Black Friary Archaeological and Community Report 2017

Irish Archaeology Field School

Blackfriary Community Heritage and Archaeology Project

Table of Contents

List of Figures

List of Tables

List of Appendices

Summary

This interim report details the seventh season of excavation at Black Friary, Blackfriary townland in Trim Co, Meath which took place in 2016-2017 (specifically summer 2016 and winter 2017). The excavations at Black Friary, a Dominican Friary founded in 1263, which is in the ownership of the County Council and is a monument protected by Preservation Order (No. 4 of 1972) under the National Monuments Acts, were carried out under ministerial consent C420 issued to Trim Town Council. An excavation recording number E4127 was issued by the National Museum for recording to Finola O'Carroll.

Works prior to 2016 have been extensively reported previously in interim reports (most recently see O' Carroll, Shine et al. 2016 but also O' Carroll 2011 and 2014). During the 2016 season, work focused on examining in detail the east range (Cutting 6) and exploring the area north of the north range to determine if another range of buildings had existed there (Cutting 7 extension). Excavations also continued on a sample of burials within the cemetery (Cutting 10), and the area within the nave in Cutting 3, which had been the focus of a number of years' work, was partially brought to a conclusion. The area of the nave where the plinth of a possible half column (from a probable colonnaded arcade separating the nave from the south aisle) and abutting the west wall of the church was also further examined in Cutting 9, but the presence of burial activity meant that not all the questions asked could be answered. Cutting 9 was fully reinstated following excavation. The southern boundary of the site, which may bear relation to the northern medieval boundary of Trim, was also examined through the excavation of Cutting 13.

In 2015 a programme of Ground Penetrating Radar (GPR) and geophysical survey was undertaken at the site and is reported in Appendix 4.

Acknowledgements

Our research at the Black Friary site would not be possible without the support of a number of statutory bodies and universities - as well as of course our fantastic students and staff!

The excavations are actively supported by Meath County Council (MCC), the landowners of the Black Friary field. MCC have facilitated access to the site and provided continued financial and logistical support. Thank you to everyone at MCC, but in particular the County Manager Jackie Maguire and the Heritage Officer, Dr. Loreto Guinan, whose ongoing support has been critical to the success of our project. We would like to acknowledge the support of Meath County Council in providing funding for radiocarbon dating, post-excavation works and support of our community calendar. We would also like to acknowledge the support of statutory bodies, the National Monuments Section (NMS), National Museum of Ireland (NMI) and Office of Public Works (OPW).

Many specialists have contributed to the analyses of the Black Friary collection over time. In 2016 faunal bones were examined by Dr. Fiona Beglane (Appendix 2). Special mention is reserved for the wonderful staff and students of Cardiff University Conservation Laboratory who conserved the wider collection of stained glass (in excess of 1400 pieces) – in particular thank you to. Jane Henderson, Phil Parkes, Meredith Sweeney and Jack Newcombe. Finally Susannah Kelly provides continued support in the conservation of individual artefacts – frequently at short notice!

The excavations would of course not be possible without the participation of all our partner institutions/organisations and the fabulous students who attend every year: thank you for all your hard work! These students have been supervised by our wonderful staff (and interns) – many thanks for your continued professionalism and enthusiasm.

Finally greatest thanks are reserved for our wonderful host community in Trim (there are far too many individuals to list). Your continued support is what makes the project so special!

Supervisors and Interns who participated in the 2016/2017 seasons

Laura Corrway

Dr. Dara Fleming Farrell

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Naming the place and the project

Dominican friars frequently were known as Black Friars after the black cloak or *cappa* worn by them, and their convents became popularly styled as Black Friary, Blackfriars or Black Abbey. In Trim the townland where the friary is located was called Blackfriary. However the site is marked on the Ordnance Survey (OS) maps, and in official documentation, as Black Friary. The wider community project surrounding the excavations at the site is known as BCHAP - Blackfriary Community Heritage and Archaeology Project. Hence Black Friary is used throughout this report when referring to the site, while Blackfriary is preferred when referring to either the townland or wider community project.

Section 1

Archaeological Report

Finola O'Carroll, Dr. Denis Shine and Dr Rachel Scott

Introduction

The IAFS are conducting a research and teaching excavation in the Black Friary, Trim, Co. Meath. The site (ME038-048023; Figure 1.1), is in the ownership of Meath County Council to whom Ministerial Consent (C420/E4127) has been issued (with Finola O' Carroll as nominated archaeologist) under the National Monuments Act 1930-2004. This report constitutes a Preliminary report under the terms of that act.

Following excavations in Trim carried out over several years (from 2003 – 2008) by CRDS Ltd in Trim, which led to the publication of a monograph, Uncovering Medieval Trim (Potterton and Seaver 2009), the IAFS decided to undertake a teaching excavation at the site of the Dominican Friary, or Black Friary, in Trim. It is intended to run this excavation as both a research and teaching excavation and a public archaeology project with the involvement of those in the community who are interested in the work and in the future use of the site. There were no upstanding remains of the friary buildings above ground. A few large pieces of collapsed masonry are visible, otherwise the site consists of a large (2.4ha/5.9 acre) grassy field with noticeable hummocks and hollows. Its present state is principally as a result of the systematic quarrying of the site for building stone in the mid-eighteenth century.

Works undertaken prior to 2016 have been extensively reported in previous interim reports. During the seventh season work focused on examining the east range in Cutting 6 and an area to the northwest of the north range in Cutting 7 (which was extensively extended northward). Excavations continued on a sample of burials within the cemetery (Cuttings 3 and 10) – with 120 individuals comprising infants, juveniles, sub-adults and adults now excavate from the site. An area of the nave within Cutting 3, which had been the focus of a number of years' work, was partly concluded. Cutting 9, located within the nave, was fully reinstated. The southern boundary of the site, which may bear relation to the northern medieval boundary of Trim, was also examined through the excavation of a new cutting - Cutting 13.

Site Location

The site is located in Blackfriary townland on the northern side of the River Boyne in Trim, County Meath (NGR 280225, 257359). It is bounded to the west by houses which front onto the Kells Road, and to the north, east and south by housing and by SuperValu also on the south side. It lies approximately 200m to the north east of St. Patrick's Cathedral in Trim, which is located on the highest point in the town close to the river. The line of the town wall is believed to coincide approximately with the present

southern boundary and would have formed the southern line of the precinct as the Kells Road would have formed the western line.

Date and Circumstances of Fieldwork

In summer 2016 excavations continued at the site from May to September when students from a number of countries and a number of local people (Section 3) were involved.

In January 2017 IAFS hosted a winter season, when students from Australia and America excavated at the site for a period of four weeks. This winter season is incorporated with the 2016 summer season in this report. IAFS maintain a year round presence on the site conducting post-excavation and reporting work.

Geology and Topography

Solid Geology and Soils

The site is located in an area of Carboniferous Age rocks. The bedrock under the site consists of Lower Carboniferous Age sandstones and limestone. These rocks represent the northward return of the sea at the end of the Devonian, *c.* 360 million years ago, owing to the opening of a new ocean to the south called the Palaeo-Tethys in what is now central Europe.

Topography and Landscape

Blackfriary is located on a slight elevation at about 62.6m O.D. The terrain falls to the south of the Black Friary into Trim town towards the flat floodplain of the River Boyne. The exception is the knoll on which St Patricks Cathedral sits at 63m O.D. At the time the friary was built the highest point in the site would have been approximately 62.3m OD; today, the rubble build-up on the site brings the modern maximum height to 63m OD. The Black Friary site is currently located within a large field bounded to the north and east by houses built in the 1980s. To the west it is bounded by County Council houses built during the 1930s and to the south by Supervalu supermarket and further houses from the 1980s. The field is the property of the state and in the ownership of the County Council. The laneway to the east of the County Council houses is managed by Trim Town Council. The site occupies an area of about 2.4 hectares, which is now in uncultivated grass. A distinctive bank and ditch runs north to south through the centre of the site, turning west at its northern end. This demarcates the friary buildings from the remainder of the associated land and may mark the east and north line of the original precinct with the remaining area east of the friary buildings being occupied by associated small fields or kitchen gardens. A stream runs from the northwest end of the site east and south to the Boyne; it has been culverted and re-aligned into nearby field boundaries. The topography suggests that this may originally have run through the site and was possibly managed as a water-supply for the friary.

Archaeological and Historical Background

Prehistoric Period(s)

There are no prehistoric monuments situated within a 1km radius of Trim. However recorded finds from the vicinity provide some record of human activity in the Neolithic and the Bronze Age.

Two stone axeheads (NMI: 1881 431 and NMI 1929:1593) were recovered in the vicinity of Trim. A number of Bronze Age artefacts have been discovered in the vicinity of the town. The closest recorded monument of prehistoric date is the tumulus (ME036:037) located in Dogstown (third division).

Excavations by Mandy Stephens and Finola O'Carroll in the green space to the south of the castle uncovered a number of deposits in peaty soils. One of these deposits contained a number of pig bones, identified as the forelimbs, and these were dated to 370-110 BC, (O'Carroll and Stephens 2007; Beglane 2009).

Early Medieval Period (AD 500-1170)

The name Trim is derived from the Irish "*Ath Truim"* meaning "*the ford of the elder tree*" (Herity, 2001, 67). This suggests the location had strategic importance as a crossing point of the Boyne from an early period. The *Book of Armagh* refers to an established settlement and the fortified royal residence (probable ringfort) of *Cenél Lóeguire Breg* located in Trim prior to the establishment of the monastery. The exact location is not known but was probably sited close to a fording point (Hennessy, 2004, 1). Hennessy suggests two possible locations for the ford; where Watergate St. meets the Boyne and the later medieval bridge linking High St. to Market St. and Castle St. The Boyne would have been wider and shallower in the early medieval and possibly extended as far south as Market St. (Hennessy, 2004, 1).

The founding of the monastic settlement is ascribed to St. Loman and the foundation legend of Trim is documented in the *Book of Armagh.* The *Book of Armagh* suggests the royal residence was granted to the church and used as the site of a monastic settlement. The royal residence was relocated across the river to a site at *Cluain Lagen* (Hennessy, 2004, 1). Annalistic references to the church record the death of the Abbot of Trim, *Cormac mac Colmáin*, in 746. The *mac Colmáins* formed a local ecclesiastical dynasty in the eighth century, controlling the abbacy.

The surviving references in the book of Armagh suggest that the church of Trim may have been founded as early as the fifth century - before the founding of the church of Armagh (Byrne, 1984, 316-319). The successors of St. Loman were variously described as Abbots or Bishops until the diocese of Trim was united with the diocese of Meath in 1152 (Lewis, 1837, II, 643).

It has been suggested that the curving street pattern formed by High Street and Navan Gate Street may represent the vestigial remnants of the early monastic boundary. However, Hennessy disputes this theory and suggests two more likely locations: at St. Patricks Cathedral, or east of the cathedral centred around Haggard St. (Hennessy, 2004, 1). The street pattern of the town, north of the Boyne, is unusual in a medieval town, being irregular and may represent settlement outside a monastic enclosure in the early medieval period (Hennessy, 2004, 3).

There are a number of later Annalistic references to the monastery. These record the burning and partial destruction of the monastery in 784 and 1128, and further attacks in 1143 and 1155 (Bradley, 1989, 41).

Excavations carried out in the vicinity of St. Patrick's Cathedral uncovered a number of burials, (Kieran 2009) one of which has been dated to AD 780-1030 (ibid, 80). Burials were uncovered on Loman Street close to St. Patrick's Cathedral during works related to the Trim Street Restoration Project (Seaver et al 2009) and one burial was dated to AD 540-640 (Potterton and Seaver 2009, 54).

The later adaptation of Trim as the centre of a Norman lordship reflects common themes in the pattern of Norman colonization – the utilization of pre-existing church and monastic sites as foci for nucleated settlement, and the establishment of fortified centres situated at strategically significant major river crossings (Graham, 1976, 38-46). At the time of the arrival of the Normans in Ireland monastic centres such as Trim had to some extent taken on the function of nucleated settlements.

Late Medieval and Post-Medieval Periods (AD 1170-1900)

The establishment of de Lacy Power

After the Norman invasion of Ireland the entire "Liberty of Meath" was granted to a marcher Lord – Hugh de Lacy - by Henry II. The original "Liberty of Meath" originated in the early medieval territory of *Midhe* and included not only the present county of Meath but also Westmeath and parts of Longford and Offaly (Graham, 1974, 40).

De Lacy divided Meath into a number of smaller units, which were divided amongst nine major sub-tenants. For himself he retained large areas of Eastmeath (the modern county of Meath) focused around a number of Seignorial manors including: Trim, Ratoath, Dunshaughlin, Kells, Clonard, Duleek and Drogheda. These mottes were focused primarily on the location of major river crossings, defensible sites and on pre-existing church and monastic sites. The Boyne River itself – an important line of communication - also served as a focus for colonization. Trim fulfilled all of these criteria (Graham, 1974, 38-46).

