119 | (8%) | 1 | n/a |
| Large Mammal | 77 | (51%) | 1051 | (72%) | 20 | 1 |
| Unidentified | 31 | (21%) | 106 | (7%) | n/a | n/a |
| Total | 152 | (100%) | 1463g | (100%) | 23 | 1 |

**Table 2: Number of fragments by species (NISP)**

The animals represented within this assemblage were bird (species not identified), cattle (*Bos Taurus* horse (*equis caballus*), horse (*equis caballus*), pig (*sus*) and sheep/goat (*ovis aries/capra hircus*). Sheep and goat are extremely similar and in most cases cannot be confidently separated. For the purposes of this report they will be referred to as one category.

### 3.1 Number of Identifiable Species (NISP)

The assemblage was heavily fragmented and only 11 bone fragments (6.6% of total fragment count) were identifiable (NISP: 11) and could be assigned to species (185g which equals 12.6% of total weight). A number of bones (110 fragments, 72.6% of total fragments weighing 1168g, 80% of total bone weight) could only be assigned to medium or large mammal. There were 31 unidentifiable fragments within this assemblage which represents 20.6% of the total fragment count, weighing 106g (7% of the total weight).

The 'unidentifiable bone' category is divided as follows: general unidentifiable fragments measuring less than <60mm:17 fragments, weighing 36g; unidentifiable shaft fragments 54 fragments, weighing 385g; unidentifiable flat bone fragments 22 fragments, weighing 126g and unidentifiable cancellous bone: 3 fragments weighing 53g. See Table 11 below for details.

| | Fragments | Fragments % | Weight | Weight % |
|---|---|---|---|---|
| General Unidentifiable | 17 | 18 | 36 | 6 |
| Shaft Fragments | 54 | 56 | 385 | 64 |
| Flat bone | 22 | 23 | 126 | 21 |
| Cancellous bone | 3 | 3 | 53 | 9 |
| Total Unidentifiable | 96 | 100 | 600 | 100 |

**Table 11: Break down of unidentifiable fragments by fragment count and weight:**

The assemblage consisted of varying sized fragments of animal bone, with a low percentage of fragments displaying fresh/recent breaks most likely caused during excavation or processing (12 fragments / 8% of total fragments).

The most common bone noted which could be assigned to species were isolated teeth and radius, both of which had only 2 bones that could be assigned to species (Sheep/goat). All other identifiable bones just had one of each noted. The species with the largest number of identifiable bones was sheep/goat with 6 bones. The other animals were all just represented with a single bone. The large mammal category displayed the most identifiable bones of all with 29 fragments. See Table 12 below for details.

| Element | Bird | Cattle | Horse | Pig | Sheep/ goat | MM | LM | Total |
|---|---|---|---|---|---|---|---|---|
| Atlas | | | | | | | 1 | 1 |
| Calcaneous | | 1 | | 1 | | | | 2 |
| Femur | 1 | | | | | | 1 | 2 |
| Isolated teeth | | | | | 2 | | 6 | 8 |
| Mandible | | | | | 1 | | 2 | 3 |
| Metapodial | | | | | 2 | | 1 | 3 |
| Pelvis | | | | | | 1 | 4 | 5 |
| Phalanges | | | 1 | | | 1 | | 2 |
| Ribs | | | | | | 10 | 11 | 21 |
| Radius | | | | | 2 | | | 2 |
| Scapula | | | | | | 1 | 1 | 2 |
| Tibia | | | | | | 1 | 1 | 2 |
| Vertebrae | | | | | | 1 | 1 | 2 |
| Total | 1 | 1 | 1 | 1 | 7 | 15 | 29 | 54 |

**Table 12: No. Identifiable Skeletal elements fragments by species (NISP and Small, Medium & Large Mammal)**

3.2 Minimum Number of Individuals (MNI)

Minimum Number of Individuals (MNI) is defined as the smallest number of individuals needed to account for all the skeletal elements of a particular species found on site (Reitz & Wing, 1999).

Despite sheep/goat being represented by 7 identifiable bone fragments it was only possible to determine an MNI of one individual: 1 adult. There were one adult bird and horse and one juvenile cattle and pig. See Table below for details.

| Species | Element | Ages | Total MNI |
|---|---|---|---|
| Bird | Right Femur | 1 Adult | 1 |
| Cattle | Left calcaneous | 1 Juvenile | 1 |
| Horse | Phalanx | 1 Adult | 1 |
| Pig | Left calcaneous | 1 Juvenile | 1 |
| Sheep/Goat | Right Mandible | 1 Adult | 1 |
| Total | | | 5 |

**Table 5: Minimum Number of Individuals (MNI)**

3.2.1 Soil sample assemblage

There were no faunal remains retrieved from the soil samples taken from this site.

3.3 NISP and MNI in relation to the archaeological features

3.3.1 Rubble/ Landscaping layer, C2

The rubble/ landscaping layer lay directly beneath the topsoil C1. It consisted of compact, dark brown clayey silt with frequent stone, moderate large stone, shell and animal bone and occasional pottery inclusions. It measured 0.65m deep and was excavated in 0.20m spits (spit 2, 3 & 4). This layer was interpreted as a rubble dump used to raise the park grounds resulting in less waterlogging and less frequent flooding. The landscaping layer was interpreted as modern in date due to the finds that were recovered from it (20E0329:2:1-6: post medieval and modern pottery, iron nail and 2 x clay pipe stems). There were 48 bone fragments weighing 717g recovered from this layer (32% of total bone assemblage, 49% of total bone weight).

Of these, 88% fragments or 43% by weight (42 fragments, 629g) could not be assigned to species. With regards to the NISP within this first phase there were one bird bone (MNI of one bird), one horse bone (MNI of one horse), one pig bone (MNI of one pig) and three sheep/goat bones (MNI of one sheep/goat). The bones from this phase were heavily fragmented. Of the 48 bones present, carnivore gnawing was noted on seven and fresh breaks noted on nine bones.

3.3.2 Stoney midden layer, C3

The stoney midden layer lay directly beneath rubble/ landscaping layer C2. It consisted of compact, blackish brown, clayey silt with frequent small stone inclusions. It measured 0.10-0.15m deep and contained frequent animal bone and shell fragments. This context was noted in a previous excavation (99E0554) which took place only c.4m to the NE. It was interpreted as a midden dump used to hastily bury the six shallowly buried skeletons uncovered during that excavation which were dated to the 13th-14th century (DU011-090). It is likely this context served the same purpose.

From this context there were 80 bone fragments amounting to 633g (53% of total bone assemblage, 43% of total assemblage weight). Of these, 98% of fragments / 88% bone weight (78 fragments/ 558g) could not be assigned

to species. With regards to the NISP within this phase there were one cattle bone (MNI of one cattle) and one sheep/goat bone (MNI of one sheep/goat). The bones from this phase were heavily fragmented. Of the 80 bones present, carnivore gnawing was noted on 3 fragments, root etching on 1 fragment and fresh breaks noted on 2 fragments.

3.3.3 Fill of Grave cut. C6

Grave cut C5 contained a singular fill, C6. It was moderately compact, mottled orange brown, clayey silt with frequent charcoal and moderate small stone inclusions. There were six large stones surrounding grave cut on south west side, which were possibly grave markers. The grave fill also contained occasional animal bones.

From this context there were 10 bone fragments amounting to 51g (7% of total bone assemblage, 3% of total assemblage weight). Of these only two were identifiable, one right sheep/goat metatarsal and one loose sheep/goat tooth (MNI of one sheep/goat). The remainder 80% of fragments/ 56% bone weight were unidentifiable (8 fragments/ 29g). Carnivore gnawing was noted on one bone (right sheep/goat metatarsal) and a fresh break was noted on one unidentifiable bone.

3.3.4 Riverbed, C14

The riverbed was a layer of water rolled stones, within a dark brown, sandy silt matrix. As the river has recently been eroding the riverbank it contained occasional animal bone from the section face. Members of the public collected bone from the riverbed prior to excavation which they believed to be human. Analysis by an Osteologist proved these to be animal and they were joined to the animal bone collection.

From the riverbed there were 14 bone fragments amounting to 62g (8% of total bone assemblage, 4% of total assemblage weight). All but one sheep metatarsal, were unidentifiable. One bone displayed carnivore gnawing.

3.4 Age

Of the 16 bones within this assemblage which could be assigned an age, 11 fragments (69%) were adult, 5 fragments (31%) were juvenile.

Long bones from the assemblage were assessed for proximal and distal epiphyseal fusion. A specimen was deemed adult when both ends were fully fused, sub-adult if an epiphysis was fusing or the fuse line was visible and juvenile if one or both ends were unfused. As this was a heavily fragmented assemblage there were very few complete long bones to assess.

3.5 Metric data

The assemblage was too fragmented to measure.

3.6 Marks

There was no evidence of rodent gnawing on any of the faunal remains. Carnivore gnawing was evident on 9% of the assemblage (14 fragments). Root etching was recorded on one bone. The majority of the assemblage is noted to be in fair to good condition.

Fresh breaks were noted on 8% of assemblage (12 fragments). These would have been caused during excavation or post excavation processing.

### 3.7 Butchery

Butchery was evident on 15% of the assemblage (only 23 fragments). Only two of these (right sheep/goat radius and bird femur) were identifiable to species.

The 'Large Mammal' category displayed butchery marks on 20 fragments identifiable to element. This represented 87% of the identifiable butchered bone. There was just one medium mammal bone displaying butchery. An assessment of the slaughter/ animal husbandry habits of the Ward River Valley society cannot be determined from such a small sample.

One large mammal mandible displayed burning in the form of slight charring. There was no pattern which may indicate a cooking pit or area.

### 3.8 Pathology

No pathologies were noted on this assemblage.

### 3.9 Species present

It was possible to identify 6 different species within the River Valley assemblage. These were bird, cattle, horse, mouse, pig and sheep/goat. Each will be discussed below in further detail.

#### 3.9.1 Bird

One bird femur was identified within this assemblage. It came from C2, the landscaping layer. The species were unidentifiable but it was medium sized bones similar to crow or magpie in size. The bone had evidence of butchery, possibly a cut/ slice mark on the posterior distal condyle. It also displayed carnivore gnawing on the distal end suggesting it was cooked and then discarded in a midden prior to re-deposition as part of the landscaping layer.

#### 3.9.2 Cattle

There was 1 fragment of cattle bone, a juvenile left calcaneous from C3, the midden layer. It had no evidence of human modification.

#### 3.9.3 Horse

There was 1 fragment of horse bone, an adult phalanx from C2, the landscaping layer. It had no evidence of human modification.