The early growth of Trim

Trim became the centre of the new lordship of Meath and a ringwork castle was constructed on the site of the present stone castle sometime before 1174. The construction of this first fortification is described in "*The song of Dermot and the Earl*" (Bradley, 1989, 42). Excavations on the site of the present castle carried out by Alan Hayden in 1995 revealed evidence of this earlier fortification - consisting of the remains of a ringwork with an earthen bank, timber palisade and an external ditch (Hayden, 2011). The ringwork was attacked and destroyed by Ruaidri Ua Conchobair – king of Connacht in 1174, and refortified the following year (Bradley, 1989, 42). Upon de Lacy's return to Ireland in 1175 work began on the stone castle at Trim (Dúchas, 2002, 13-14). When de Lacy was killed in 1186 the Lordship of Meath passed temporarily into the control of the Crown, as Hugh's son - Walter de Lacy - was too young to assume control of the lordship until 1189. Henry II even considered putting the young Prince John directly in control of Meath (Hillaby, 1992-3, 5).

The town of Trim was established as a borough by Walter de Lacy in the early phases of the conquest - in the period between 1194 and 1199. The documentary evidence points to the existence of burgages and burgesses in Trim before 1188, suggesting the grant extended privileges to the members of an established Anglo-Norman settlement, rather than being just a speculative grant designed to attract settlement to a non-existent borough (MacNiocaill, 1985, 374-5).

The town had a clearly laid out municipal structure allowing for a degree of self-government. Town officials included a portreeve (mayor), a recorder, a town clerk and two sergeants at arms. The portreeve also functioned as a justice of the peace. (Lewis 1837, II, 644).

The town grew rapidly - due to its dual function as a commercial and administrative centre for the new lordship. It functioned as a market centre - agricultural produce gathered there from the surrounding areas, both for processing and transport to the ports; at a time when the Norman colonization brought about a rapid increase in the production of grain for an overseas market. The river Boyne was navigable as far as Trim, and the town constituted one of a network of towns on the Boyne providing the infrastructure for the increasing volumes of agricultural produce.

The town was likely to have been divided into commercial/manufacturing areas, i.e. Fishamble St. (now Abbey Lane) is the probable location of the fish market (Hennessy, 2004, 3; Potterton, 2005, 157).

The history of the town in the late medieval period

The town is rich in surviving medieval structures – many of which date from the 13th century, indicating the wealth and expansion of the borough during this period. St Patrick's church (ME036:019) – now the

cathedral for the Church of Ireland diocese of Meath - may be of pre-Norman origin and is likely to have been the site of the early monastic settlement. The church may have functioned as the parish church although that function was claimed by the Augustinian house of St. Mary's 'from time immemorial'. Potterton (2005, 267) notes that the records show that St. Patrick's was recognised as the parish church, although a rector was often absent. Excavations undertaken as part of the Trim Street Restoration project (see Section 3.6 below) uncovered skeletal remains in Loman Street immediately outside St. Patrick's; one skeleton was radiocarbon dated to AD 430 – 640, 2 sigma (Potterton and Seaver 2009, 54), from which it can be inferred that a burial ground of that date is most likely associated with the monastic foundation credited to St. Loman. The Dominican Friary (ME036:021), the subject of this report, was founded by Geoffrey de Geneville in 1263. It was located immediately north of the town near the Athboy gate. A complex of earthworks occupies the site, which illustrate the extent of the original buildings (Bradley, 1989, 43).

A Franciscan friary (ME036:024) was located on the site of the existing courthouse. This foundation may have been established in the first half of the 13th century. Recent excavations on Castle Street have turned up human remains, which appear to relate to this foundation. The friary passed out of use in the 16th century and a courthouse was built on the site – replaced by the existing courthouse in 1805 (Bradley, 1989, 43).

St. Mary's Augustinian Abbey – an important religious foundation - was located on the north bank of the Boyne (ME036:021), and was probably founded in the 13th century. The remains, consisting of the south and east walls of the tower, are known today as "the yellow steeple" (Bradley, 1989, 43).

The 13th century also saw the town grow beyond the defences. Emmet St., outside the Dublin Gate and the area outside the Navan Gate have been identified as possible suburbs (Hennessy, 2004, 3).

Walter de Lacy died in 1241 and his extensive holdings were ultimately divided between his two granddaughters – Matilda and Margaret. Matilda – who was granted Trim and half of the de Lacy estates - married Geoffrey de Geneville, a French noble. The castle was renovated during his tenure and in 1290 de Geneville received the right to carry out a murage toll to build defences around the Castle and town (a murage grant was paid or extracted from the citizenry of a town for the maintenance of a town wall). This appears to be the earliest documentary reference to the enclosure of the town. Trim was the only Meath town apart from Drogheda to receive murage before the end of the 14th century (Thomas, 1992, 196) After de Geneville retired from public life (he entered the Dominican Priory of St. Mary's in Trim) his estates passed to his son-in-law - Roger Mortimer, Earl of March. The estates remained within the Mortimer family for 120 years, though for much of this time the family did not occupy it.

Fourteenth century Trim saw the Bruce invasion, poor harvests, famine, the Black Death, the destruction of the Franciscan Friary by the great Boyne flood, St. Mary's (Augustinian) Abbey by fire and the encroachment of the Gaelic enemies. The town defences were in disrepair (Hennessy, 2004).

Roger Mortimer, great great grandson of Roger Mortiner, son-in-law of Geoffrey de Geneville, accompanied King Richard II on his Irish expedition of 1394 and remained behind – taking up residence in Trim. He was granted a licence to impose tolls on all goods entering the town for the purpose of "*surrounding the town of Trim with a stone wall, paving it anew, improving the town, and in repressing the adjacent enemies and rebels"*. The town defences (ME036:028, ME036:047) enclose an area of 49 acres and have a circumference of 2km. (Bradley 1989, 43). The existing town walls appear to date from the late 14th and early 15th centuries (Dúchas, 2002, 70).

The late medieval to post-medieval period

The castle was unoccupied and neglected during the first half of the 15th century – due to the minority of Edmund Mortimer - fifth Earl of March. Edmund came to Ireland as the King's Lieutenant in 1424 but

died in 1425. His death signalled the end of the Mortimer family's tenure of Trim - his estates were broken up and the castle passed into the hands of Richard of York. The castle was partially refortified by Richard in his role as Lord Lieutenant of Ireland in 1449. After the defeat of the Yorkist Cause during the Wars of the Roses, Trim castle passed into the royal estates (Dúchas, 2002, 18-29).

The castle was held by Silken Thomas of the Fitzgerald family during the Geraldine rebellion against the Crown of 1534, and only delivered into the hands of the English through the treachery of its commander – Christopher Parese (Evans, Irish Builder, 1886, 34).

A brief description of the town survives from 1584, when the parson of Trim – Robert Draper - was advocating the establishment of a University in Trim, indicating its size and wealth: "*…The towne itselfe is full of very faire castles and stone houses, builded after the Englishe fashion, and devyded into five faire streetes*" (Byrne, 2004, 277).

In 1624 the "*scite and manor of Trym, surrounded with a stone wall, and containing therein three acres, divers houses and gardens, haggards &c., in Trym*" was granted to Adam Loftus. The deed mentions 12 cottages, 2 shops and a range of lands and agricultural yields from the hinterland of the town (Evans 1886, 30-35).

The Confederate and Cromwellian wars of the seventeenth century (1641-52) caused widespread devastation throughout Ireland, with a drastic drop in population and the destruction of the country's economic base. Trim was of considerable strategic significance – providing a strongpoint for the defence of the Pale (Dublin and its immediate hinterland, which was the centre of English power in Ireland). Trim was first captured by the rebels during the Gaelic insurrection of 1641. It was recaptured from the rebels by an English force under the command of Sir Charles Coote in May 1642. Coote was killed shortly afterwards and Sir Richard Grenville assumed command of the town. Grenville became Governor of Trim, established a substantial military base, and carried out a brutal series of raids on the surrounding areas (Miller, 1973, 63-66). However he was careful to prevent harm to Trim itself and its immediate hinterland - this may explain why Trim itself survived the wars relatively intact. The castle was refortified by Colonel Fenwicke in 1647. It was briefly captured by the Royalists in 1649, and shortly afterwards captured by the Cromwellian forces – the Royalists fleeing without destroying the fortifications as they had been ordered – leaving the walls and castles intact (Kelly 2005, 67-71).

The Civil Survey (1654-56) gives a brief description of the town – itemising the various buildings still intact: 74 tenements and 9 houses are listed. Six of the tenements were in the possession of the "The towne of Trim". The major landholders are the Earl of Roscommon and the "*Lord Ranallah"* (Ranelagh) (Simington 1940, V, 249-250). The Down Survey of 1656 – a cartographic source depicting forfeited estates along with written descriptions - mentions two intact gates – the Navan gate and the Dublin Gate. It also describes the buildings in the town as "*lowe, Strong and Decent*" and mentions a "*markett on Satterday every weeke which affords Provisions, good store of yarne and cloth*."

Though Trim declined in significance in the post-medieval period, the town was "*still a place of considerable importance*" in 1837, containing 570 houses - "many of which are neatly built…a small flour-mill, a brewery, and a tannery", and with a population of 3282 (Lewis 1837, II, 644).

Previous Excavations (Trim Street Reconstruction Project)

Excavations in recent years on the Trim Street Reconstruction Project by CRDS Ltd. have recovered a wealth of archaeological remains. Excavations under ministerial consent C121/139, E2016 uncovered two major sites (Stephens 2009). On the Castle Lawn the remains of the former course of the Leper river were uncovered. They contained deposits of animal bone which may have been the result of ritual feasting and were radiocarbon dated to the earlier Iron Age. A series of inhumations were uncovered cut into these peaty deposits and dated to between the thirteenth-fourteenth centuries. Part of the castle moat was also revealed. On Emmet St. a series of houses fronting on to the street with pits, wells

and surfaces to the rear dated to between the thirteenth and sixteenth century was excavated. This indicates a significant suburb outside the Dublin Gate.

Excavations and monitoring under ministerial consent C150/E2398 revealed a further series of sites (Seaver 2008, 2009, Shine 2007). To the north of the river excavations at Athboy Gate uncovered a large ditch and a stone structure. This is likely to be the gate structure. Deposits within were dated to the thirteenth-fourteenth century. Monitoring on Haggard St/High St. uncovered metalled street surfaces with overlying organic deposits. At Navan Gate a medieval ditch was found bordering the street in the area outside the line of walls known as Greek Park.

Archaeological Background of the Friary

The Black or Dominican Friary at Trim was founded by Geoffrey de Geneville, Lord of Trim, in 1263 (Potterton 2005, 319). He had inherited the title by marrying Matilda, the granddaughter of Walter de Lacy, and controlled a wide area known as the Liberty of Trim. De Geneville spent his final years at the Friary and was buried there in 1314. The Dominican order had arrived in Ireland in 1224 (Ó Clabaigh 2012, 9), less than ten years after it was founded in France where the first Dominican house was established for women, former Alibigensians, in 1206 by a Spaniard, Dominic Guzman; then a religious community (male) was established following the rule of St. Augustine in 1214 and was approved by Pope Honorius III in 1216. However, this was relatively late in terms of religious foundations in Ireland as the Augustinians and Cistercians had been in the country since the mid- twelfth century. In accordance with their stated mission to preach they sought to found religious houses in Irish medieval towns in the thirteenth century (Barry 1987, 159), and the location of these houses seems to have been predicated on the need to be accessible to people both inside and outside the towns (O'Keeffe 2015, 106). The house at Trim was probably dedicated to St Mary of the Assumption. The friary was of considerable importance and was the location for a meeting of Irish bishops which took place at the Friary in 1291 and indicates the status of the institution. The Archbishop of Armagh held a visitation in the guesthouse in 1367. The Black Friary was the location for Parliamentary meetings in 1446 and 1491 (Hennessey 2004, 10). The friary had fallen into disrepair by 1540 and the hall, dormitory and kitchen were considered beyond repair. The friary was suppressed in 1540 with the church cloister, chancel and other properties being sold to the Bishop of Meath. It also noted a 4 acre orchard, garden and cemetery and a 3 acre close of pasture land beside the wall of the house. 3 houses and gardens were also located within. A belfry, chapter house, dormitory, hall, three chambers, a kitchen, a pantry and a stable are mentioned in 1541. They also held 72 acres of total estate land. A friary was re-established in 1630, although it is unclear how long the friars stayed in Trim, before being transferred to Donore in 1713 (Hennessey 2004, 11).

Much of the building stone was sold during the eighteenth century. The site consists of 2.4ha with heavily overgrown areas of masonry. It is enclosed by a double bank and ditch as south and east. The Friary was situated outside the walls and the Athboy Gate was previously known as the Black gate. It was first referred to in a property transaction as the *Bl'aac'zhat*, in 1532. In 1616 a property was mentioned as being near Blackgate a name derived from the fact that it allowed access to the medieval Dominican friary known as the Black Friary (Potterton 2005, 183-4). Properties 'without the north gate' are mentioned in 1571 (Ibid, 200).

In 1988 geophysical survey was carried out by Professor William Kennedy of Florida Atlantic University which suggested a layout for the friary buildings. The team from Florida originally planned further work in the field but due to logistical reasons this never took place.

Work by Matthew Seaver, for CRDS Ltd. carried out as part of the Trim Street Restoration Project (TSRP, under Ministerial Consent no. 150) uncovered burials in the adjacent Railway Lane (Seaver and Kelly, 2009). This has helped to establish the position of the burial ground associated with the Blackfriary. Monitoring of drain-laying on the laneway demonstrated that this cemetery did not extend to the west

and northwest of the friary buildings. The burial ground was located to the southwest of the friary buildings, and must have extended as far as the town wall at the back of what is now Supervalu. Its eastern extent is unknown. The presence in this area of settlement-related features, such as a well, suggests that burial must have expanded into this area due to pressure for space.

The articulated skeletons, as well as the disarticulated bone, indicate that at least eleven burials took place in this restricted area. The violent nature of pathologies observed by the osteologist on site associated with two of the articulated burials indicates considerable conflict taking place during this period. It is likely that at least one of these young men was involved in fighting on more than one occasion. Political conflict and violent incidents within and outside the town were rife during this period (Potterton 2005, 113, 137). Indeed, in one of these incidents a man begged indulgence from the pope for striking in the head with a sword an individual who was allegedly plundering the town. Burials 2, 3 and 4 all appear to be within a single grave fill, possibly suggesting that they were buried at the same time (Seaver et al, 2009).

Archaeological Excavations

Introduction: Progress of the Excavations 2016-2017

The focus of work over the past seasons has been on extending our understanding of the friary buildings, their layout, size, phasing and the extent to which they survive; examining a sample of burials within the cemetery, as well as continuing to work on those found within the church; exploring the southern boundary of the site and assessing the post-medieval to modern uses of the site.

Excavation was undertaken from 2016-2017 in Cuttings 3, 6, 7, 9, 10 and 13. Work focused on detailed examination of a section of the east range (Cutting 6); exploring if potential buildings formed around a possible second cloister or courtyard in the area north of the north range (Cutting 7 extension); excavation of burials within the graveyard and south aisle of the church, (Cutting 10); examination of burials within the church nave (Cuttings 3 and 9) and excavation of the site's southern boundary, which may bear relation to the northern medieval boundary of Trim (Cutting 13).

Cuttings 9 and a portion of Cutting 3 have been finalised; Cutting 13 should be finalised this year and work in Cuttings 6, 7 and 10 will continue for this coming season at least.

Archaeological Stratigraphic Description

Cutting 1

No excavation work has been undertaken in Cutting 1 since the production of the 2014 interim report (see O' Carroll 2014).

Cutting 2

No excavation work has been undertaken in Cutting 2 since the production of the 2014 interim report (see O' Carroll 2014). The cutting has since been partially backfilled to protect the archaeological deposits until excavation recommences.

Cutting 3

In the 2016 summer season excavations were completed over most of the south-eastern sector (Grids G and H) of Cutting 3, which was first opened in 2011 at grid points 1022E, 926N; 1022E, 941N; 1028E, 941N; 1028E, 926N. This cutting was positioned north south across the presumed line of the north wall of the church, the south wall of the cloister and associated ambulatory. The south wall of the cloister (**F308**) with part of the cloister garth to the north and its ambulatory to the south, together with the remains of the north wall of the church (**F327**, **F332**) and part of the nave were located. It quickly became apparent that extensive burial had taken place in the nave and significant numbers of articulated burials with associated disarticulated human bone were recovered. The work in 2016 was undertaken with a view to completing the excavation of all exposed human remains, where possible, within the south-eastern sector, and backfilling that sector of the cutting. This was to fulfil two objectives; to determine the lowest depths of burials in that sector of the nave of the church, and to cover in a particularly deep section of the cutting for health and safety reasons.

Burials

From 2011 to 2013 a total of 41 burials (some of which are skulls only) were excavated from this cutting (see O'Carroll, 2014, Appendix 6). In 2014 and 2015 a total of eight burials were located and excavated in this south-eastern section (see O'Carroll, Shine et al. 2016, 15) and the twelve burials excavated in 2016 form a layer of burials beneath those. Some of these had been identified but not excavated fully in previous seasons. Work began on the 4th of July, and was carried out by Dr. Dara Fleming Farrell in consultation with the authors, and individual students and interns assigned to work with her.

A new feature number was given to the overall soil matrix at this level, **F3104**, a mid-dark brown, compact silty-clay, with infrequent DHB, and moderate stone inclusions. The difference between this feature and the overlying **F348**, was really a matter of the quantity of disarticulated bone (DHB) present. A level was taken on the surface at this layer, which was between 61.49 and 61.60m OD. This layer encompassed all the burials excavated, but the homogenous nature of the deposit resulting from the amount of grave-digging meant that with few exceptions recognising cuts and individual grave fills was not possible. Work proceeded from north to south, starting north of the wall-tomb/ossuary **F337**, and extended to within a metre of the south baulk.

Grave cut and fill numbers were assigned (Table 1.1), as this facilitated recording associated disarticulated bone and artefacts found in proximity to the remains. Some possible grave cuts were recognised, (see Appendix 3 for full details of burials and related features). These include B21, B115, and possibly B116; natural was identified beneath the skeletal remains and interpreted in two instances as definitely being the base of the grave cut, and in one case as a possibility. The sides of the grave cuts were not identified, with the exception of a small portion of the southeast side of the cut for B21. Wood and nails were recovered in the immediate vicinity of B118, with a considerable amount of wood noted from beneath the remains, strongly suggesting that this burial had been coffined. Nails were recovered from the vicinity of several burials, again suggesting the presence of coffins. Those from B116 formed a line of four nails; six nails were found in a line with B112, whereas those with other burials, (B21, B62, B111 and B115), were more randomly distributed.

Table 1.1: Summary of feature numbers assigned in Cutting 3 during the 2016 summer season

Feature	Identifier	Comments
3102	Grave cut for burial 111	Not perceptible
3103	Grave fill for burial 111	Not distinguishable from surrounding fill
3104	Matrix surrounding 2nd layer of burials	Defined by level and quantity of DHB
3105	Grave cut for burial 112	Not perceptible
3106	Grave fill for burial 112	Not distinguishable from surrounding fill

Feature	Identifier	Comments
3107	General matrix	Defined by lack of DHB
3108	Grave cut for burial 113	Not perceptible
3109	Grave fill for burial 113	Not distinguishable from surrounding fill
3110	Remains of stone lined grave	No clear associated burial unearthed
3111	Grave cut for burial 29	Base identified, sides not perceptible
3112	Grave fill for burial 29	Largely indistinguishable from surrounding fill
3113	Grave cut for burial 21	Section of south edge identified
3114	Grave fill for burial 21	Not distinguishable from surrounding fill
3115	Grave cut for burial 115	Base identified, sides not perceptible
3116	Grave fill for burial 115	Not distinguishable from surrounding fill
3117	Grave cut for burial 116	Not perceptible
3118	Grave fill for burial 116	Not distinguishable from surrounding fill
3119	Grave cut for burial 117	Not perceptible
3120	Grave fill for burial 117	Not distinguishable from surrounding fill
3121	Grave cut for burial 118	Not perceptible
3122	Grave fill for burial 118	Not distinguishable from surrounding fill
3123	Grave cut for burial 119	Only base identified, sides not recovered
3124	Grave fill for burial 119	Largely indistinguishable from surrounding fill
3125	Grave cut for burial 62	Not perceptible
3126	Grave fill for burial 62	Not distinguishable from surrounding fill
3127	Grave cut for burial 120	Not perceptible
3128	Grave fill for burial 120	Not distinguishable from surrounding fill
Natural	Pale yellow, gravelly clay with medium-large rounded stones	
Natural	Yellow compact clay with orange-hue	
Natural	Mid-dark grey, gravelly sandy-clay with large rounded glacial stones	

The extent of intercutting of burials was considerable, and care was taken to note their potential stratigraphic relationships, particularly to try to determine which burials may have cut through which (Table 1.2). For example, B118 cut B120 and was truncated by B119 (Figure 1.3). It was also apparent that in some instances elements (frequently skulls but long bones as well) may have been excavated in previous seasons, either to protect them, or because it was not clear that they were part of a different burial.

Table 1.2: Burials uncovered during the 2016 season, and associated remains

Burial	Location	Association with other Burials	Excavators
111	Cutting 3, Grid G	Below B79 which was below B84	GG, DFF
112	Cutting 3, Grid G	Below B77	DFF
113	Cutting 3, Grid H	Below B99	DK, DFF
29	Cutting 3, Grid H	Cut by B99, cuts B115	LR, DFF
21	Cutting 3, Grid H	Cuts B115	LR, DFF
115	Cutting 3, Grid H	Cut by B29 and B21	TG, DFF
116	Cutting 3, Grid H	Below B99	TG, DFF
117	Cutting 3, Grid H	Unclear, skull absent	MC, DFF
118	Cutting 3, Grid H	Truncates B120 and truncated by B119	MC, NL, DFF
119	Cutting 3, Grid H	Truncates B118, possibly below B25	DFF
120	Cutting 3, Grid H	Truncated by B118 and B119	NL, MC, DFF
62	Cutting 3, Grid H	Below B58, possibly interred at same time	CC, NL

Careful recording of the position of all remains allows for re-matching of separated elements where possible (Appendix 3). In one instance (B117), a significant part of the burial was extending beneath the east baulk of the cutting and was therefore left in situ.

Samples from B111, and from B84 which was excavated in 2014, were sent for radiocarbon dating. These burials are stratigraphically related in that B84, the burial of a juvenile, lay above another burial, B79, which in turn overlay B111.

*Table 1.3: Radiocarbon dates from Cutting 3 at the Black Friary. Calibration after OxCal 4.1 (Bronk Ramsay 2009) using the IntCal09 dataset (Reimer, Baillie et al. 2009) **

Laboratory Code	Material	Burial No.	δ C13 (‰)	Radiocarbon Age (BP)	Calibrated Age (95.4% Probability) (cal BC/AD)
Wk-44398	Human bone	84	*	341 ± 20	AD 1470-1640
Wk-44399	Human bone	111	*	466 ± 20	AD 1410-1450

** Please note: The Carbon-13 stable isotope value (δ13C) was measured on prepared graphite using the AMS spectrometer. The radiocarbon date has therefore been corrected for isotopic fractionation. However the AMS-measured δ13C value can differ from the δ13C of the original material and it is therefore not shown.*

It is apparent that the sequencing recorded in excavation is reflected in the dates. It was also apparent during the excavation of B111 that it lay on a slightly different alignment, less close to a true east-west alignment than previously excavated burials (Figure 1.4). This may suggest that the alignment of the burials may have changed slightly over time, so that burials from one phase may have been laid out in a marginally different way to later ones. B111 had been truncated by at least the two mentioned burials and no burials were found beneath. It is likely given its date, that it is not part of the earliest horizon of burial within the church, and that even earlier burials were displaced by later ones and are only represented by the quantities of disarticulated human bone found throughout this area.

Other features

A linear stone feature orientated along an east-west axis, (**F3110**), composed of a single regular course of five limestone blocks with no evidence of bonding, and cut into natural was noted within Grid H. Evidence for a sixth stone belonging the feature was identified from a rectangular area of reddish soil, immediately west of the westernmost stone in the course. This has been interpreted as the possible remnants of a stone lined grave, however, no clearly associated burial was recovered, although B112, the articulated lower left leg of an individual lay parallel to the feature on the south side (Figure 1.5). The central coordinate points of the stones were recorded as follows:

Central points on stones west to east: Reddish Stain: 1025.71E, 930.26N; Stone 1: 1025.97E, 930.24N; Stone 2: 1026.13E, 930.28N; Stone 3: 1026.43E, 930.29N and Stone 4: 1026.71E, 930.24N

A sondage was dug through this area to confirm that natural had been exposed. This revealed the base of one of the stones, only some of which seemed to be set to any depth into the natural. The level at the exposed base of this feature was 61.25m OD.