3.9.4 Pig

There was 1 fragment of pig bone, a juvenile left calcaneous from C2, the landscaping layer. It had no evidence of human modification.

3.9.5 Sheep/Goat

There were 7 identifiable sheep/goat bone fragments recovered from all 4 contexts (3 from C2, 1 from C3, 2 from C6 and 1 from C14). This amounted to an MNI of 1 sheep/goat. One bone, a right radius, showed signs of butchery in the form of a clean slice across proximal shaft. Saw marks across the mid shaft. Carnivore gnawing was noted on two of the bones.

In the case of all species present within this assemblage there are too few bones to allow comparative analysis regarding slaughter age, husbandry techniques or animal size.

## *4 Discussion*

A total number of 59 entries consisting of 152 bones/ bone fragments weighing approximately 1.4kg were analysed from the River Valley assemblage. The assemblage was heavily fragmented and only 11 bone fragments (6.6% of total fragment count) were identifiable (NISP: 11) and could be assigned to species (187g/12.6% of total weight). Despite sheep/goat being represented by 7 identifiable bone fragments it was only possible to determine an MNI of one individual: 1 adult. There were one adult bird and horse and one juvenile cattle and pig. A number of bones (110 fragments, 72.6% of total fragments weighing 1168g, 80% of total bone weight) could only be assigned to medium or large mammal. There were 31 unidentifiable fragments within this assemblage which represents 20.6% of the total fragment count, weighing 106g (7% of the total weight).

Carnivore gnawing was evident on 9% of the assemblage (14 fragments). Root etching was noted on one bone. Fresh breaks were noted on 8% of assemblage (12 fragments). These would have been caused during excavation or post excavation processing.

Butchery was evident on 15% of the assemblage (only 23 fragments). Only two of these (right sheep/goat radius and bird femur) were identifiable to species. One large mammal mandible displayed burning in the form of slight charring. There was no pattern which may indicate a cooking pit or area. There was no pattern which may indicate a cooking pit or area.

The majority of the assemblage was recovered from C3, the midden layer. From this context there were 80 bone fragments amounting to 633g (53% of total bone assemblage, 43% of total assemblage weight).

Across all contexts the assemblage was too small and in such a fragmented condition that it was not possible to assess animal husbandry and farming techniques or butchery and slaughtering processes.

## *5 Conclusion*

The River Valley assemblage was too limited and heavily fragmented to allow us to build a clearer picture of the farming practices of the inhabitants of the area. What is clear is that they raised cattle which they most likely used for both dairy and meat. It is possible the cattle were also used as traction animals but no evidence in the form of pathology on the bones was discovered during analysis. The community also farmed sheep/goat and pigs, which they would have kept for both meat, offspring and wool. On a smaller scale this community kept horses. Butchery was only evident on 15% of the assemblage. This is most likely due to the high fragmentation.

The assemblages suggest the contexts C2 and C3 comprised middens which were either *in situ* or relocated in order to bury the skeletons recorded and/or level the land. However as a result of the highly fragmented nature of the assemblage it is not possible to discuss slaughtering or butchery habits of the Ward River Valley community.

## *6 Storage Recommendations*

The River Valley faunal remains have been thoroughly analysed. The assemblage, in general, was highly fragmented and found to be only in fair to good condition. The bones were weighed and measured where possible and a detailed database has been assembled which is held by both the author and Archer Heritage Ltd. It is available upon request.

The final decision on the permanent storage of the assemblage should be made by the NMI following discussion with the excavation license holder. Accepted material should be stored in museum approved low-acid boxes and be left for collection by the museum.

It is recommended by the author that the faunal remains should not be retained by the National Museum of Ireland.

## *7 Bibliography*

Davis, S. J. M. 1987. *The Archaeology of Animals*. New Haven, Yale University Press.

Dobney, K., Jaques, D. and Johnstone, C. 1999. 'A protocol for recording vertebrate remains from archaeological sites'. Reports from the Environmental Archaeology Unit, York, 99/15.

Feehan 2003. *Farming in Ireland*, UCD, Dublin.

Langdon, J., 1982. 'The economics of horses and oxen in Medieval England', *Agricultural History Review* 30(1), pp. 31-40

McCormick, F, 1983, 'Dairying and Beef production in Early Christian Ireland: The Faunal Evidence', in T. Reeves Smith & F Hammond (eds) *Landscape Archaeology in Ireland.* BAR (British Series).....

McCormick M, 2019, 'Osteoarchaeological analysis of Faunal Remains from Jigganstown, Naas, Co. Kildare'. Unpublished report prepared for Archer Heritage Planning.

McCormick M, 2019. 'Osteoarchaeological analysis of Faunal Remains from Scholarstown Road, Rathfarnham, Co. Dublin'. Unpublished report prepared for Archer Heritage Planning..

Reitz, E. J. and Wing E.S. 1999 *Zooarchaeology. Cambridge manuals in archaeology*. Cambridge University Press, Cambridge.

Schmid, E.F., 1972. *Atlas of animal bones: for prehistorians, archaeologists and quaternary geologists*. Knochenatlas.Furprahistoriker, archaologen und quartargiologen..

von den Driesch, A. 1976. *A Guide to the Measurement of Animal Bones from Archaeological Sites*. Peabody Museum of Archaeology and Ethnology, Harvard University.

## APPENDIX 4 Osteoarchaeological analysis on the human remains SK1

**An osteoarchaeological report on human remains from the excavation of an exposed skeleton at River Valley, Windmill Lands, Swords, Co. Dublin (20E0329)**

**By Maeve McCormick, MSc, MIAPO**

**October 2020**

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### *Plates*

## SUMMARY

This report presents the results of an osteoarchaeological analysis of human remains from excavations on an exposed human remains eroding from a riverbank at River Valley, Swords, Co. Dublin. Excavation was undertaken on 23rd – 26th of June 2020 on the southern bank of a bend in the River Ward to the east end of Ward River Valley Park by Maeve McCormick of Archer Heritage Planning Ltd under licence (20E0329). A trench measuring c.7 sq m (2.3 N/S x 3m E/W) was opened, centring on the exposed skeleton. Excavation revealed the presence of one skeleton (SK1) which was removed and one skull (SK2) and two additional possible burials which were left *in situ* as they were not in immediate danger from erosion.

SK1 was a juvenile (2), aged 9-11 years at time of death. Ironically they appeared to have been healthy when they died which would suggest a fast moving highly infectious disease as cause of death. They were buried in a grave, aligned E/W with head to the west as is traditional for a Christian burial. They were lying on their back, with arms slightly bent and legs straight with feet tightly together. This would suggest a shroud burial. The grave was marked with 6 large stones. A late medieval radiocarbon date of 1045-1225calAD (UBA-43540, 883±29 BP) was returned from this skeleton.

SK2 was not fully excavated as it was not in immediate danger of erosion, however loose fragments of skull and dentition were collected. From these it was possible to determine that SK2 was a juvenile (1), aged 3-5 years at time of death. A grave cut was clearly noted. It was also aligned E/W in the Christian manner. Cause of death was not possible to determine from these remains.

Finally, two additional possible burials, C10 and C12 were also noted during excavation. Possible grave cut C10 was recorded running into the western trench edge while C12 was running into the eastern trench edge. Grave cut C10 had large stone markers similar to grave cut C5 of SK1. There were no exposed bones associated with these grave cuts and so, as they were not in immediate danger of erosion they were left *in situ*.

There were notable comparisons which could be drawn between this excavation and one which took place 4m to the NE in 1999. This population also dated to the late medieval period and appeared to have died from a fast moving highly infectious disease. It is reasonable to assume the human remains excavated in 2020 were part of the same burial ground excavated in 1999 and that they represent the victims of a deadly outbreak in Swords of a highly infectious disease such as Cholera or Typhoid.

## Osteological Terms Used

Frequently used osteological terms are outlined below. The definitions are taken from White and Folkens (1991, 28-35) and Bass (1995, 319-321). (See Plate 1 below)

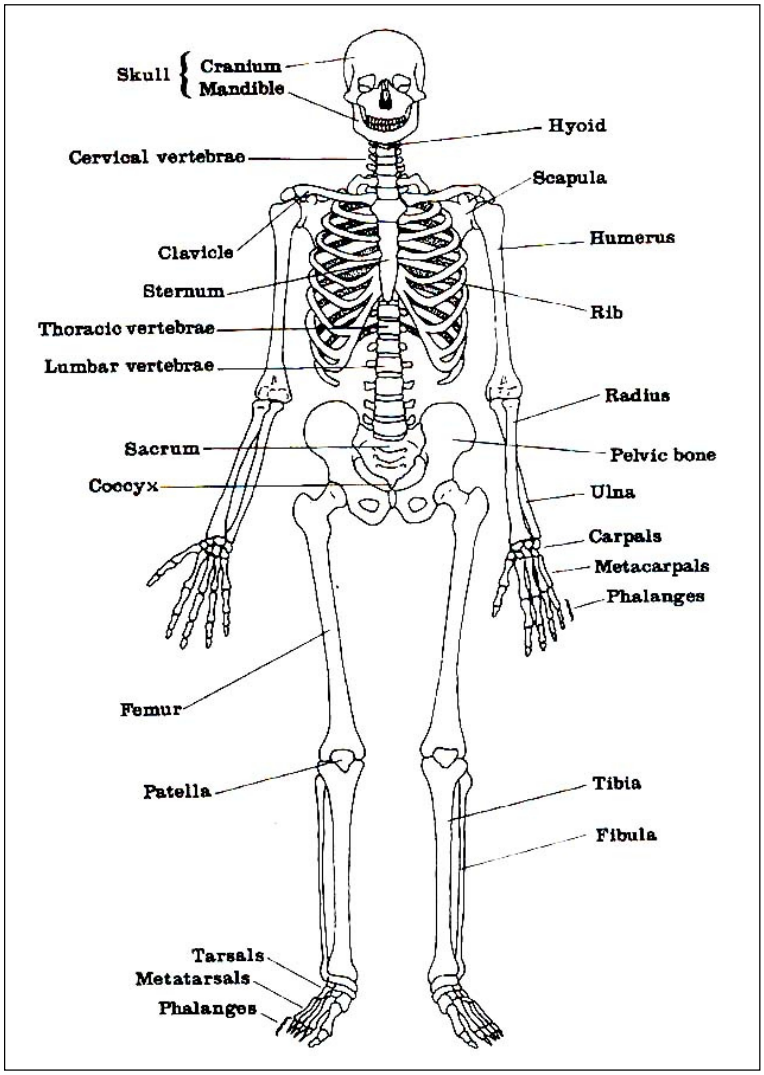



**Plate 1: Annotated diagram showing main skeletal elements (after Mays 1998)**

## Directions - General

| | |
|---|---|
| ***Superior*** | toward the head of the body. |
| ***Inferior*** | opposite of superior, body parts away from the head. |
| ***Anterior*** | toward the front of the body. |
| ***Posterior*** | opposite of anterior, toward the back of the individual. |
| ***Medial*** | toward the midline of the body. |
| ***Lateral*** | opposite of medial, away from the midline of the body. |
| ***Proximal*** | nearest the axial skeleton, usually used for long bones. |
| ***Distal*** | opposite of proximal, furthest from the axial skeleton. |
| ***Palmar*** | relating to the hand, the palm side |
| ***Plantar*** | relating to the foot, towards the sole of the foot |
| ***Dorsal*** | relating to the hand/foot, back of the hand, top side of the foot |
| ***External*** | outer. |
| ***Internal*** | opposite of external, inside. |
| ***Endocranial*** | inner surface of the cranial vault. |
| ***Ectocranial*** | outer surface of the cranial vault. |

## Directions - Teeth

| | |
|---|---|
| ***Mesial*** | toward the point on the midline where the central incisors meet. |
| ***Distal*** | opposite of mesial. |
| ***Lingual -*** | toward the tongue. |
| ***Labial*** | opposite of lingual, toward the lips. |
| ***Buccal*** | opposite of lingual, toward the cheeks. |
| ***Incisal*** | the biting surface of the tooth. |
| ***Occlusal*** | the chewing surface of the tooth. |

## General bone features/terms

| | |
|---|---|
| ***Process*** | a bony eminence. |
| ***Eminence*** | a bony projection, usually not as prominent as a process. |
| ***Spine*** | generally a long, thinner, sharper process than an eminence. |
| ***Tuberosity*** | a large, usually roughened eminence of variable shape, often the site of a ligament attachment. |
| ***Tubercle*** | a small, usually roughened eminence, often a site of a ligament attachment. |
| ***Trochanters*** | two large, prominent, blunt, rugose processes found on the distal femur. |
| ***Malleolus*** | a rounded protuberance adjacent to the ankle joint. |
| ***Articulation*** | an area in which adjacent bones are in contact at a joint. |
| ***Condyle*** | a rounded articular process. |
| ***Epicondyle*** | a non-articular projection adjacent to a condyle. |
| ***Head*** | a large, rounded, usually articular end of a bone. |
| ***Shaft/diaphysis*** | the long, straight section between the ends of a long bone. |
| ***Epiphysis*** | usually the end portion or extremity of a long bone which is expanded for articulation. |
| ***Neck*** | the section of a bone between the head and the shaft. |
| ***Torus -*** | a bony thickening. |
| ***Ridge*** | a linear bony elevation, often roughened. |
| ***Crest*** | a prominent, usually sharp and thin ridge of bone. |
| ***Line*** | a raised linear surface, not as thick as a torus or as sharp as a crest. |
| ***Facet*** | a small articular surface, or tooth contact. |
| ***Metaphysis*** | a line of junction between epiphysis and diaphysis. |
| ***Osteoblastic*** | process of bone formation |
| ***Osteoclastic*** | process of bone resorption |

## Other osteological terms/abbreviations

| | |
|---|---|
| ***C1-C7*** | cervical vertebrae (neck) numbered from 1-7. |
| ***CEJ*** | cemento-enamel junction, junction of crown of tooth and root. |
| ***DJD*** | degenerative joint disease. |
| ***T1-T12*** | thoracic vertebrae (torso) numbered 1-12. |
| ***TMJ*** | tempromandibular joint, joint of lower jaw. |
| ***L1-L5*** | lumbar vertebrae (lower back) numbered 1-5. |
| ***S1-S5*** | sacral vertebrae (in between left and right pelvis) numbered 1-5. |
| ***MC-*** | metacarpal (bones of the palm of the hand). |
| ***MT*** | metatarsal (bones of the arch of the foot). |
| ***IAM*** | Internal Auditory Meatus in temporal bone of cranium. |
| ***EAM*** | External Auditory Meatus in temporal bone of cranium. |
| ***MNI*** | Minimum Number of Individuals. |
| ***CPR*** | Crude Prevalence Rate. |
| ***TPR*** | True Prevalence Rate. |
| **SN/s** | Schmorl's nodes, depression defects in the vertebral bodies, associated with herniation of intervertebral disk. |

# 1 Introduction

## *1.1 Background to Project*

Archaeological excavations were undertaken at River Valley, Windmill Lands, Swords, Co. Dublin due to erosion of the riverbank which exposed and damaged a skeleton (ITM 717858, 746524). Excavation was undertaken on 23rd – 26th of June 2020 on the southern bank of a bend in the River Ward to the east end of Ward River Valley Park by Maeve McCormick of Archer Heritage Planning Ltd under licence (20E0329). A trench measuring c.7 sq m (2.3 N/S x 3m E/W) was opened, centring on the exposed skeleton. Excavation revealed the presence of one skeleton (SK1) which was removed and one skull (SK2) and two additional possible burials which were left *in situ* as they were not in immediate danger from erosion.

A late medieval radiocarbon date of 1045-1225calAD (UBA-43540, 883±29 BP) was returned from the left first metatarsal (Bone ID95) of SK1. Previous excavations on the same river bank in 1999 by the Underwater Archaeological Unit, Dúchas (99E0554) uncovered six burials which were dated to the 13th-14th century (DU011-090). The 1999 trench was located 4m to the NE of the present trench (ITM 717862, 746528). . It is reasonable to assume the human remains excavated in 2020 were part of the same burial ground excavated in 1999. The Author was present during excavation of the skeleton. Processing, analysis, cataloguing and report writing was undertaken by the author from August to October 2020.

The skeleton database is provided as an additional electronic file. It will be held by the author and Archer Heritage Planning Ltd for viewing upon request.

## *1.2 Materials*

There were two burials identified during excavations. The first, (SK1) located to the north of the trench had been exposed through river erosions and was fully excavated. The second, (SK2) located in the centre of the trench was allowed to remain *in situ* as it was not in immediate danger of erosion. There were two further possible burials identified to the east and west of the trench. No bone was identified alongside these possible grave cuts and they remained unexcavated as they were not in immediate danger of erosion.

The remains were processed, both the skeleton and the samples were washed/floated, dried and rebagged by the author in post-excavation and were clean and dry when examined by the author. The skeleton was bagged, boxed and stored as recommended (Buckley et al. 1999).

## *1.3 Methods*

The age-at-death of the skeletons was primarily determined by long bone fusion, dental eruption and dental attrition (Brothwell 1981, 71-2). The methods used for each skeleton are provided in the catalogue in **Section 6.1**.

It was not possible to determine the sex of the remains due to their young age.

It was not possible to estimate the stature of the remains due to their young age and damaged epiphyses.

Permanent teeth were recorded using the following chart:

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M3 | M2 | M1 | PM2 | PM1 | C | I2 | I1 | I1 | I2 | C | PM1 | PM2 | M1 | M2 | M3 |
| **18** | **17** | **16** | **15** | **14** | **13** | **12** | **11** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** |
| **48** | **47** | **46** | **45** | **44** | **43** | **42** | **41** | **31** | **32** | **33** | **34** | **35** | **36** | **37** | **38** |
| M3 | M2 | M1 | PM2 | PM1 | C | I2 | I1 | I1 | I2 | C | PM1 | PM2 | M1 | M2 | M3 |
| *right* | | | | | | | | | | | | | | | *left* |

The upper row represents the maxilla and the lower row represents the mandible. These are further sub-divided into left and right quadrants. Each permanent tooth (1-8) is prefixed by the number of the quadrant it belongs to (1-4).

Deciduous ('milk') teeth were recorded using the chart below:

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| m2 | m1 | c | i2 | i1 | i1 | i2 | c | m1 | m2 |
| **55** | **54** | **53** | **52** | **51** | **61** | **62** | **63** | **64** | **65** |
| **85** | **84** | **83** | **82** | **81** | **71** | **72** | **73** | **74** | **75** |
| m2 | m1 | c | i2 | i1 | i1 | i2 | c | m1 | m2 |
| *right* | | | | | | | | | *left* |

Any dental diseases such as calculus, caries, abscesses, enamel hypoplastic defects, as well as any other anomalies, were also recorded (**Section 3.2.2**).

Any pathological conditions observed on the bones are detailed in **Section 3.2**.

A summary of the skeletal remains is provided in **Section 6.1** (standardised for all articulated assemblages examined by the writer). It details the sex, stature and age-at-death (including the methods of determination). It also summarises the level of preservation, the *in situ* position and orientation of the burial, whether there were any other skeletons directly intercutting and whether there were any finds. It details what bones and teeth have survived and any pathologies which may have been noted. Basic metrics were taken where possible and are detailed in the database, available upon request from Archer Heritage Ltd or the Author. Archer Heritage Planning Ltd furnished the writer with all available excavation records prior to the onset of the project.

A Microsoft Excel database of all bones present has been created. This is available, on request, from the author, and will be provided to the client with this report. Most individual bones were given a sequential unique identification number (Bone ID) to facilitate the osteological analysis. This enables total bone counts to be slightly more accurate, and helps in matching bone fragments together. There were some exceptions in the cataloguing where, for example, a heavily fragmented long bone, numerous cranial vault fragments or numerous small unidentifiable bones were given one single ID number. These exceptions are clearly stated within the catalogue. In total there were 126 individual entries listed in the catalogue which represented 356 bone fragments.

All of the raw osteological data on the human skeletal remains excavated from River Valley is held by the writer. The skeletal remains have been returned to Archer Heritage Ltd, and the curation will be determined by the National Museum of Ireland.

## 2 Demographic Profile

### *2.1 Age*

Analysis of SK1 revealed the remains to be that of a juvenile (2). The right mandible contained a heavily worn m2, fully erupted M1 and an erupting PM1 and M2. Dental eruption suggested an age of 10 years +/- 2.5 years. Epiphyseal fusion suggested an age range of more than 7 years (occipital fusion) and less than 12 years (Axis fusion) with particular focus on 8-9 years (long bone fusion). As dental eruption is least likely to be affected by diet or illness it is the most accurate dating method and so the age of this individual was determined as between 9 to 11 years of age at time of death.

Analysis of SK2 revealed the remains to be that of a juvenile (1). SK2 was deemed not to be in immediate risk of erosion and was therefore left *in situ*. However, the exposed fragments were collected and analysed. The remains consisted of parts of a heavily fragmented skull and some dentition. There were four adult teeth, one unerupted upper left M2 and three loose teeth, upper right M2 and lower right M1 and M2. The M1 had partial root developed while all the M2 teeth had developed the crown only. Assessment of this dental eruption pattern placed the individual between 3-5 years of age at time of death.