A little to the northwest of this feature a number of stones were uncovered which were in a roughly linear cluster. These had been noted, but not fully exposed in previous seasons and were interpreted as being part of the foundation layers of elements of a possible rood screen, **F328**. Such screens were made obligatory in Dominican churches at a General Chapter of 1249 (O'Keeffe 2015, 124), so it is likely that there was a screen and that it was an original feature. This group of stones extended from 1024.75E; 930.86N to 1025.65E; 930.53N and from 61.53 to 61.81m OD.

Close to this feature, within the overlying layer **F3104** a neolithic projectile (No. E4127:3104:12) was found at 1025.55E, 930.03N; and 61.43m OD. This is only the second prehistoric flint artefact to be recovered from the site.

*Table 1.4: Radiocarbon dates from Cutting 3 at the Black Friary. Calibration after OxCal 4.1 (Bronk Ramsay 2009) using the IntCal09 dataset (Reimer, Baillie et al. 2009) **

Laboratory Code	Material	Burial No.	δ C13 (‰)	Radiocarbon Age (BP)	Calibrated Age (95.4% Probability) (cal BC/AD)
Wk-42072	Human bone	6	*	362 ± 20	AD 1450-1640
Wk-42077	Human bone	OSB 3	*	625 ± 20	AD 1290-1400

* Please note: The Carbon-13 stable isotope value (δ13C) was measured on prepared graphite using the AMS spectrometer. The radiocarbon date has therefore been corrected for isotopic fractionation. However the AMS-measured δ13C value can differ from the δ13C of the original material and it is therefore not shown.

As can be seen from the dates returned, the burials bracket the use of this wall tomb, showing active use of it over a span of possibly 350 years. The calibrated date for B6 suggests that it is post 1500 AD, and even as late as 1620 AD, whereas OSB3 may date to the mid to late 14th century.

Cutting 4

No excavation work has been undertaken in Cutting 4 since the production of the 2014 report (see O' Carroll 2014). The cutting has since been fully reinstated.

Cutting 5

No excavation work has been undertaken in Cutting 5 since the production of the 2016 report (see O' Carroll, Shine et al. 2016). The cutting has since been fully reinstated.

Cutting 6

Excavation resumed in Cutting 6 in this season. Some work, mostly cleaning and planning, was carried out during the short winter season in 2016. While in the summer a transect running east to west across the cutting at the north baulk was excavated, resulting in a detailed look at the junction of the east and north ranges, the interior of the east range and the exterior area to the east, extending into what appears to have been and enclosed yard and garden spaces.

Chapter House area, the southern part of Cutting 6

In winter 2016 cleaning and planning of the southeast quadrant of the cutting occurred. This area encompasses the north-eastern section of the chapter house. The north wall of the chapter house, **F614**, was previously briefly described (O'Carroll, Shine and Scott 2016, 18). The section of **F614** which projects beyond the east range is difficult to trace, as it was comprehensively robbed out; this may have had a shallower foundation than the section within the range - a probable indication that it is a later addition. The return of this wall at the east side, that is the back wall of the chapter house, has not yet been definitively identified. The associated bench feature, **F644**, also previously described, was traced into this eastern section, and a corner was uncovered at the NE corner of the chapter house, as a short north to south running section survives here. The outer face of this bench is formed of one or two stone courses and this sits 1.5m approx. from the outer face of **F614** within the range. In the northeast corner the line of stones of **F644** are roughly 1.5m from a line of rubble, unmortared and seemingly the dismantled core of the original east wall, **F670,** which is within the general rubble layer **F668**, in this area.

At the resumption of excavations in the summer, it was decided to remove a baulk which ran north-south roughly through the centre of the cutting, which had been used as a barrow run but was degrading and in danger of collapse. This baulk had traversed the Chapter House from its southernmost exposed point (which is probably about halfway across it), crossing its north wall extending not quite as far as the north baulk of the cutting. Most of the deposits excavated related to the rubble layers which had covered the cutting, **F613**, and this was up to 0.6m deep. Its removal meant that the section of the bench **F644** and associated deposits, and the wall, were examined in more detail. The bench is located to the south of the wall **F614**. A sequence of features make up the bench:

F644 is the wall footing composed of undressed limestone blocks surviving to a maximum height of 0.3m (max two courses).

F645 = **F671**: a mortar rich deposit which lay between **F614** and the back of **F644**. This was a loose, sandy, mortar rich deposit, probably a degraded mass of mortar and stone which had formed the actual bench, which may have been stepped.

F647 is a deposit of mortar and sand rich material which has bonded to the south face of **F614** and projects from it for up to .0.4m. It extends along the wall for a minimum of 5.5m.

Examination of the deposits contained within the baulk strongly suggest that the bench was stepped (Figure 1.6), but the interior mass has broken down so much that its form is hard to see clearly.

As yet a floor or sub-floor has not been identified within the Chapter House. Two possible floor or sub-floor surfaces, **F637** and **F638** have been identified north of the Chapter House wall **F614.** This adjoining area which extends north to the wall **F634** was thought to be divided by a wall **F627**, and the surfaces are either side of that. That wall is probably post-dissolution or later in date, as it contains fragments of Purbeck marble. The short (0.9m) wall, **F636**, forms a right angle on its west side with wall **F634**, and these bound the surface **F638.**

Further work has to be carried out within the Chapter House to find its floor or sub-floor surface, and to ascertain how much of the east wall, **F670**, survives. The apparent structural differences between the

two sections of wall **F614** within and outside the body of the east range need to be assessed to determine if it is a two-phase structure. The poor survival of the wall makes this difficult. The bench **F644**, appears consistent along the surviving length of wall **F614**, suggesting that this belongs to the later phase, if it is a phased structure.

The transect across the cutting ran all the way from the northwest corner to the northeast corner and extended 3m south of north baulk. The areas covered fall into three distinct zones:

- The area of the junction between the east and north ranges which focused particularly on the foundation trench of the south wall of the north range, and the small amount of the interior of the north range within the cutting.
- The interior of the east range and the internal walls which occurred in the transect.
- The eastern 'outside' space which included a yard and possible garden space.

Junction of East and North ranges

Excavations in the north-west corner exposed the foundation trench of the south wall of the north range, a foundation trench for a possible internal wall and a possible floor surface. The features are described below as follows:

[F691] is the cut of the foundation trench of the south wall of the north range, 1.36m wide, 0.14m deep; a length of 2.76m was exposed. This was filled by **F693**, a single course of foundation stones, composed of unworked slabs between 0.07 and 0.13m thick. These formed a layer along the base of the foundation trench and were capped with slab of mortar which appears to have been flush with the sides of the foundation trench. Only a small section survives, 1.09m in length, at the junction with the east range wall **F620**.

F620 is the west wall of the east range; **F620** was robbed out almost entirely but part remains visible at ground level in the northern end of the cutting. This was cut by a robber trench **[F657]** and that was backfilled by **F615.** The foundation cut for this wall has not yet been exposed. The wall is 0.92m wide where it survives.

F643: at the junction with **[F691]**, remains of a section of wall projecting west and partly overlying the foundation slab **F693** survive. These appear to be remnants of the south wall of the north range. Within the north range there was evidence for an internal wall.

[F6100] is a foundation trench for an internal wall within the north range, runs north from and is perpendicular to **F691**; there is ridge of natural left between the two trenches (Figure 1.7). It widens from 1.20m to 1.60m at its north end where it continues beneath the north baulk. The feature is filled with **F689**, a loose clayey silt containing also a lot of mortar, stone, plaster – some painted, some bone and shell also. This occurred with **F6100** and **F691** where it overlay the stone and mortar foundation pad **F693**.

F616 is friable silty clay which covered the surface south of wall trench **F691**. This layer was found beneath **F613,** rubble overburden and extended throughout the east range. It is believed to be a generalised deposit, with a maximum depth of 0.18m, which formed after the friary went out of use, but before it was demolished. It overlies **F619** the ambulatory surface.

F697 consists of light brown sandy silty clay in which are some flat stones, including some slates all contained within the interior of the north range in the angle of wall **F620** and trench **F691**. It's not clear if this is an original floor surface. It continues beneath the north baulk and has not been excavated, (see Figure 1.8).

The interior of the East Range

Excavations within the east range continued, focusing on clarifying some of the internal features to see if there was a sequence of floors and of walls suggesting more than one building phase. Details of the walls, stairs and other features uncovered in 2014-2015 seasons are given in last year's report (O'Carroll, Shine et al. 2016). This report will detail the new findings during 2016 only.

The internal width of east range is approximately 6.30m, and external width approximately 8.10 to 8.25m. In previous seasons a set of three steps, clearly the lower steps of a flight of stairs, **F635**, was uncovered in the west side of the range adjacent to the robbed-out wall **F620**. Immediately to the north was an area of rubble **F613**, beneath which was a second, very mortar rich rubble deposit, **F658**. This lay between the plinth, **F642** and steps **F635** through which four post-holes appeared to have been cut (see O'Carroll, Shine et al.2016, 19). Excavation continued here this season and demonstrated that the post-holes were not real features. On removal of **F658** two new walls were revealed:

F686 is an east to west wall which is bonded to the west side of **F620** (Figure 1.9). This wall has not yet been fully excavated. It survives for a length of 1.42m and is 0.44m in width; up to three courses of random rubble walling are visible. Its function is unclear at this point.

F687 is a possible north to south running wall that appears to be bonded to the back of the stairs **F635**. It is a mortared mass, but it is unclear whether it was a wall or part of the stairs proper which has been thoroughly robbed out. Its relationship to **F686** is not yet clear, but it may be that that wall **F686** was an earlier feature, superseded by the insertion of the stairs. The north to south wall **F634** may also be part of this stair construction, it lies east of the stairs **F635** and appears to be bonded into the surviving steps; further north it still appears to have some facing stones but the upper face, where the steps would have continued, are missing.

The area between wall **F686** and the plinth **F642** had been in-filled with the rubble layer **F613**. After removing this, a layer of large blocky stones within a sandy silt layer, **F685** was uncovered. Their position beneath the main rubble layer and two other features suggest that they might have derived from a phase of alteration or earlier demolition. Beneath this, **F694**, a mortar rich surface was visible, but remains unexcavated for the time being.

As described in the previous report a clay-bonded wall, **F622**, extends west from the north end of wall **F634**. This wall terminates at the line of the east wall of the range. A clay surface, **F648** formed a floor level either side of **F622**. A sondage was excavated into this surface between **F622** and the north baulk and this revealed a mortar rich floor surface, **F661**, with what appeared to be fire reddened patches within it. Flagstones, **F659**, which were uncovered in previous seasons to the south of **F622** and were interpreted as a possible floor surface were very close in level to this clay surface; the latter is at 62.02m OD, the former at 62.04m OD.

A metre west of the sondage, excavation through the surface **F648** revealed another surface, **F675**. This is a spread of mortar up to 0.83m in surviving width. It extended eastwards from the robbed-out wall of the east range, where it had been cut by [**F680**], the robber trench cut of the east wall (**F639**) of the east range, and extends northwards beneath the north baulk of the cutting. It also extends south, possibly beneath the wall **F622**. Two holes were visible in the surface which was a grey white colour, with small stones embedded within the mix. It's unclear whether these holes were caused deliberately or accidentally.

Beneath this and visible in the cut of the robber trench is a layer of dark brown to black clayey silt. This may be a deposit from prior to the construction of the east range, or it could be a continuation of the surface **F661**. This has yet to be fully excavated.

The east wall of the range, **F639**, had been thoroughly robbed out. The original cut, [**F682**], has been partly exposed and is a minimum of 0.90m wide, though this is more likely the original width of the wall. So far, excavation has revealed that there was a single course of foundation stones (**F690**) consisting of

flat, unworked slabs of limestone across the base of the trench **[F682]**. These stones were covered by the loose rubbly backfill of the robber trench, **F674**. Along the east edge of the feature, lime plaster render, **F678**, survives in situ from the robbed out east wall **F639**. This survives to a height of at least 0.32m, and is 0.03m thick. A layer of rubble, **F679**, from the destruction of the wall abuts its east side. On the west side the broken end of the wall **F622** can be seen, and the clay bonding, **F681**, is exposed where the junction between the two walls has been destroyed.

Exterior yard and garden area

To the east of the line of the east wall, **F639**, is a space bounded by an L-shaped garden wall, **F646**, which runs north to south, and joins the east to west wall **F618** at its southern end. The distance between the east wall of the range and the garden wall **F618** is just over 3m. This area is still under excavation and the sequence of deposits will be given from the lowest level reached;

F677 consists of a compact packed clay surface, which has mortar/lime render fragments pressed into it. It lies immediately east of **F678**, the line of render on the exterior of the east wall, and is irregularly shaped as exposed so far (Figure 1.13). This is overlain by:

F688, a mottled re-deposited clay layer which contains two stake holes, [**F6112**] and [**F6113**]. These are between 0.12m and 0.10m in diameter but their full depth has not been determined yet. Above **F688** was **F6102=F684**, a loose clayey silt deposit which also lay beneath **F679**, rubble abutting the east wall. Overlying all of these was **F676**, a loose garden soil with some rubble mixed into it, which extends further south and north, as do the deposits beneath. This was covered by **F624**, a mixture of garden soil and rubble, which covered this entire east side of the cutting.