### *2.2 Sex*

It is not possible to determine the sex of a juvenile individual.

### *2.3 Stature*

It was not possible to determine the stature of these individuals.

## 3 Analysis

### *3.1 Morphological Variations*

Every person is different, for example, some have stronger muscles than others and that would leave a trace on the skeleton in the shape of larger bones and more pronounced muscle attachment. Others may have undertaken a particular repetitive task which would be represented by pronounced muscle attachments in one particular area. Finally, some non-metric traits are genetic and may prove familial links within the cemetery population.

There were no cranial or dental non metric traits noted on these individuals.

A common post-cranial non-metric trait was noted on this skeleton in the form of bifurcated spinous process on 6 cervical vertebrae from the axis (C2) to C7. On average there is one whole spinous process present on vertebrae. This is potentially a genetic variation that could suggest familial links to other individuals.


**Plate 2: Bifurcate spinous process (marked by arrow) on C5 (Bone ID 15)**

### *3.2 Pathology*

There were no pathological lesions noted on the assemblage. There was no evidence of joint disease, infectious disease or trauma noted on this assemblage. Due to the lack of pathology and trauma noted upon SK1 it can be assumed the individual died of a fast moving infection or illness. This is consistant with the findings of the nearby 1999 excavation (99E0554) which showed evidence that the inhumations may have been hasty burials, perhaps those of a Cholera or Typhoid type epidemic.

#### *3.2.1 Metabolic Conditions*

Possible evidence of metabolic condition was recorded on SK1. Slight porosity was noted on the vertebral bodies and on both the humeral and femoral heads of SK1. It is possible this is as a result of nutrient deficiencies, but it is more likely due to post mortem mineral erosion of the trabecular bone.

#### *3.2.2 Dental Analysis*

A total of 7 teeth were collected from this assemblage, 4 from SK1 (Bone ID7-11) and 3 from SK2 (Bone ID123-126).

The dentition of SK1 consisted of the lower right m2 alongside erupted M1 and erupting M2 and PM1 within the right mandible. The dental eruption pattern was used to estimate an age of 9-11years. There was slight buccal

and severe ligual calculus on lower right M1 and moderate calculus bucally and lingually on lower right m2. Heavy attrition was noted on the lower right m2. Slight periodontal disease was recorded surrounding the lower right M1 most likely caused by the severe calculus.

**Plate 3: SK2 Right mandible (Bone ID5) containing worn m2 alongside erupted M1 and erupting M2 and PM1**

**Plate 4: SK right mandible (Bone ID5) displaying severe ligual calculus on M1 and moderate calculus m2.**

SK2 dentition was heavily fragmented and incomplete as a result of the skeleton remaining unexcavated and comprised only 3 loose teeth. It consisted of lower right M1 with partial root developed, lower right M2 crown and

upper left M2, which was within a fragment of maxilla. The dental development pattern allowed for an age estimation of 3-5years. There was no pathology noted.

# 4 Synthesis

## *4.1 Summary of Analysis*

Excavation revealed a juvenile (2) skeleton (SK1), aged between 9-11 years, to be in good condition located within a discrete grave cut. An additional skull (SK2) was noted in the middle of the trench, also within a discrete grave cut. These remains (SK2) were of a juvenile (1) aged between 3 and 5 years. Sex and stature could not be determined for either SK1 or SK2. Two other possible grave cuts were recorded, running under the east and west baulk respectively. The exposed skeleton (SK1) was excavated while the additional possible burials remained *in situ*, as they were deemed not in immediate danger of erosion. It must be noted that further river erosion may expose these burials in the future.

There were no cranial or dental non metric traits noted on these individuals, however a common post-cranial non-metric trait was noted on SK1 in the form of bifurcated spinous process on 6 cervical vertebrae from the axis (C2) to C7. This is potentially a genetic variation that could suggest familial links to other individuals.

There was no evidence of joint disease, infectious disease or trauma noted on this assemblage, however, possible evidence of a metabolic condition was noted on SK1. Slight porosity was recorded on the vertebral bodies and both the humeral and femoral heads of SK1. It is possible this is as a result of nutrient deficiencies, but it is more likely due to post mortem mineral erosion of the trabecular bone.

A total of 7 teeth were collected from this assemblage, 4 from SK1 and 3 from SK2. The dentition of SK1 consisted of the lower right m2 alongside erupted M1 and erupting M2 and PM1 within the right mandible. The dental eruption pattern was used to estimate an age at death of 9-11years for SK1. There was slight buccal and severe ligual calculus on lower right M1 and moderate calculus bucally and lingually on lower right m2. Heavy attrition was noted on the lower right m2. Slight periodontal disease was recorded surrounding the lower right M1 most likely caused by the severe calculus. SK2 dentition was heavily fragmented and incomplete as a result of the skeleton remaining unexcavated and consisted of only 3 loose teeth. It comprised of lower right M1 with partial root developed, lower right M2 crown and upper left M2, which was within a fragment of maxilla. The dental development pattern allowed for an age estimation of 3-5 years at time of death. There was no pathology noted.

## *4.2 Discussion*

Excavations were undertaken at River Valley, Windmill Lands, Swords, Co. Dublin due to erosion of the riverbank which exposed and damaged a skeleton (SK1) (ITM 717858, 746524). Excavation was undertaken on 23rd – 26th of June 2020 on the southern bank of a bend in the River Ward to the east end of Ward River Valley Park by Maeve McCormick of Archer Heritage Planning Ltd under licence (20E0329) from the Department of

Culture, Heritage and the Gaeltacht (DCHG) in consultation with the National Museum of Ireland (NMI). A trench measuring c.7 sq m (2.3 N/S x 3m E/W) was opened, centring on the exposed skeleton (SK1).

Excavation revealed the presence of one skeleton (SK1) which was removed. This skeleton, a juvenile (2), was aged 9-11 years at time of death. It was not possible to determine sex or stature. A late medieval radiocarbon date of 1045-1225calAD (UBA-43540, 883±29 BP) was returned from the left first metatarsal (Bone ID95) of this skeleton.

The remains of SK1 showed no definitive signs of pathology or trauma, the lack of which suggests the cause of death may have been a fast moving, highly infectious disease such as cholera or typhoid. The severe calculus recorded upon the dentition was not unusual for the medieval or post medieval period. Calculus is common in archaeological samples and is linked with poor oral hygiene (Waldron 2009). The non-metric trait of bifurcated spinous processes was noted on the cervical vertebrae. This could be used to indicate possible familial links with other skeletons as it tends to be a genetic trait.

SK1 was buried within a grave cut (C5), which was oval in plan and measured 1.5m E/W x 0.55m N/S x 0.40m deep. SK1 was lying in an extended, supine position, orientated E/W with head to the west as is traditional for Christian burials (Sprague 2005, 107). The left arm was flexed with the hand resting within the pelvis. The upper left arm had been removed by river erosion. The right arm was bent at a right angle and crossed the torso with the right hand resting on the left elbow. The legs were extended straight with feet together. The position of both the arms and legs is very common within an Irish Medieval context. There was no evidence of a coffin. It can be assumed due to the position of the arms and legs that it was a shroud burial (See Plate 5 below). The grave contained no artefacts but did contain a small amount of animal bone. The truncation to the north by the Ward River caused the skull and left ribs to be exposed at a depth of 0.30m from top of cut. It also resulted in the loss of the left side of the cranium, upper left arm and partial left shoulder. The left mandible was recovered by a local from the riverbed prior to excavation, it was kept safe by the Museum and was reunited with the skeleton before analysis commenced. The grave was marked by 6 large stones (0.15-0.25m diametre) which were placed on the top of the grave following the burial.


**Plate 5: Mid excavation photo of SK1, note the river erosion and damage to skeleton**


**Plate 6: Mid Ex photograph of Exposed remains of SK2**

SK2 comprised the exposed remains of the skull of a Juvenile (1) individual, aged 3-5 at time of death. The exposed remains were clearly within a grave cut (C7) which measured 0.50m E/W x 0.40m N/S. They were

aligned E/W with head to west as is traditional for Christian burials. The grave was located 1.10m south of the eroding river bank and was therefore deemed 'not in immediate risk' from erosion. As a result the remainder of SK2 were left *in situ*. The excavated remains of SK2 comprised skull and dentition fragments which had been exposed when it was uncovered. The development pattern of the dentition allowed for age estimation. It was not possible to determine sex or stature and there were no pathological conditions noted. It is possible that the lack of pathology is indicative of a healthy individual whose cause of death was also a fast moving highly infectious disease similar to SK1. See Plate 6 above.

Two additional possible burials, C10 and C12 were also noted during excavation. Possible grave cut C10 was recorded running into the western trench edge. It was located 0.60m south of eroding riverbank. The visible cut measured 0.50m N/S x 0.40m E/W. Large stones marked the grave cut in a similar manner to the grave cut (C6) of SK1. There were no exposed bones associated with this grave cut and so, as it was not in immediate danger of erosion it was left *in situ*. Finally, possible grave cut C12 was recorded running into the eastern trench edge and measured 0.35m E/W x 0.45m N/S. It had no grave markers and no exposed bones. It was located 0.65m south of eroding riverbank and was deemed 'not in immediate danger of erosion' and as a result it was also left *in situ*. See Plate 7 below.

An earlier excavation (Licence No. 99E0554) took place on this riverbank 4m to the NE of the excavation discussed within this report. It was undertaken by The Underwater Archaeological Survey Unit of Dúchas the Heritage Service in 1999. It was also commissioned as a result of the erosion of skeletons from the riverbank. The trench measures 2m x 2m. The excavation resulted in the discovery of six articulated human remains comprising of four adult females and two infants. It was interpreted that some degree of haste was involved in the burial of these skeletons due to the position of the hands which suggested the bodies had been thrown in rather than placed with any degree of time and ritual. The interments may reflect some form of hasty communal deposition of victims of some form of plague or trauma (Brady & Kelleher, 1999). The grave marking stones noted on grave cut C5 and C10 of the current excavation may seem to contradict the 'rapid burial' interpretation but some form of fast moving disease would explain the lack of any evidence of a pathological cause of death on SK1, as victims of these diseases rarely live long enough for markers to show upon the bones. .

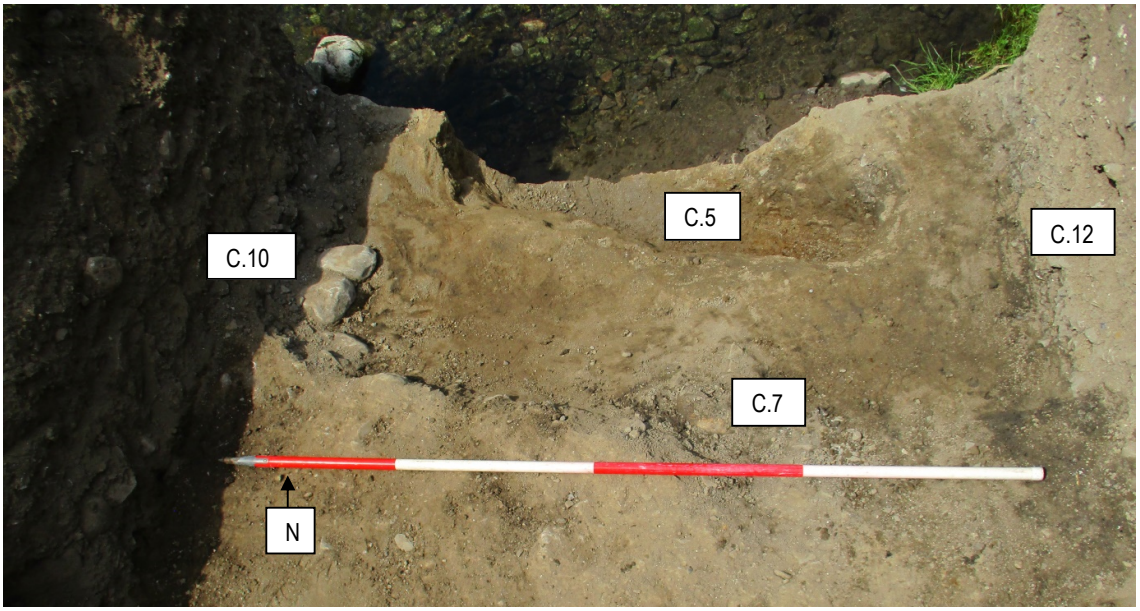



**Plate 7: Post ex photograph of trench showing empty grave cut C5, and unexcavated graves C7, C10 and C12**

The burials from the 1999 excavation were placed into a 13th-14th century midden layer and a selection of artefacts were discovered dating to the 13th-14th century including pottery, nails, animal bone and a silver coin. The radiocarbon date of 1045-1225calAD (UBA-43540, 883±29 BP) returned from SK1 places it slightly earlier but still overlapping in date with the skeletons from the earlier 1999 excavation. Considering the proximity of both excavations to one another (4m), the overlapping dates and the similarities in their discovery, it is reasonable to assume the human remains excavated in 2020 were part of the same cemetery excavated in 1999.

### *4.3 Conclusion*

The excavation in Ward River Valley Park was commissioned by Fingal County Council as a result of human remains becoming exposed in the riverbank. A small c.7 sq m (2.3 N/S x 3m E/W) was opened and the remains of the exposed skeleton excavated. SK1 was a juvenile (2), aged 9-11 years at time of death. This individual appeared to have been healthy at time of death which would suggest a fast moving highly infectious disease as cause of death. The remains were buried in a grave, aligned e/w with head to the west as is traditional for a Christian burial. SK1 was lying on their back, with arms slightly bent and legs straight with feet tightly together. This would suggest a shroud burial. The grave was marked with 6 large stones. A late medieval radiocarbon date of 1045-1225calAD (UBA-43540, 883±29 BP) was returned from this skeleton.

SK2 was not fully excavated as it was not in immediate danger of erosion, however loose fragments of skull and dentition were collected. From these it was possible to determine that SK1 was a juvenile (1), aged 3-5years at time of death. A grave cut was clearly noted. It was also aligned E/W in the Christian manner. Cause of death was not possible to determine from these remains.

Finally, two additional possible burials, C10 and C12 were also noted during excavation. Possible grave cut C10 was recorded running into the western trench edge while C12 was running into the eastern trench edge. Grave

cut C10 had large stone markers similar to grave cut C5 of SK2. There were no exposed bones associated with these grave cuts and so, as they were not in immediate danger of erosion they were left *in situ*.

There were notable comparisons which could be drawn between this excavation and one which took place 4m to the NE in 1999. This population also dated to the late medieval period and appeared to have died from a fast moving highly infectious disease. It is reasonable to assume the human remains excavated in 2020 were part of the same cemetery excavated in 1999 and that they represent the victims of a sudden and deadly outbreak of a highly infectious disease such as Cholera or Typhoid in Swords.

## 5 Bibliography

Bass, W. M. 1995. *Human Osteology: A Laboratory and Field Manual.* Missouri Archaeological Society, Columbia, Miss.

Brady, K. & Kelleher, C. 1999, 'Preliminary Report of Rescue Excavations at windmill Lands, River Valley, Swords, Co. Dublin'. Unpublished report prepared by The Underwater Archaeological Survey Unit, *Dúchas* the Heritage Service.

Brook, S. T. &Suchey, J. M. 1990. 'Skeletal Age Determination Based on the Os Pubis: A Comparison of the Acsádi-Nemeskéri and Suchey-Brooks Methods'. *Human Evolution* 5**,** 227-238.

Brothwell, D. & Zakrzewski, S. 2004. Metric and Non-metric Studies of Archaeological Human Bone. In M. Brickley & J.I. Mckinley (eds.), *Guidelines to the Standards for Recording Human Remains*, 27-33. Institute of Field Archaeologists Paper No. 7.

Brothwell, D. R. 1981. *Digging Up Bones: The Excavation, Treatment and Study of Human Skeletal Remains.* British Museum (Natural History), London.

Buckley, L. 2010. Ninch, Laytown, Co. Meath, within the Context of North Leinster Early Medieval Cemeteries. In C. Corlett & M. Potterton, (eds.), *Death and Burial in Early Medieval Ireland in the Light of Recent Archaeological Excavations*, 43-48. Wordwell Ltd, Dublin.

Buckley, L., Murphy, E. & Ó Donnabháin, B. 1999.*The Treatment of Human Remains: Technical Paper for Archaeologists.* Institute of Archaeologists of Ireland, Dublin.

Buikstra, J. E. &Ubelaker, D. H. 1994. *Standards for Data Collection from Human Skeletal Remains: Proceedings of a Seminar at the Field Museum of Natural History, organized by Jonathan Haas.* Arkansas Archeological Survey, Fayetteville.

Fibiger, L. 2005. Minor Ailments, Furious Fights and Deadly Diseases: Investigating Life in Johnstown, County Meath, AD400-1700. In J O'Sullivan & M. Stanley (eds.), *Recent Archaeological Discoveries on National Road Schemes 2004. Proceedings of a Seminar for the Public, Dublin, September 2004*, 99-110. National Roads Authority, Dublin.

Lewis, M. E. 2004. Endocranial Lesions in Non-adult Skeletons: Understanding their Aetiology. *International Journal of Osteoarchaeology* 14**,** 82-97.

Lewis, M.E. 2006. Little waifs: weaning and dietary stress, *The Bioarchaeology of Children*. p97-132 Cambridge university Press

Lieverse, A. R. 1999. Diet and Aetiology of Dental Calculus.*International Journal of Osteoarchaeology* 9**,** 219-232.

Lovel, N.C. 1997. Trauma Analysis in Paleopatholoy, in *Yearbook of Physical Anthropolgy*, 40:139-170

Mann, R. W. & Murphy, S. P. 1990. *Photographic Regional Atlas of Bone Diseases: A Guide to Pathologic and Normal Variation in the Human Skeleton.* Thomas, Charles C., Springfield, IL.

Mays, S. 1998. *The Archaeology of Human Bones.*Routledge, London.

O'Donovan, E. & Geber, J. 2010.Excavations on Mount Gamble Hill, Swords, Co. Dublin. In C. Corlett, & M. Potterton, (eds.), *Death and Burial in Early Medieval Ireland in Light of Recent Archaeological Excavations*, 227-238. Wordwell Ltd, Dublin.

O'Sullivan, A., McCormick, F., Kerr, T. R. & Harney, L. 2013.*Early Medieval Ireland, AD 400 - 1100: The Evidence from Archaeological Excavations.* Royal Irish Academy, Dublin.

Ortner, D. 2003. *Identification of Pathological Conditions in Human Skeletal Remains.*Amsterdam Academic Press.

Ortner, D. J. & Putschar, W. G. J. 1981. *Identification of Pathological Conditions in Human Skeletal Remains.*Smithsonian Institution Press, Washington.

Schultz, M. 2001. Paleohistopathology of Bone: A New Approach to the Study of Ancient Diseases. *American Journal of Physical Anthropology* 116**,** 106-147.

Seaver, M. 2011, Back to basics: contexts of human burial on Irish early medieval enclosed settlements in *A Past Times, Changing Fortunes, Archaeology and the National Roads Authority* Monograph Series No 8, Pg 113-130

Tsaliki, A. 2008. Unusual Burials and Necrophobia: An Insight into the Burial Archaeology of Fear. In E.M. Murphy, (ed.) *Deviant Burial in the Archaeological Record*, 1-16.Oxbow Books, Oxford.

Ubelaker, D.H. (1979). *Human Skeletal Remains: Excavation, Analysis and Interpretation.* Washington, DC: Smithsonian,Institute Press.

Waldron, T. 2009. *Palaeopathology.*Cambridge University Press, Cambridge.

Walker, P. L., Bathurst, R. R., Richman, R., Gjerdrum, T. & Andrushko, V. A. 2009. The Causes of Porotic Hyperostosis and Cribra Orbitalia: A Reappraisal of the Iron-Deficiency Anemia Hypothesis. *American Journal of Physical Anthropology* 139**,** 109-125.

White, T. D. &Folkens, P. A. 1991. *Human Osteology.*Academic Press, San Diego.

## 6 Biological Summary

The following section consists of a detailed biological summary of the skeletal remains from River Valley, Swords, Co. Dublin. The location, orientation, position and condition of the skeleton during excavation is noted along with details of age, sex, dentition and pathologies which were determined during post excavation analysis.

The age ranges utilised are as follows: 'Perinate' (Full term baby, 40 weeks +/- 2 weeks), 'Infant' (<1 year), 'Juvenile (1)' (1-6 years), 'Juvenile (2)' (7-11 years), and 'Adolescent' (12-17 years), 'Young Adult (18-25 years), 'Middle Adult' (25-45 years), 'Older Adult' (45 years and above).

Permanent teeth were recorded using the chart mentioned in **Section 1.3 Methods.**

The key used to describe the dentition within the charts are as follows:

| | |
|---|---|
| **PO:** Tooth present in socket | **PU:** Present, Unerupted |
| **PM:** Post Mortem Tooth loss | **PE:** Present- Erupting |
| **AM:** Ante Mortem Tooth Loss | **P:** Present but not in socket |
| **PU**: Present, Unerupted | **C:** Congenitally absent |
| **X:** Completely Absent (no tooth and no socket) | |

The detailed skeletal database is available upon request from Archer Heritage Ltd and the author.