This area has produced a significant number of finds, especially from **F624** and **F676.** Among the finds are numerous pieces of medieval pottery, nails, a possible tweezers and two polished bone objects with pointed tips of iron. These are known as parchment prickers, and were used to mark the position of the ruled lines on sheets of vellum, and to score letters and lines for drawings (Figures 1.14 and 1.15).

Continuing east to the far side of the garden wall **F646** and bounded on the south side by the return of that wall, **F618**, was another area of activity. An east to west gully which continues beneath the east baulk (Figure 1.16) was cut by a north to south possible drain which is parallel to the east side of wall **F646**, after the gully had been backfilled. Deposits containing charcoal and charred grain were found adjacent to the later drain and within the lower fills of the gully. The excavations in this area are not fully complete, but an outline of the sequence is given below:

[F6105], cut of E-W gully which has a maximum width of 0.60m at the east end, but appears to have widened to c. 1.36m at the west end. Its visible length is 3.60m. The primary fill in the east side was **F6110**, a burnt charcoal rich fill containing charred grain. This extended west for 1.34m, and had a maximum thickness of 0.30m.

F6110 resembled **F6103**, a burnt deposit overlying natural which abuts walls **F618**=**F646** (Figure 1.17) and which was cut by [**F6107**]. It may have been cut by [**F6105**], but this is unclear. **F6103** seems to contain charred grain, similar to **F6110.**

F6111 is a mottled clayey fill that occurs sporadically at the bottom of [**F6105**]. It doesn't occur in the east end, and seems to contain ash, and possibly some mortar.

F6108 is a clayey silt fill at the east end of [**F6105**], overlying **F6110**. It contains medieval pottery and animal bone and is a maximum of 0.3m deep (Figure 1.18). **F6108** is like, but not really identical to **F6106**, which is the main fill of [**F6105**]**,** on the west side of the feature where it widens. This fill is more sterile than **F6108**, and seems to have been deliberately dumped into the feature to backfill it.

F6106 is cut by [**F6107**] a cut of a north-south drain which ran parallel to wall **F646**, and lay 0.52m to the east of it. This drain was a maximum of 0.80m wide and 0.50m deep. It was exposed for 2.50m, but continues to the north where it stops short of wall **F618** (Figure 1.18). This drain was filled by **F699**,

loose rubble fill of [**F6107**] which consists of chunks of limestone 0.08-0.22m in length. This is the only fill of this feature and this was covered by **F624**. Abutting the fill of the drain along its east side was **F696**, a mortar rich deposit, which overlies [**F6105**] the cut of the gully. This also overlies **F6106**, the backfill into this feature; the lack of rubble in the feature suggests that this was deposited prior to the quarrying of the site.

F698 a light brown silty clay, abuts **F696** lying to the north of it and continuing beneath the north baulk. It abuts **F699**, the fill of [**F6107**], which indicates that it was cut by this latter feature. It is very compact, and contains gravel sized stones and mortar flecks. It is possible that it is part of fill **F6106**, but this needs to be examined. To the east it abuts **F6101**, homogenous silty clay with roots, which is present in the northeast corner of the cutting and extends to the north and east. Again, it is unclear if this is a deposit which pre or post-dates the activity described above. This needs clarification in further seasons.

The presence of charred grain within a gully type feature suggests the existence of a nearby grain drying kiln, of which the gully [**F6105**] may be a part. This appears to have been widening to the west, where it was backfilled, and the backfill cut through by the drain [**F6107**]. The two deposits containing charred grain, **F6103** and **F6110**, may have been part of the same activity, but this has yet to be demonstrated. It is worth noting the location of this material is indicative of grain drying; its location to the east of the east and north ranges may have significance as at the Dominican Priory in Kimallock, Co. Limerick, a structure interpreted as an oven is located against the east wall of the east and north range junction (Hogan 1991, Plate II).

Cutting 7

Introduction

The northwest corner of the cloister wall, the ambulatory, and the junction of the north and west ranges (Figure 1.19) had been located in previous seasons (O' Carroll 2014). The footprint of the north range is roughly indicated by raised ground running east to west, located immediately north of the cloister. Parallel to this area of raised ground but about 20m further north is a second raised area, suggesting the presence of another range of buildings. This links with a north to south running ridge which is a continuation of the east range, currently being explored in Cutting 6. It was decided to extend Cutting 7 in order to see if evidence for buildings extending northwards around a possible second cloister could be found.

Cutting 7, which had initially been opened in 2012 and was extended in 2013 (see O'Carroll 2014), was extended by 12m north to 1004E, 970N and 1012E, 970N. This newly opened 8m by 12m extension was divided into four quads, A-D, each 2m x 6m in size. Quads A and B were to the north, C and D to the south abutting the original Cutting 7. It was estimated, based on the excavations in Cutting 6, that the width of the north range should be somewhere in the region of 8.0m-8.2m, and that the north wall of the north range should be roughly in the middle of the extended area. This suggested that Quads C and D would be within the north range, and A and B outside it (Figure 1.20). This is an approximate estimation as the alignment of the buildings is not the same as that of the site grid. The ground level prior to excavation went from approximately 63.40m OD in the middle of the extended area, to 62.70m OD at the northeast corner. The ground drops down even more to the north, and it is this area, which extends as a relatively flat area for approximately 18m, has been interpreted as a second courtyard or cloister garth.

Excavation commenced in all four quadrants, but ultimately focussed on A and B, the northernmost ones. All four were de-sodded and topsoil (**F702**) was exposed and excavated. Within all four quadrants the upper deposits consisted of the grass/sod layer (**F701**), topsoil (**F702**), and over most areas, a rubble layer (**F703**). As a control mechanism, the spoil from Quads B and D was sieved to retrieve all finds, that from Quads A and C was not; here finds were retrieved by hand. The finds were a mixture of modern,

post-medieval and medieval pottery and metal. When excavation was focussed on Quads A and B, only, sieving for finds was carried out in both Quads.

Quads C and D

The limited excavations in Quads C and D will be described in the sequence in which they were exposed. It was apparent that there had been modern disturbance to this area resulting in a visible depression along the southern side, and a shallow gully to at the west side. Modern debris mixed within the lower levels of the topsoil at this point indicated relatively recent activity. However, the disturbances only affected the upper layers.

Excavation in Quads C and D consisted of the partial removal of a layer composed of soil, mortar and chunks of limestone (frequently with mortar attached) which extended over the greater part of all four quads. This feature, termed **F703**, is common throughout the site and derives from the deliberate demolition of the walls. The amount of soil versus mortar in the matrix of the feature varies as parts of the site were subject to ditch-digging after the demolition of the walls and the upcast would have been mixed soils and rubble, and may itself have been partly levelled and spread, or dug into, in some areas. **F703** was exposed in Quad C (to the west) and D (to the east). However, along the west edge of Quad C, a more clay rich layer was exposed. This appeared similar to **F734**, which was located in the northwest corner of the original Cutting 7, an area centred on 1005E, 957N, which abutted a dump of rubble containing a large quantity of stained glass, which was also found in smaller amounts in **F734**. A second layer, **F754**, which appears to be overlain by **F734**, was partly excavated and produced some stained glass. This layer was only exposed in the northwest area of Quad C and consisted of mid-yellowish brown sandy clay with frequent inclusions of small angular stones, occasional pebbles, animal bones and some painted plaster. Its full extent in this area is not yet known.

Quads A and B: Medieval to Post-Medieval

Excavations have not yet been finalised in this area; for the purposes of this interim report the features excavated will be presented as a sequence from the earliest to the most recent events, although this sequence will have to be added to once excavation in this area is completed in the 2017 summer season.

In Quads A and B (Figure 1.21 and 1.22), excavation continued to a depth of 61.92m - 62.04OD. The earliest recognisable features appear to be three walls; **F752** and **F756** are roughly though not perfectly parallel to each other and extend north to south through the west side of the cutting, mostly in Quad A; **F764** runs east to west to the west of **F752** at the south end, and appears to be the north wall of the north range of the main cloister. It is not yet clear if these walls are all coeval.

The southernmost point of wall **F752** is at 1006.44E, 964N. It extends north almost the length of the cutting and stops just short of the north baulk. Its current visible maximum height is 0.90m at the south end; at the north end it is 0.75m high. It is very well built, of squared blocks of average size 0.30m x 0.15m x 0.15m, roughly coursed, and it seems to be bonded with lime mortar. A maximum of four to five courses is visible at the south end and three at the north. In the centre the courses drop to two and at the north end the wall itself decreases in width from 0.75m to 0.45m, because of a built indent in its east face which extends for 1.5m from the southern baulk. It function is unclear, as is its southern extent. It appears that there may have been a deliberate opening, possibly a doorway, in the wall at the northern end, but as it is so close to the baulk this has not yet been established.

Wall **F756** emerges from the section face that divides Quad A from C at a point 1008.64E; 964.05N and it too extends almost the length of the cutting. Like wall **F752** it appears to have a deliberate opening at the north end, though this again is uncertain due to its proximity to the north baulk. The wall is of less well shaped and placed stones than **F752**, and survives to a maximum height of 0.55m. The average size of the blocks is 0.26 x 0.10 x 0.15m. It is 0.42m in maximum width, and survives to a height of three courses in places. It appears to be sloped on the east face, vertical on the west, and it is likely that lime

mortar was used to bond it. In both cases the top courses of the walls are not present, so the original height is unknown (Figure 1.23).

The gap between these two walls is 1.78m at the northern end, and 1.89m at the beginning of the indented section close to the southern end.

The third wall, **F764**, was only exposed on its north facing side. It is located within the south baulk of Quad A, west of wall **F752**, and the maximum exposed height is 0.30m. It consists of two courses of blocks of varying size from 0.20m in length to 0.58m.

West of the wall **F752** a rough surface of flattish broken limestone pieces **F766**, averaging between 10 and 20 cms square were uncovered set within a matrix of mid-brown to yellow sandy clay, **F762**. This occurred along the west baulk and seemed to be contained west of **F752** (Figure 1.24). However, it may extend, at the northern end, as far as the west face of **F756**, though this is not confirmed. If so, it may relate to the possible opening in the wall at this point. Above these two features at the southern end was a deposit of blackish brown peat like soil, **F761**. This covered the rough surface, and was also bound by **F752**. Some nails, animal bone and slate occurred within it.

On the west side of wall **F756** the lowest layer exposed is a coarse sandy fill, **F759**, similar to **F760**, containing animal bone, some slate, medieval pottery and possible kiln brick. This is also friable, and contained within it are large blocks of stone seemingly derived from a phase of wall demolition. This feature also covered the peaty deposit **F761**, and the rough surface **F762** and **F766**, so this deposit partly covered and crossed over the wall **F752**. The top of this deposit was recorded as being at 62.42m OD, which is slightly lower than the top of the wall. So, it is unclear how this layer formed on both sides of the wall.

Above **F759**, and also overlying **F758** to the east of **F756**, (see below), was **F755**, a layer of mid-grey brown gritty clayey silt with frequent small to medium stone inclusions, animal bone, nails and painted plaster. It extended across the middle and north of the cutting, from the east to west baulk, and overlay the walls **F752** and **F756** in places. It did not occur in the northwest corner of the cutting.

Above and abutting layer **F755**, as these are possibly tip lines forming separate deposits but from a similar activity, was **F754**, a mid-brown yellow sandy silty clay with some angular stone inclusions, frequent animal bone, painted plaster and some window lead. This extended from the west baulk east across the cutting where it petered out before it reached the east baulk. It extended north from the south baulk for a maximum of 1.65m and also produced stained glass pieces.

Overlying **F754** was **F751**, a light greyish brown sandy silty stony layer, with frequent mortar inclusions and smaller stone. This extended from the south baulk for about 3.0m to the north and for 1.6m from the west baulk.

To the east of wall **F756** the lowest deposit recorded so far is **F760**. Its surface was recorded at 62.04m OD. It consists of a friable dark grey to brown fill composed of coarse sandy silt containing frequent amounts of broken slate, animal bone, some pottery and shell. This extended east across the cutting from the wall **F756** and abutted a dump of broken stone, **F765**, which occurred in the north-east corner of the cutting. It is unclear whether the stone cut through the deposit, and subsequent deposits, or they formed against it. This deposit **F765** also is not yet bottomed and consists of a dump of broken stone 0.63m maximum exposed depth and 1.63m x 1.50m width.