### *SK1, C5, Juvenile (2)*

**Location:** Northern edge of trench, exposed by River Ward

**Grave Cut C5:** Oval in plan, Measures 1.5m E/W x 0.55m N/S x 0.40m deep. Steep sided, gentle break of slope at top and base, undulating flat base, orientated E/W, Filled with SK1 and C6.

**Truncation***:* Truncated to north by River Ward

**Skeletal Preservation:** Good condition and moderately complete

**Skeletal Position:** Supine.

**Skeletal Attitude***:* Extended.

**Orientation:** E/W, head to east

**Associated Skeletons:** n/a

**Position of Arms and legs:** Left arm slightly flexed with hand in pelvis, Right arm bend with hand on left elbow, legs straight with feet tightly together.

**Associated Finds:** Six large stones across surface of grave acting as grave markers.

**Bones Present:** Incomplete cranium and mandible. Left shoulder and upper arm removed by river erosion. All other long bones present, proximal and distal epiphyses present, some damaged. Incomplete carpals, metacarpals, tarsals, metatarsals and phalanges. Complete vertebrae, ribs and pelvis.

#### Demographic Profile

**Age:** Juvenile, 9-11yrs old (epiphyseal fusion, M2 eruption and dental attrition)

**Sex:** n/a

**Stature***:* n/a

**Dentition**

Permanent teeth, 3 present

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| **18** | **17** | **16** | **15** | **14** | **13** | **12** | **11** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** |
| **48** | **47** | **46** | **45** | **44** | **43** | **42** | **41** | **31** | **32** | **33** | **34** | **35** | **36** | **37** | **38** |
| x | PE | PO | x | PE | x | x | x | x | x | x | x | x | x | AM | x |

right left

Deciduous ('milk') teeth , 1 present

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| x | x | x | x | x | x | x | x | x | x |
| **55** | **54** | **53** | **52** | **51** | **61** | **62** | **63** | **64** | **65** |
| **85** | **84** | **83** | **82** | **81** | **71** | **72** | **73** | **74** | **75** |
| PO | x | x | x | x | x | x | x | x | x |

*right* *left*

**Dental Pathology**

**Calculus:** 2/4, slight to Severe

**Caries:** n/a

**Hypoplastic defects:** n/a

**Periodontal disease:** 1/4, slight

**Attrition:** Heavy attrition on deciduous molar, Little to no attrition on adult dentition

**Morphological Variations**

**Cranial:** n/a

**Dental:** n/a

**Post-cranial:** C2-C7 displayed bifurcated spinous processes.

**Skeletal Pathology**

**Joint disease:** n/a

**Infectious disease:** n/a

**Metabolic disease:** n/a

**Trauma:** n/a

**Anomalies**: Cancellous bone such as vertebral bodies and long bone epiphyses displayed porosity. Analysis suggests this to be due to erosion as opposed to pathological.

**Comments:** Bone removed from SK1 C5/C6 for C14 dating. Left MT1 (Bone ID 95), removed for C14 dating by MMC on 27/7/20.

**Associated Disarticulated Bones:** n/a

### *SK2, C7, Juvenile (1)*

**Location:** Centre of trench

**Grave Cut C7:** Measured 0.50m E/W x 0.40m N/S, located 1.10m south of the eroding river bank. Filled with SK2 and C8

**Truncation***:* n/a

**Skeletal Preservation:** Good condition (only partially exposed)

**Skeletal Position:** n/a

**Skeletal Attitude***:* n/a

**Orientation:** E/W, head to east

**Associated Skeletons:** n/a

**Associated Finds:** n/a

**Bones Present:** Incomplete cranium and mandible. Heavily fragmented. SK2 was only partially uncovered Deemed 'not at risk' from erosion and left *in situ.*

## Demographic Profile

**Age:** Juvenile (1), 3-5yrs old (Dentition: M1 partial root developed, M2 crown only developed)

**Sex:** n/a

**Stature***:* n/a

### Dentition

Permanent teeth, 4 present. All teeth were loose. Partial root developed on lower right M1. All remaining teeth were M2, crown only developed. Upper left M2 was within a fragment of maxilla, unerupted.

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | P | x | x | x | x | x | x | x | x | x | x | x | x | PU | x |
| **18** | **17** | **16** | **15** | **14** | **13** | **12** | **11** | **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** |
| **48** | **47** | **46** | **45** | **44** | **43** | **42** | **41** | **31** | **32** | **33** | **34** | **35** | **36** | **37** | **38** |
| x | P | P | x | x | x | x | x | x | x | x | x | x | x | x | x |

right left

**Dental Pathology**

**Calculus:** n/a

**Caries:** n/a

**Hypoplastic defects:** n/a

**Periodontal disease:** 1/4, slight

**Attrition:** n/a

### Morphological Variations

**Cranial:** n/a

**Dental:** n/a

**Post-cranial:** n/a.

### Skeletal Pathology

**Joint disease:** n/a

**Infectious disease:** n/a

**Metabolic disease:** n/a

**Trauma:** n/a

**Anomalies**: n/a

**Comments**: SK2 was only partially uncovered Deemed 'not at risk' from erosion and left *in situ*

**Associated Disarticulated Bones:** n/a

### *6.2 Metrics*

All Metric data of the River Valley assemblage is available within the River Valley, Swords (20E0329) digital catalogue which is available upon request from Archer Heritage Ltd and/or the author Maeve McCormick

## APPENDIX 5 Pottery analysis

**River Valley, Swords, Co. Dublin (20E0329)**

**Pottery Analysis**

**Clare McCutcheon MA MIAI**

### *Introduction*

A total of six sherds of pottery was presented for study. The single medieval sherd was recovered from the river bed (C14) near the eroding skeleton, while the balance of five sherds, dating to the 19th century, were recovered from the landscaping layer (C2) below the topsoil. Previous excavation at the site (99E0554) had recovered both Leinster Cooking Ware and Dublin-type ware, giving a general 13th century date to the skeletons.

### *Methodology*

The identification of the sherds has been entered on a database as per the requirements of the National Museum of Ireland. The material has been identified visually and the detailed information is presented in Table 1. This shows the number of sherds in each fabric type, the minimum number of vessels (MNV) present and the minimum vessels represented by the sherds (MVR). The form of the vessels represented is also shown with the known date range of the material.

| Fabric | Sherds | MNV | MVR | Form | Date |
|---|---|---|---|---|---|
| Leinster Cooking Ware | 1 | - | 1 | Cooking jar | L12th-M14th |
| **Medieval total** | **1** | **-** | **1** | | |
| Black glazed ware | 2 | - | 1 | Storage jar | L17th-19th |
| Glazed red earthenware | 2 | - | 1 | Bowl | L17th-19th |
| Transfer printed ware | 1 | - | 1 | Bowl? | L18th-20th |
| **Post medieval total** | **5** | **-** | **3** | | |

**Table 1: Pottery identification, River Valley, Swords, Co. Dublin (20E0329)**

*Leinster Cooking Ware*

This micaceous, hand-built ware 'is the single most widespread medieval pottery type in Leinster' (Ó Floinn 1988, 340). It has been found in varying quantities on both urban and rural sites from Dungarvan to Dublin and further north. The fabric contains large plates of mica, quartz grits and other inclusions such as decomposed feldspar (ibid 327) and the vessels are unglazed. While similar clay can be found in locally-made unglazed wares of the period, the method of construction and firing leaves the Leinster Cooking Ware vessels with an easily recognisable sand-pitted base.

The single body sherd recovered (14:1) is most likely from a cooking jar as this is the most common vessel type.

Black glazed ware:

Black glazed wares are most commonly found in Dublin and the east coast, originating from Lancashire and north Wales i.e. the so-called Buckley wares. Both black glazed and glazed red earthenwares (below) are the successors of the North Devon gravel tempered wares, large vessels used for the dairy, kitchen and toilet. Some tablewares such as cups and jugs are also made, but equally, roof-tiles are also made in these wares. In contrast, the industrial production of tablewares in Staffordshire supplanted the corresponding 17th century North Devon sgraffito wares.

Black glazing results from the addition of iron to lead glaze on the red earthenware fabrics. The fabric is often highly fired to a near stoneware purple, although other varieties have a white marbled appearance. The fabric of the black glazed wares made in Ireland appears to be a less highly fired red earthenware (Meenan 1997, 349).

Two body sherds (2:1) were recovered, probably made in the Dublin area given the red clay.

*Glazed red earthenware*

The fabric is generally sandy earthenware, usually oxidised buff to light orange through to brown. The clear lead glaze takes its colour from the fabric with variations due to firing conditions (Jennings 1981, 157). These are also known as brownwares and were made widely in England and Ireland in the later 17th and 18th centuries (Dunlevy 1988, 24-5).

A single rim sherd (2:6) represents a bowl. The vessel was fired upside down leading to a dark coloured glaze on the rim.

*Transfer printed ware*

Commonly associated with the so-called 'Willow pattern' the variety of patterns is wide with landscapes, particularly English and Italianate very popular as well as many varieties of Chinese style or Chinoiserie. While the principal colour used is a deep blue, decoration also comes in red, grey, brown, purple, green and black. The decoration is created with the application of a coloured tissue paper design.

The single sherd (2:2) is decorated with a red floral pattern, overpainted in green and yellow on the central daisy-like flower. The underside of the sherd has mark in red, possibly U or C. The sherd is quite thick and although small in diameter, it may be the base of a bowl.

### *Bibliography*

Blake, H. & Davey, P. (eds) 1983 *Guidelines for the processing and publication of medieval pottery from excavations*. London.

Dunlevy, M. 1988 *Ceramics in Ireland* Dublin.

Jennings, S. 1981 *Eighteen centuries of pottery from Norwich* Norwich.