Above **F760** is a dark greyish brown silty sand, **F758**, which contained roof slate fragments, shell, animal bone, pottery, nails, and possible burnt roof tile. This had the same footprint as **F760,** and also abutted the wall **F756**. This in turn was overlain by **F755**, as described above, and overlying the northern portion of that layer was **F757**, a mid-brown, gritty silt with frequent pebbles and very occasional animal bone inclusions. This layer ran from the west side of the stone dump **F765**, extending west over the wall **F756** and petering out over the wall **F752**. It was 2.20m north to south at its widest point and 0.21m thick. South of this layer and seeming to merge with it was **F750**, a dark black to brown clayey silt, with

frequent amounts of animal bone, shell and charcoal inclusions. This layer contained stained glass, some still in lead (Figure 1.25). This deposit merged into **F757**, but in the northeast corner this was interrupted by the stone dump, **F765**, which effectively separated the two layers. At the southwestern end **F750** overlay **F754**, but did not extend as far west as wall **F752**.

Along the southern baulk a distinct cut [**F763**] was visible running east to west. This cut through the deposits **F750**, **F755**, **F758**, **F759** and **F754** and contained the fill **F753**, a mid-grey brown sandy, silty, stony deposit containing animal bone, mortar and shell. This appears to be the cut and fill of the robber trench used to access the north wall of the north range when quarrying.

Overlying the surface of **F750**, **F754**, **F751** and **F757** was **F703**, part of the mantle of demolition rubble which covered the cutting (see above). This consolidated into a shallow dump of stone in the northwest corner, similar to the dump **F765** in the northeast corner.

The layers **F758**, **F755** and **F750** seemed to form a deep deposit suggestive of a midden heap within Quad B, and extending across the cutting. This suggests that the area north of the north wall of the range had been used to dump refuse and was subsequently cut through to access the lower courses of stone of the north wall (Figure 1.26). The fact that some of the layers lay over the walls **F756** and **F752** suggests that these may have been demolished in the late medieval or early post-medieval period. It is difficult to know whether the layers **F758**, **F759** and **F760** are as a result of construction activity, hence the slate and mortar within the matrix, or resulted from an earlier demolition phase than the 18th century quarrying.

A brief look at the pottery from the midden layers suggests a distinct sequence with predominantly medieval pottery occurring in the lowest layer and predominantly post-medieval in the upper.

Cutting 8

No excavation work has been undertaken in Cutting 8 since the production of the 2016 report (see O' Carroll, Shine et al. 2016). The cutting has since been fully reinstated.

Cutting 9

A small amount of excavation took place here in summer 2016. The excavation within the eastern part of the cutting (the western half had already been closed) had two purposes: to resolve some burials which had been partly exposed, and to ascertain whether or not a foundation trench for the south wall of the church could be located. The wall would have been transformed into an arcade when the south aisle was built. The burials had been exposed within an area where the foundation trench for the original south wall of the church was presumed to have been. A sondage (grid coordinates 1011.00E, 91.90N; 1011.50E, 920.91N; 1010.90E, 924.75N; 1011.31E; 924.60N) running north to south had been dug to locate, if possible, the foundation, and human bone was found within this. This sondage was subsequently expanded to the north and west at its north end to excavate a number of burials, (see below).

Plinth and foundation trench

Previously it had been determined that the remains of a column base representing a half, not a full column, were located immediately on the east edge of the cut for the presumed foundation trench for the west wall of the church (see O'Carroll 2014, 33). The column base consisted of a semi-circular setting of stones and mortar which lower down appeared more rectangular in outline; its surface appearance was a mix of loose limestone blocks (**F913**) sitting on a mixed mortar and stone pad. It was centred on 1009.7E, 922.6N. Its widest surviving diameter was 1.40m and its maximum surviving radius was 0.60m. It was left unexcavated within the cutting to try to preserve it in situ, though its surface degraded on

exposure. However, its structure was visible in section within the foundation trench for the west wall, **F932**. It sat on a base of three to four courses of stone and mortar, sub-divided into two layers.

The lower, basal layer, **F916**, consisted of a layer of stones and mortar containing undressed small blocks of limestone which were between 10 and 30cms in length and 10cms high in the matrix of mortar rich clay. Overlying this was a mixture of stone, mortar, pebbles, slate and soil, **F917**, which formed the semi-circular pad or base for the stone column. These layers suggest a maximum surviving depth of 64cms. This foundation trench was backfilled at the end of the 2015 season.

The east face of the plinth appeared broadly like the west, but where **F917** was a very mixed layer of stone and mortar, it was a more distinct course of stones on this eastern side. The layer beneath, here termed, **F971**, but equivalent to **F916**, was composed of two large, one medium and several small stones which did not extend further east than **F917**, but extended 0.5m southwards beyond it (Figure 1.27). It appeared initially that **F971**=**F916** lay directly on natural at a depth of 62.08m OD. This suggested that a) there was no foundation trench and b) the plinth for the column was formed directly onto natural subsoil and the upper section, **F917**, forming the pad for the column to stand on, would have been at the flagged floor level (**F904**). On closer inspection, it appeared that **F916**=**F971** was contained within a cut, **F970**, visible intermittently on the south side and extending east across the sondage to the east baulk. Beneath **F971**=**F916** a layer of angular spalls of limestone, 7-10cms wide and 1-2cms thick in a gritty mortar rich soil matrix, **F972**, was exposed in patches, and appeared to be contained within the cut (Figure 1.28). This was seen at the southwest corner of the plinth, the eastern side of the north to south running sondage cut through Cutting 9, and possibly at the base of the east baulk of the cutting. The area directly east of the column base was disturbed by burial activity.

It is possible that in taking down the south wall of the church all the stone down to foundation level was salvaged and re-used. It is still unclear if the layer **F972** represents the original basal layer within an original south wall foundation cut, or if it rests on backfilled material within a foundation cut, built up to provide pad foundations for the columns of the arcade which replaced the wall. One reason for the uncertainty is that this layer is at 61.95m OD, which would mean that the foundation trench was dug only a few centimetres into natural. In contrast, the base of **F932**, the foundation trench for the west wall is 61.64m OD, but it is relatively speaking deeper than the foundation trench of the north wall, as exposed in Cuttings 1 and 3. Owing to the extensive nature of the disturbance from burials it is impossible to say what the original depth of the foundation trench was in this location.

Burials

Three burials were excavated in Cutting 9 in the 2016 summer season and the top of the skull of a fourth was visible, its coordinates were noted and it was given a number (**B104**). This skull was subsequently damaged through vandalism, but the remainder of the burial remains intact and unexcavated. Some disarticulated bone had been excavated during the earlier winter season, 2016, when the sondage to explore the foundation trench was enlarged.

- Burial 103 (cut [**F961**], fill **F962**); adult, some disturbance to left side, upper left arm and lower left leg missing. Lower leg may have been impacted on by B108 which lay to the east and north of B103.

- Burial 104 (cut [**F963**], fill **F964**); skull noted and left in situ. Subsequently vandalised, coordinates and levels had been taken and position was planned.

- Burial 108 (cut [**F973**], fill **F974**); adult, most of the burial extended east beyond the edge of the sondage, so left in situ. Skull and clavicles were retrieved. Planned and details recorded (Figure 1.29).

- Burial 110 (cut [**F973**], fill **F974**); adult, disarticulated skull, in grave fill of B108. Incomplete, but enough to sex and age (Figure 1.30).

Cutting 10

Work continued during the summer 2016 season in Cutting 10. This area encompasses part of the graveyard immediately south of church and the south wall of the south aisle of the church. A total of seventeen burials have previously been excavated in this area, five of which, B35 to B39 were skulls associated with a collection of long bones and other elements placed between two of the exterior buttresses of the church, (see O'Carroll 2014, 47; O'Carroll, Shine et al. 2016, 23-24).

Structural features

The location of the south wall of the south aisle is marked principally by the remains of four buttress like features which formed part of the wall, which itself was almost completely robbed out. These have been described in detail previously (O'Carroll 2014, 33- 35); in 2016 it was decided to further explore the west side of the westernmost buttress, **F1003**. This is unlike the other buttresses in form and preservation; it survives as a pad of mortar and is not in quite the same east to west line as the others.

F1003 is irregular in form, composed mostly of quite solid mortar and very little visible stone. On its long axis (east to west) it is 2.02m in maximum length, 1.50m north to south and 0.25m thick. It has no visible facing stones and trying to reconstruct its original form is difficult. Its recorded height is 62.55m OD. It is directly in line with the foundation cut, **F932**, presumed to be for the west wall of the church uncovered in Cutting 9. Excavations to north of the buttress confirmed that the foundation trench extends up to and beneath this feature, though the western extent of the foundation trench hadn't been exposed.

In order to define the western limit of **F1003** it was decided to add a small western extension to the cutting. Initially this extension measured 2.5m north to south by 1m east to west (at 1007.44E, 915.50N and 1007.44E, 918.00N); it was subsequently extended another metre to the west. The expected sequence of sod and topsoil (**F1001**), followed by rubble (**F1002**), was present. It soon became apparent that the western edge of the buttress feature had not been revealed before, as it was in fact lower than the exposed area (Figure 1.31), its surface was recorded at 62.17m OD. The edge was not perfectly square and was probably not intended to be seen. It was built up against the cut for the foundation trench, **F1098**, which was visible beneath the rubble **F1002**, cutting through the subsoil. This could be traced within the north baulk of the extension, but was not excavated beyond that point. Within the rubble was a layer of clay rich soil (**F1096**), with significant amounts of ash, charcoal and evidence for fire-reddening (**F1099**), localised to the NW quadrant of the extension, in which a small hearth, **F1095** occurred (Figure 1.32). This contained a cache of charred material which appeared to consist of a mixture of grains and possible legumes. Some window glass, possibly of mid-18th century date, was found within **F1096**.

Beneath this horizon was more rubble, **F1002**, and this overlay a layer of mixed soil, mortar and some slate chips, which contained notable amounts of medieval pottery and some stained glass. The surface of this deposit was at 62.50m OD. This feature is consistent with a deposit excavated in 2015 and recorded as **F1054**, which has been interpreted as a deposit of construction rubble, spread in the exterior vicinity of the south aisle and used to level the surface. Beneath this in the southwest corner, lay patches of metalling, (Figure 1.33), similar to those found south of the doorway, **F1004**, in the south wall, and recorded as **F1005**, with a height of 62.30m OD. It also resembled patches of metalling found to the west of the church in Cutting 9, (**F954**) which had a recorded height of 62.36m OD. Here in the extension, the surface of the metalling, also recorded as **F1005**, was at 62.42m OD. As the ground rises to the west, the difference in height is not surprising.

The sequence described above suggests that a metalled surface was present west of the church, and that with the building of the south aisle this was covered with a deposit of builder's rubble, levelled to give a new surface. It's not clear if the demolition rubble deriving from the 18th century quarrying overlay this new level, or the first deposit relates to some earlier episode as the clay layers within it may relate to the ditch-digging features recorded in both Cuttings 9 and 11 (see O'Carroll, Shine et al. 2016),

some of which, on stratigraphic grounds, appear to pre-date the main demolition event. A cache of what appear to be pulses of some form was found in the remains of a hearth set into the rubble/demolition layers, and would suggest that the workmen had casually set fires to cook meals for themselves on the site while the demolition progressed. These remains will be analysed to determine exactly what they are.

The shape of the buttress like feature and its location at the southwest corner of the south aisle suggests that it may have been the base for a double buttress, one on the west and one on the south face of the church.

Burials

A total of six burials were excavated in this past season and work will continue in this cutting in this coming season.

- Burial 102 (cut [**F10106**], fill **F10107)**; juvenile with most of upper body missing, lay south of B105.
- Burial 105 (cut [**F10102**], fill **F10103**); adult with left arm, clavicle and scapula missing. Immediately to north of B102.
- Burial 106 (cut [**F10104**], fill **F10105**); adult with part of skull displaced onto pelvis (Figure 1.34)
- Burial 107 (cut [**F10108**], fill **F10109**); disturbed adult with most of mid-section and left arm missing and skull disturbed; cut through by later gully, **F10113**.
- Burial 109 (cut [**F10110**], fill **F10111**); infant burial, found when removing the rubble layer **F1017**. Incomplete burial with only part of the skull and left and right legs remaining.
- Burial 114 (cut [**F10116**], fill **F10117**); disturbed adult with right pelvis, right leg, left lower leg and both feet missing.

On current evidence, all of the above burials, with the exception of B109, are likely to be medieval in date. B109 is most likely post-medieval to early modern. None of these burials have been independently dated as yet.

Cutting 11

No excavation work has been undertaken in Cutting 11 since the production of the 2016 report (see O' Carroll, Shine et al. 2016). The cutting has since been fully reinstated and repurposed as a mock archaeological excavation that is used as part of our community project.

Cutting 12

No excavation work has been undertaken in Cutting 12 since the production of the 2016 report (see O' Carroll, Shine et al. 2016). The cutting has since been fully reinstated.

Cutting 13

Cutting 13 was opened in the summer of 2016, east of the reinstated Cutting 12. The cutting was excavated to investigate a linear trend, recorded during geophysical survey (Appendix 4), which may have represented a continuation of a ditch recorded during excavations of Cutting 12 in 2014. This ditch is thought to bear relation to the northern medieval limit of Trim (Shine, Green et al. 2016). Cutting 13

was T-shaped measuring 8 x 2m at the north to south orientated 'top of the T' and 8 x 4m at the east to west orientated long part of the T (total length of the cutting was thus 10m).

The stratigrapy in Cutting 10 was extremely simple, consisting of topsoil (**F1301**) overlying a modern stone dump (**F1302**) and post-medieval deposit (**F1303**). Each of these lay above **F1304**, a yellow clayey sand containing medieval pottery that was excavated to the level of natural subsoil at the westernmost portion of the cutting (i.e. within the top of the T).

F1302, a deposit of sub-rounded limestone, containing modern pottery, metal finds and some animal bone was orientated east to west across the cutting and may explain the linear trend recorded on the geophysical survey. The underlying **F1303**, a grey/brown clayey silt, contained both medieval and post-medieval pottery. Only **F1304** was devoid of later finds. Clear evidence of a ditch was not recorded. However it was observed that the natural rose sharply at the extreme western and northern limits of the cutting, which may represent the start of a cut positioned just outside the cutting's limits. This area will be investigated further, and if required the cutting will be extended, in 2017.

Other Site Research

To help inform future IAFS excavation strategies a geophysical (ground-penetrating radar [GPR] and electromagnetic [EM]) survey was conducted at the Black Friary by Ms. Ashely Green (Bournemouth University) in both 2015 and 2016. The survey was conducted under licence15R0023.

The survey identified a number of possible archaeological anomalies and anthropogenic features including grave cuts but was hindered to a large extent by other anomalies relating to geological variation and modern rubbish. The results of the survey are listed in full in Appendix 4.

Discussion

Excavations during summer 2016 and winter 2017 have continued to provide insights into the building and burial sequences on the site, and on its probable original extent. The excavation of a transect through the northern end of Cutting 6 confirmed the phased nature of the building of the east range. The exact sequence of the walls in the vicinity of the stairs is not yet fully understood, but the suggestion that the stairs is a secondary insertion, which may have resulted in the partial removal of at least one wall is supported by the available evidence. It can also be inferred that there was an opening from the east ambulatory into the north range, as the north south foundation trench inside the line of the north range suggests. This would mirror the opening in the angle of the north and west ranges, and suggests a highly symmetrical layout to the ranges and cloister (see Figure 1.2). The stained glass recovered from within the apparent sub-floor levels inside the east range strongly suggest a phase of refurbishment, including the possible replacement of older stained glass windows with newer ones. This could relate to the extension of the chapter house, and possibly also to the insertion of the upper storey; both activities that would have caused major disruption to the existing fabric and probably necessitated the replacement of interior floors. The yard space external to the east range provided a rich array of finds, and can be interpreted as a space which functioned as a form of 'rubbish container'. It is likely that a midden, formed of kitchen refuse and discarded and broken objects, accumulated in this area, doubtless periodically being transported to the garden areas and spread over the soil as fertiliser.

The east/west running gully feature which extended east of this yard space contained a layer rich in carbonated grain and is strongly suggestive of the presence of a grain drying kiln. However, this was clearly cut by later activity, and it remains to be seen if more of the structure is to be found further to

the east outside the cutting. The fact that it appears to have been deliberately backfilled, and was cut by a later feature suggests its abandonment and possible re-location at an early stage. At the Dominican Priory in Kimallock, Co. Limerick, a structure interpreted as an oven is located against the east wall of the east and north range junction (Hogan 1991, Plate II), and while this would support the idea of a grain drying kiln being located close to this same juncture at Black Friary, the suggestion that this went out of use may also tie in with a possible concern at the fire hazard such a feature so close to the domestic buildings would pose. here are several references to catastrophic fires requiring extensive re-building of friaries, as at Sligo, for example, (O'Sullivan, B 2009, 120). The full extent of this feature has not yet been established, and it is hoped to date some of the grain recovered.

The eastern extent of the chapter house has been roughly determined, and the consistent form of the putative bench which runs around the interior against the wall, and the significant difference in the foundation depths of the north wall of the chapter house inside the range to that outside, suggest that the exterior extent is a later addition, and that the bench was constructed during that expansion phase.

The question of whether or not the south aisle of the church was part of the original church structure or a later extension is still not fully answered. The indications are that there was a feature, consistent with a shallow foundation trench and later backfilled, overlain by the plinth for one half column of the arcade which would have replaced the south wall of the nave. The presence of burials within this area hampers interpretation, and it is hoped that when Cutting 2 is re-opened in the future that it will be possible to further examine this question.

The LiDAR imagery of the site suggests strongly that there is a second courtyard to the north of the main claustral range north of the church. Excavations in Cutting 7 confirmed the presence of walls extending to the north, consistent with an extended west range, and possibly a wall on the same line as the arcade wall of the first cloister. The function of this latter wall is unclear, as is its date; it may be associated with post-dissolution activity but this is speculative at this point in time. In reviewing plans of extant Dominican friaries in Ireland, (see O'Keeffe 2015, Figs. 68 – 71), it appears that only two, Trim and Rathfran, Co. Mayo, have two courts or cloisters, not a common occurrence in an Irish context. It's possible that Sligo Abbey (Dominican) had a second court, its east range projects north well beyond the north range, and Ross Errilly, (Franciscan) again in Co. Mayo has a second court. In her study of the medieval friaries in England and Wales, O'Sullivan notes nine possible examples of double courts among the Dominican friaries (O'Sullivan, 2013). It may have been more of an English trait than an Irish one.

The third cutting to be opened along the supposed southern boundary has not yet been completed (Cutting 13). No ditch was found in Cutting 11, but one was located in Cutting 12 (O'Carroll, Shine et al. 2016). The beginnings of a north to south running cut were suggested within Cutting 13, but this has not yet been explored. It is possible that the boundary ditch between the town and the friary was removed, effectively bringing the friary within the town. This has been suggested in the case of Drogheda, where it is surmised that the town wall was extended to encompass the Dominican Friary, originally outside the walls (Bradley 1978, 114), although the topography would argue against the wall having been originally south of, and downhill from the friary itself. In the case of Trim the friary occupies relatively flat land on the north side of the town, north of a natural downward slope from St. Patricks to the southern extent of the site, and therefore incorporating the friary would not have been either difficult or posed a defensive problem.

The excavation of burials continued within Cuttings 3 (nave of church) and 10 (graveyard). The intensity of burial deposits within Cutting 3 was confirmed, and so far, the radiocarbon dates returned for burials in this area suggest burial activity from the fourteenth century onwards (see O'Carroll, Shine et al. 2016, Tables 2.2, and Table 2.2 this report). It is the burials in the graveyard that are notably early, especially those from Cuttings 11 and 12 (see Tables 2.2, especially Burials 80, 81 and 66). The dates for these burials suggest that these people were buried at the southern extent of the graveyard around the time the friary was founded, and indeed Burial 66 may pre-date the foundation. Given that the foundation date is frequently not the same as the date of the actual commencement of building, which could be several years later, these dates are all the more remarkable. Perhaps the graveyard was one of the

earliest features, and burying the dead of the town a means by which the friars could quickly consolidate their position with the community they hoped would support them.

It is expected that work will continue in Cuttings 6, 7, 10 and 13 in this coming season.

Section 2

Post-Excavation (PEX) Report

Dr. Denis Shine, Bairbre Mullee and Mairead Stobie

Introduction

The purpose of Section 2 is to quantify the collection of arefacts, ecofacts and human remains that have been generated during the Black Friary excavations. As the excavation is planned to progress for another 15 years only a brief tabular Preliminary Excavation Report (PEX) is provided (see Tables 2.3 to 2.18). This report outlines the volume of materials together with a brief synopsis of ongoing post-excavation, conservation and specialist works. All finds listed in the below tables have been cleaned and labelled in accordance to NMI standards, while all artefacts and ecofacts are currently in secure storage in the offices of IAFS.

It should be noted that post-excavation works are continually undertaken as part of the Black Friary excavations, while items are constantly returning from conservation and specialist analyses; as such the below tables list the volume of archaeological materials as of 'now' and are constantly in flux.

Conservation works

The last report (see O' Carroll, Shine et al. 2016) listed previous conservation works undertaken on plaster and particularly sensitive archaeological finds (i.e. those that cannot be subjected to longer term storage without adverse effects) Susannah Kelly of University College Dublin (UCD) has also been retained to conserve such finds shortly after exposure during excavation; finds conserved since the preparation of the last report, and the associated permit numbers, are listed in Table 2.1.

As stated in the last report the medieval stained glass is, in particular, a large collection that is at risk of decay in post-excavation storage; thus following the completion of the initial conserved sample an arrangement was formed between IAFS and the Conservation Laboratory of Cardiff University's conservation lab to conserve the entire collection, as it existed in October 2015 (n=1250 and 11 block lifted pieces). The entire collection was transported to Cardiff (under export/alter licence 5929) where all the glass sherds were conserved and packed under the supervision of Jane Henderson and Phil Parkes; the glass is now ready for return to Ireland (Figure 2.1) once the 11 block lifted pieces have been

excavated and conserved – work that is nearing completion. A volume of stained glass has been recovered since October 2015 (Table 2.18) and is stored in cold-store conditions in IAFS' offices.

Table 2.1: National Museum of Ireland: Licences to Alter/Export

Material	Description	Conservator/Specialist	Licence Number
Copper alloy/leather Ivory/bone and metal	Clasps x 4? Manuscript pricker x 2?	Susannah Kelly	6100/103
Human Bone	Human Bone	Waikato University/Fiona Petchy	5866
Glass/Metal	Stained Glass/Stained Glass in lead	Cardiff University/Phil Parkes and Jane Henderson	5929 (export and alter)

Specialist Work

In 2015 the first archaeological cuttings were concluded (Cuttings 1, 4, 5, 8, 11 and 12), providing the first 'complete' collections to forward for specialist analyses. The faunal collection from those cuttings has been forwarded to Dr. Fiona Beglane of Sligo Institute of Technology for analysis. Her full report is provided as Appendix 2.

The finds from these (and all other) cuttings are now tabulated and labelled in accordance to NMI standards in preparation for specialist analysis, the results of which will inform pottery and small finds reports for the excavation to date. Finds from the first series of completed cuttings (Cuttings 1, 4, 5, 8, 11 and 12) will be forwarded for specialist reporting in the coming year. Since the completion of those cuttings only Cutting 9 has been permanently completed; as such a second series of post-excavation works will await the generation of a 'finished' catalogue of archaeological materials.

All excavation of human remains on site is undertaken under the supervision of Dr. Rachel Scott (of DePaul University) – a leading international osteoarchaeologist, who specialises in the late medieval period. Dr. Scott advises on excavation, cleaning and temporary storage and curation of all human remains. She ultimately will examine the entire collection before preparing a full report/publications.

Dating

A total of five AMS radiometric dates were obtained in 2016 (as shown in Table 2.2). A further six dates had been obtained in 2015 (O' Carroll, Shine et al. 2016). All radiometric dating was undertaken in the Waikato Dating Laboratory in the University of Waikato (under an extension of Licence 5866).