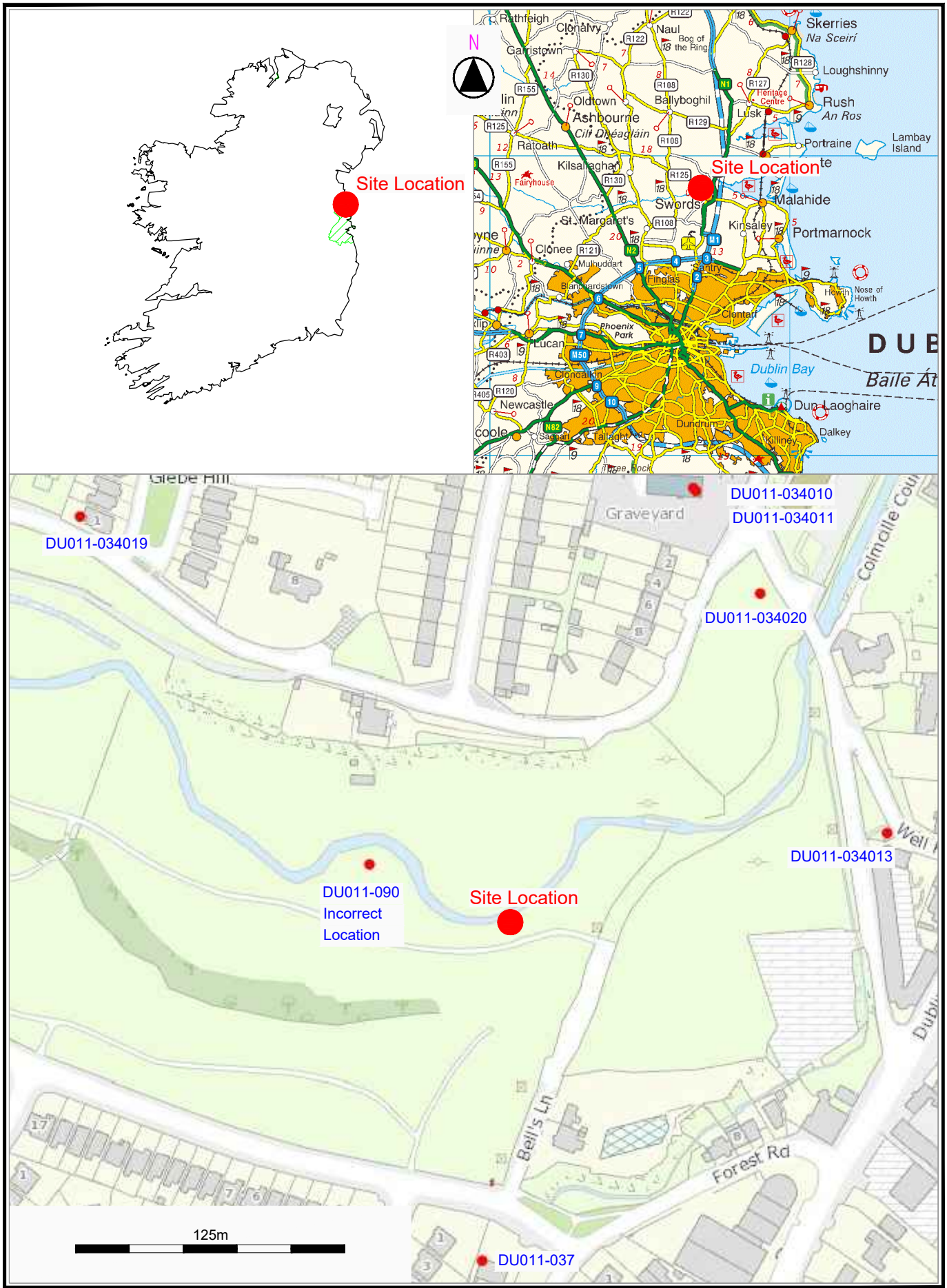
McCutcheon, C. 2000 *'Medieval pottery in Dublin: new names and some dates'*, in S. Duffy (ed.), Medieval Dublin I: Proceedings of the Friends of Medieval Dublin Symposium 1999. 117-25. Dublin.

McCutcheon, C. 2006 *Medieval pottery from Wood Quay, Dublin: The 1974-76 waterfront excavations*. Dublin.

Meenan, R. 1997 *'Post-medieval pottery'*, in M.F. Hurley & O.M.B. Scully, Late Viking age and medieval Waterford: Excavations 1986-1992. 338-55. Waterford.

Ó Floinn, R. 1988 *'Handmade medieval pottery in S E Ireland-'Leinster Cooking Ware'* in G. Mac Niocaill & P. Wallace (eds), Keimelia. 325-49. Galway

Pearce, J.E., Vince, A.G. & Jenner, M.A. 1985 *A dated type-series of London medieval pottery part 2: London-type ware*. London.




| | | | |
|---|---|---|---|
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| | | | Date: Oct 2020 |
| | | Archaeological Excavation | Origin: OSI |
| | | | Ref: 2020_36_FER_01 |

Figure 1: Location of site and surrounding RMP's

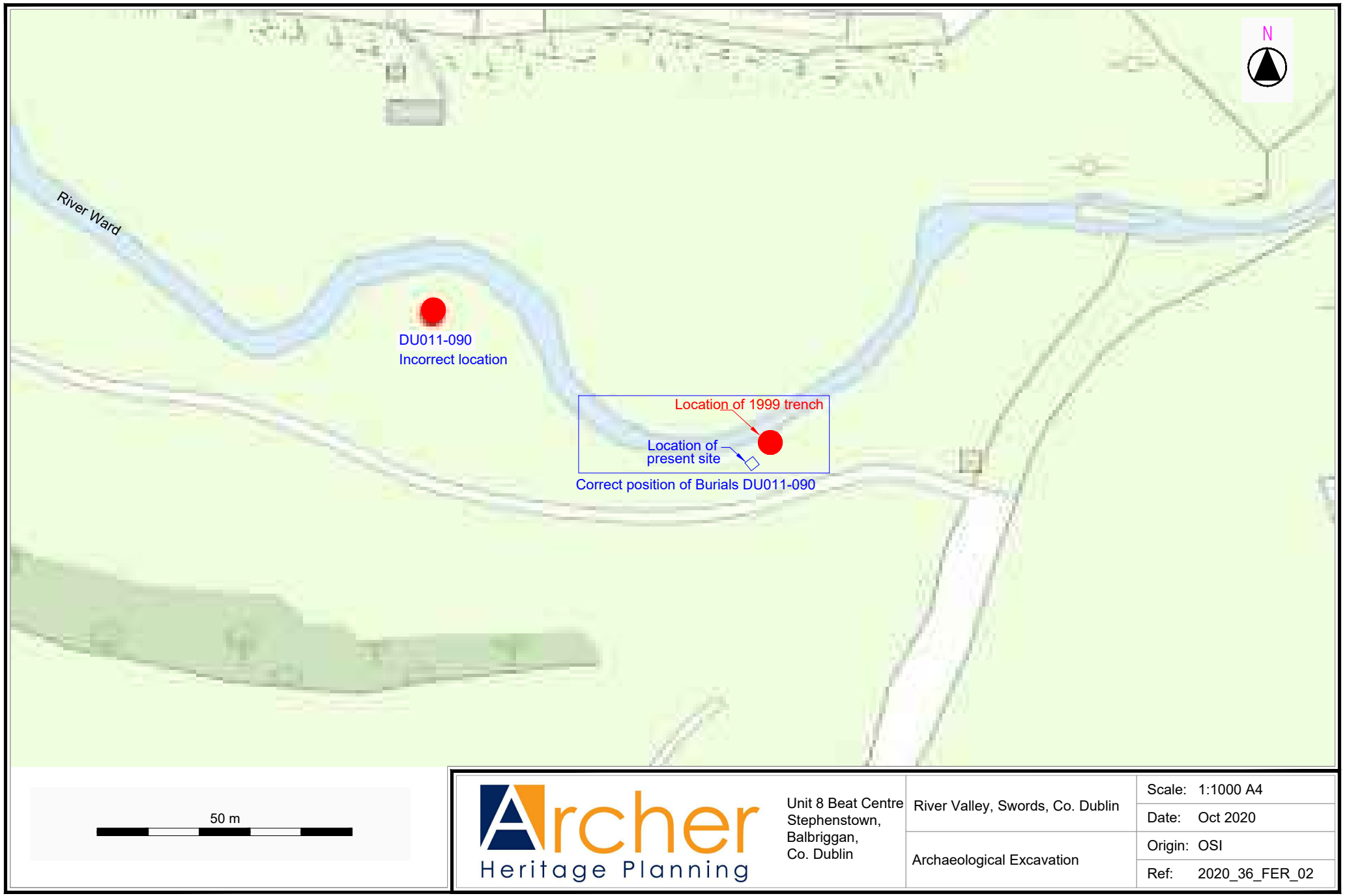



Figure 2: Showing correct position of Burials DU011-090

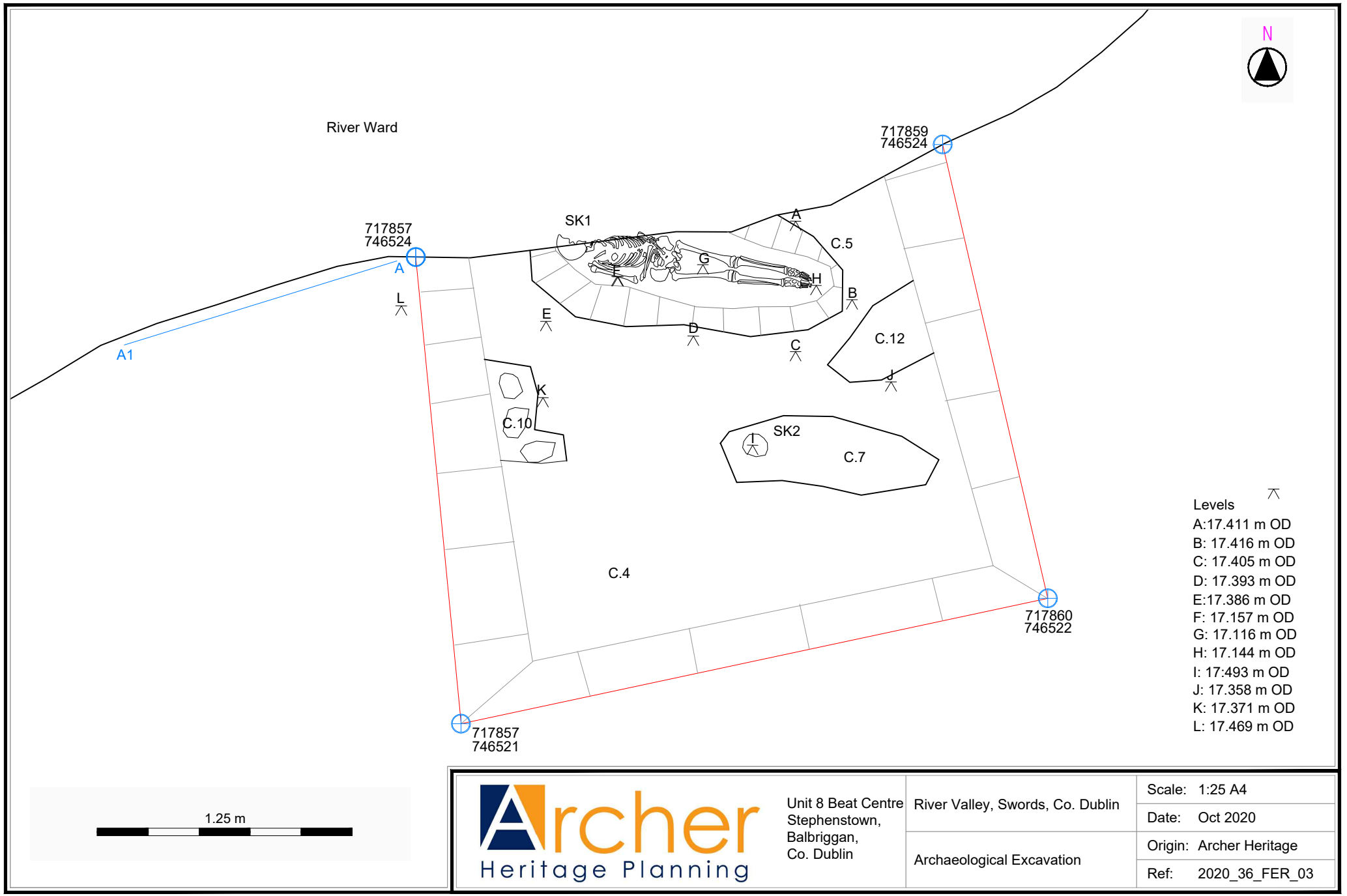



Figure 3: Trench Plan

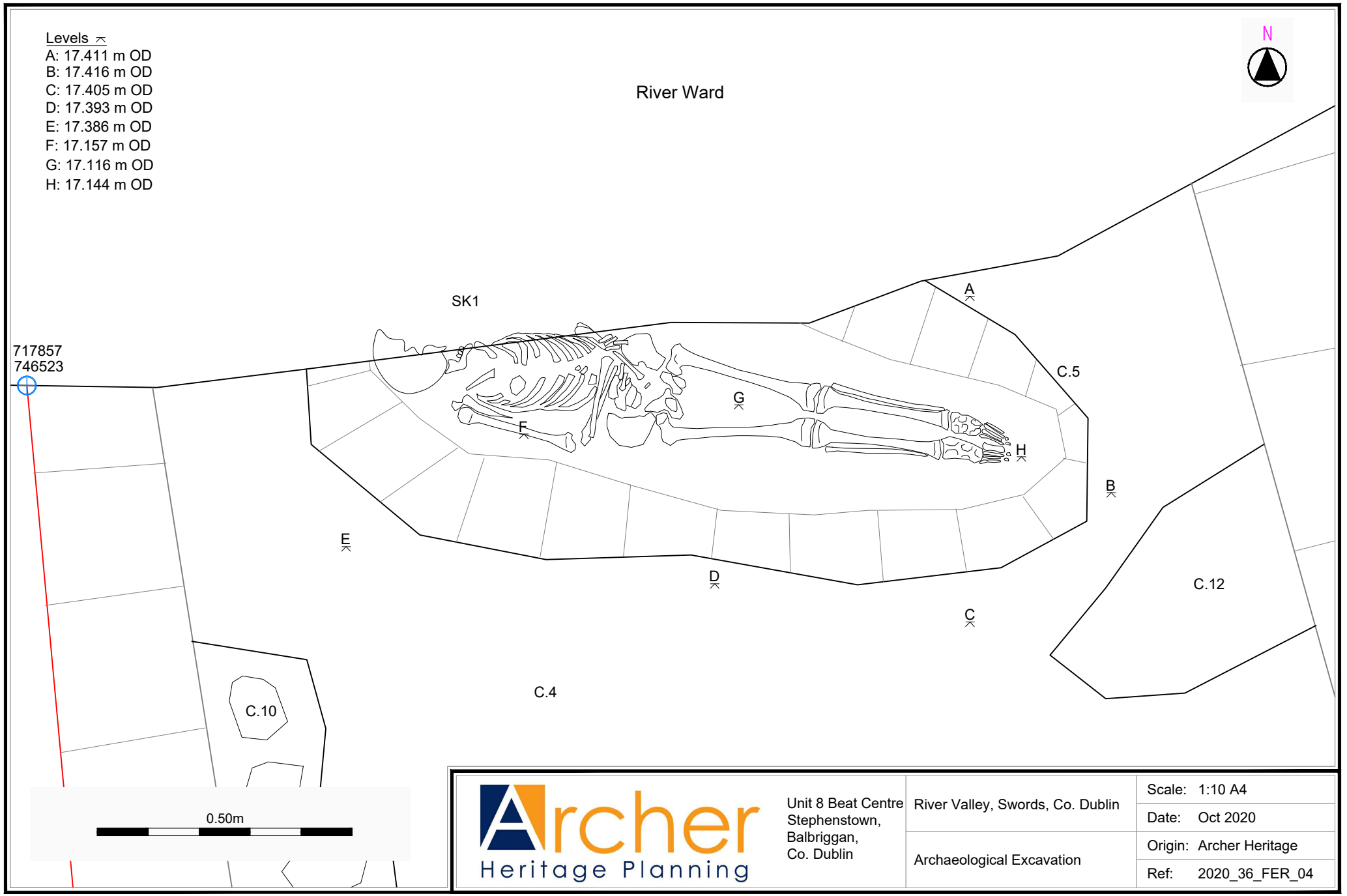
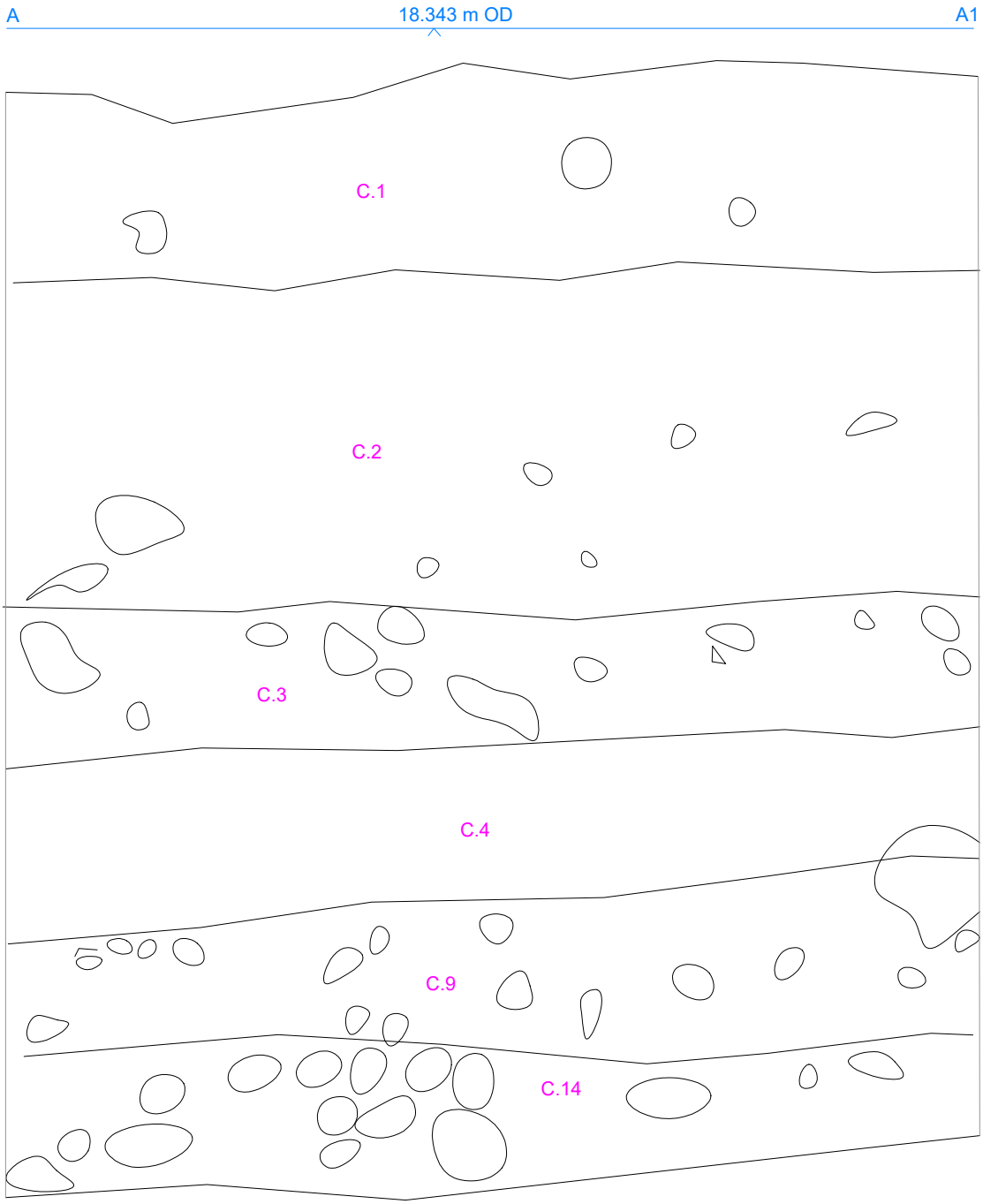



Figure 4: Plan of SK1, C.5




| | | | |
|---|---|---|---|
| Archer Heritage Planning | Unit 8 Beat Centre<br>Stephenstown,<br>Balbriggan,<br>Co. Dublin | River Valley, Swords, Co. Dublin | Scale: 1:10 A4 |
| | | | Date: Oct 2020 |
| | | Archaeological Excavation | Origin: Archer Heritage |
| | | | Ref: 2020_36_FER_05 |

Figure 5: River Bank Section Face


Plate 1: Elevated pre excavation view of site

Plate 2: Pre- excavation photograph, looking west (note SK1 in riverbank)


Plate 3: Excavation begins, fencing and safety measures in place, looking NE

Plate 4: SK1 exposed in the river bank

Plate 5: Pre-ex of grave cut C5, showing in situ marking stones

Plate 6: Elevated Pre ex of trench, displaying bend in the river and eroded riverbank, facing south


Plate 7: Metal detecting riverbed and grave fill


Plate 8: Mid-Ex of SK1, C5


Plate 9: West facing trench section and riverbank section face


Plate 10: Exposed SK1 and east facing trench section face and riverbank


Plate 11: Drone photograph of SK1 mid ex

Plate 12: Skull of SK2, partially exposed

Plate 13: Post ex of trench showing C5, partially exposed SK2, C10 & C12

Plate 14: Revetment holding back fill in place, facing SW

Plate 15: Reinstatement showing safety signs, facing SW