*Table 2.2: Radiocarbon dates obtained for the Black Friary in 2016. Calibration after OxCal 4.1 (Bronk Ramsay 2009) using the IntCal09 dataset (Reimer, Baillie et al. 2009) **

Laboratory Code	Material	Burial No.	δ C13 (‰)	Radiocarbon Age (BP)	Calibrated Age (95.4% Probability) (cal BC/AD)
Wk-44398	Human bone	84	*	341 ± 20	AD 1470-1640
Wk-44399	Human bone	111	*	466 ± 20	AD 1410-1450
Wk-44400	Human bone	81	*	770 ± 20	AD 1220-1280
Wk-44401	Human bone	64	*	445 ± 20	AD 1420-1470
Wk-44402	Human bone	66	*	828 ± 20	AD 1160-1260

** Please note: The Carbon-13 stable isotope value (δ13C) was measured on prepared graphite using the AMS spectrometer. The radiocarbon date has therefore been corrected for isotopic fractionation. However the AMS-measured δ13C value can differ from the δ13C of the original material and it is therefore not shown.*

Table 2.3: Artefacts, ecofacts, human remains and paper archive generated through the excavation of Cutting 1

Archaeological Artefacts			**Archaeological Ecofacts**		
		Count			***Count (bags/containers)***
Ceramic	Pottery	36	Soil		1
	Clay Pipe	3	Animal bone		19 (1,413g)
	Tiles	-	Wood		-
	Other	-			
Iron/Metal	Iron/Metal General	7	Other	Brick	-
				Glass	-
				Kiln Brick	1
				Mortar	-
				Shell	3
				Stone	-
	Iron Nails	19	**Total**		24
Copper		-	**Building Materials**		
Lead		1		***Count***	***Conserved***
Glass (not including stained or window glass)		1	Stained Glass	3	3
Bone Artefacts		-	Window Lead	-	-
Wood		-	Painted Plaster	4 (30g)	1
Flint		-	Architectural Fragments	4	-
Shell		-			
Total		67			

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	27
Burials	2

Paper Records	
	Count
Feature Sheets	34
Drawings	21 (23 Sheets)
Photographs	Archive is currently under revision

Table 2.4: Artefacts, ecofacts, human remains and paper archive generated through the excavation of Cutting 2

Archaeological Artefacts			**Archaeological Ecofacts**		
		Count			***Count (bags/containers)***
Ceramic	Pottery	81	Soil		5
	Clay Pipe	8	Animal bone		98 (7,164g)
	Tiles	-	Wood		-
	Other	-			
Iron/Metal	Iron/Metal General	15	Other	Brick	-
				Glass	-
				Kiln Brick	5
				Mortar	1
				Shell	-
				Stone	-
	Iron Nails	58	**Total**		109
Copper		3	**Building Materials**		
Lead		2		***Count***	***Conserved***
Glass (not including stained or window glass)		11	Stained Glass	56	56
Bone Artefacts		-	Window Lead	3	-
Wood		-	Painted Plaster	244 (573g)	-
Flint		-	Architectural Fragments	49	-
Shell		-			
Total		178			

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	82
Burials	4

Paper Records	
	Count
Feature Sheets	36
Drawings	21 (18 Sheets)
Photographs	Archive is currently under revision

Table 2.5: Artefacts, ecofacts, human remains and paper archive generated through the excavation of Cutting 3

Archaeological Artefacts			**Archaeological Ecofacts**		
		Count			***Count (bags/containers)***
Ceramic	Pottery	60	Soil		96
	Clay Pipe	6	Animal bone		122 (8,194g)
	Tiles	-	Wood		11
	Other	1			
Iron/Metal	Iron/Metal General	26	Other	Brick	1
				Glass	2
				Kiln Brick	1
				Mortar	-
				Plant	1
				Shell	9
				Slag	1
				Stone	1
	Iron Nails	407	**Total**		245
Copper		-	**Building Materials**		
Lead		15		***Count***	***Conserved***
Glass (not including stained or window glass)		6	Stained Glass	50	50
Bone Artefacts		-	Window Lead	17	-
Wood		1	Painted Plaster	7 (52g)	-
Flint		1	Architectural Fragments	118	-
Shell		-			
Total		523			

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	830
Burials	61

Paper Records	
	Count
Feature Sheets	128
Drawings	59 (54 Sheets)
Photographs	Archive is currently under revision

Table 2.6: Artefacts, ecofacts, human remains and paper archive generated through the excavation of Cutting 4

Archaeological Artefacts			**Archaeological Ecofacts**		
		Count			***Count (bags/containers)***
Ceramic	Pottery	6	Soil		-
	Clay Pipe	1	Animal bone		2 (408g)
	Tiles	-	Wood		-
	Other	-			
Iron/Metal	Iron/Metal General	-	Other	Brick	-
				Glass	-
				Kiln Brick	1
				Mortar	-
				Shell	-
				Stone	-
	Iron Nails	2	**Total**		3
Copper		-	**Building Materials**		
Lead		-		***Count***	***Conserved***
Glass (not including stained or window glass)		-	Stained Glass	-	-
Bone Artefacts		-	Window Lead	-	-
Wood		-	Painted Plaster	-	-
Flint		-	Architectural Fragments	5	-
Shell		-			
Total		9			

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	5
Burials	-

Paper Records	
	Count
Feature Sheets	3
Drawings	7 (5 Sheets)
Photographs	Archive is currently under revision

Table 2.7: Artefacts, ecofacts, human remains and paper archive generated through the excavation of Cutting 5

Archaeological Artefacts		
		Count
Ceramic	Pottery	34
	Clay Pipe	4
	Tiles	-
	Other	-
Iron/Metal	Iron/Metal General	-
	Iron Nails	92
Copper		-
Lead		5
Glass (not including stained or window glass)		-
Bone Artefacts		-
Wood		-
Flint		-
Shell		-
Total		135

Archaeological Ecofacts		
		Count (bags/containers)
Soil		5
Animal bone		70 (6,053g)
Wood		-
Other	Brick	-
	Glass	1
	Kiln Brick	-
	Mortar	3
	Shell	-
	Stone	-
Total		79

Building Materials		
	Count	***Conserved***
Stained Glass	-	-
Window Lead	1	-
Painted Plaster	10 (106g)	-
Architectural Fragments	99	-

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	11
Burials	2

Paper Records	
	Count
Feature Sheets	30
Drawings	25 (14 Sheets)
Photographs	Archive is currently under revision

Table 2.8: Artefacts, ecofacts, human remains and paper archive generated through the excavation of Cutting 6

Archaeological Artefacts			**Archaeological Ecofacts**		
		Count			***Count (bags/containers)***
Ceramic	Pottery	1,453	Soil		7
	Clay Pipe	29	Animal bone		381 (81,046g)
	Tiles	177	Wood		-
	Other	3			
Iron/Metal	Iron/Metal General	213	Other	Brick	5
				Glass	3
				Kiln Brick	8
				Mortar	2
				Shell	5
				Stone	3
				Slag	6
				Plaster	3
				Floor Tile	1
			Total		424
Copper		22	**Building Materials**		
Lead		58		***Count***	***Conserved***
Glass (not including stained or window glass)		10	Stained Glass	809	658
Bone Artefacts		13	Window Lead	260	-
Wood		1	Painted Plaster	132 (3,461g)	-
Flint		2	Architectural Fragments	213	-
Shell		2			
Stone		6			
Total		3,105			

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	53
Burials	4

Paper Records	
	Count
Feature Sheets	113
Drawings	55 (47 Sheets)
Photographs	Archive is currently under revision

Table 2.9: Artefacts, ecofacts, human remains and paper archive generated through the excavation of Cutting 7

Archaeological Artefacts			**Archaeological Ecofacts**		
		Count			***Count (bags/containers)***
Ceramic	Pottery	435	Soil		8
	Clay Pipe	17	Animal bone		188 (92,870g)
	Tiles	-	Wood		-
	Other	-			
Iron/Metal	Iron/Metal General	50	Other	Brick	13
				Charcoal	1
				Glass	-
				Kiln Brick	2
				Mortar	1
				Plaster	1
				Shell	2
				Slag	4
				Stone	2
	Iron Nails	787	**Total**		222
Copper		15	**Building Materials**		
Lead		19		***Count***	***Conserved***
Glass (not including stained or window glass)		23	Stained Glass	941	463
Bone Artefacts		1	Window Lead	53	-
Wood		1	Painted Plaster	258 (3,419g)	24
Flint		1	Architectural Fragments	72	-
Shell		-			
Total		1,349			

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	13
Burials	1

Paper Records	
	Count
Feature Sheets	65
Drawings	30 (25 Sheets)
Photographs	Archive is currently under revision

Table 2.10: Artefacts, ecofacts, human remains and paper archive generated through the excavation of Cutting 8

Archaeological Artefacts		
		Count
Ceramic	Pottery	24
	Clay Pipe	5
	Tiles	-
	Other	-
Iron/Metal	Iron/Metal General	3
	Iron Nails	24
Copper		-
Lead		1
Glass (not including stained or window glass)		66
Bone Artefacts		-
Wood		1
Flint		-
Shell		-
Total		124

Archaeological Ecofacts		
		Count (bags/containers)
Soil		6
Animal bone		24 (1,797g)
Wood		-
Other	Brick	-
	Glass	-
	Kiln Brick	-
	Mortar	-
	Shell	-
	Stone	-
Total		30

Building Materials		
	Count	***Conserved***
Stained Glass	1	1
Window Lead	1	-
Painted Plaster	-	-
Architectural Fragments	43	-

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	10
Burials	4

Paper Records	
	Count
Feature Sheets	24
Drawings	12 (10 Sheets)
Photographs	Archive is currently under revision

Table 2.11: Artefacts, ecofacts, human remains and paper archive generated through the excavation of Cutting 9

Archaeological Artefacts		
		Count
Ceramic	Pottery	38
	Clay Pipe	26
	Tiles	-
	Other	1
Iron/Metal	Iron/Metal General	24
	Iron Nails	71
Copper		-
Lead		1
Glass (not including stained or window glass)		12
Bone Artefacts		-
Wood		-
Flint		-
Shell		-
Total		173

Archaeological Ecofacts		
		Count (bags/containers)
Soil		14
Animal bone		102 (8,109g)
Wood		-
Other	Brick	-
	Glass	51
	Kiln Brick	-
	Mortar	1
	Plant	3
	Shell	-
	Stone	-
Total		171

Building Materials		
	Count	***Conserved***
Stained Glass	34	22
Window Lead	4	-
Painted Plaster	170 (611g)	-
Architectural Fragments	22	-

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	109
Burials	9

Paper Records	
	Count
Feature Sheets	74
Drawings	36 (25 Sheets)
Photographs	Archive is currently under revision

Table 2.12: Artefacts, ecofacts, human remains and paper archive generated through the excavation of Cutting 10

Archaeological Artefacts			**Archaeological Ecofacts**		
		Count			***Count (bags/containers)***
Ceramic	Pottery	100	Soil		15
	Clay Pipe	31	Animal bone		278 (18,145g)
	Tiles	3	Wood		-
	Other	4			
Iron/Metal	Iron/Metal General	36	Other	Brick	-
				Charcoal	1
				Glass	3
				Kiln Brick	1
				Mortar	1
				Plant	2
				Shell	3
				Slag	1
				Stone	1
	Iron Nails	253	**Total**		306
Copper		-	**Building Materials**		
Lead		11		***Count***	***Conserved***
Glass (not including stained or window glass)		9	Stained Glass	51	51
Bone Artefacts		3	Window Lead	9	-
Wood		-	Painted Plaster	67 (329g)	-
Flint		2	Architectural Fragments	29	-
Shell		-			
Total		452			

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	382
Burials	23

Paper Records	
	Count
Feature Sheets	117
Drawings	56 (43 Sheets)
Photographs	Archive is currently under revision

Table 2.13: Artefacts, ecofacts, human remains and paper archive generated through the excavation of Cutting 11

Archaeological Artefacts		
		Count
Ceramic	Pottery	79
	Clay Pipe	21
	Tiles	-
	Other	-
Iron/Metal	Iron/Metal General	3
	Iron Nails	15
Copper		-
Lead		1
Glass (not including stained or window glass)		6
Bone Artefacts		1
Wood		2
Flint		-
Shell		-
Total		128

Archaeological Ecofacts		
		Count (bags/containers)
Soil		9
Animal bone		10 (890g)
Wood		-
Other	Brick	-
	Glass	-
	Kiln Brick	-
	Mortar	-
	Shell	-
	Stone	-
Total		19

Building Materials		
	Count	***Conserved***
Stained Glass	-	-
Window Lead	-	-
Painted Plaster	2 (65g)	-
Architectural Fragments	1	-

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	32
Burials	7

Paper Records	
	Count
Feature Sheets	39
Drawings	13 (11 Sheets)
Photographs	Archive is currently under revision

Table 2.14: Artefacts, ecofacts, human remains and paper archive generated through the excavation of Cutting 12

Archaeological Artefacts			**Archaeological Ecofacts**		
		Count			***Count (bags/containers)***
Ceramic	Pottery	2	Soil		12
	Clay Pipe	-	Animal bone		6 (424g)
	Tiles	-	Wood		-
	Other	-			
Iron/Metal	Iron/Metal General	-	Other	Brick	-
				Glass	-
				Kiln Brick	-
				Mortar	-
				Shell	-
				Stone	-
	Iron Nails	3	**Total**		18
Copper		-	**Building Materials**		
Lead		-		***Count***	***Conserved***
Glass (not including stained or window glass)		-	Stained Glass	-	-
Bone Artefacts		-	Window Lead	-	-
Wood		-	Painted Plaster	-	-
Flint		1	Architectural Fragments	-	-
Shell		-			
Total		6			

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	-
Burials	3

Paper Records	
	Count
Feature Sheets	17
Drawings	7 (5 Sheets)
Photographs	Archive is currently under revision

Table 2.15: Artefacts, ecofacts, human remains and paper archive generated through the excavation of Cutting 13

Archaeological Artefacts			**Archaeological Ecofacts**		
		Count			***Count (bags/containers)***
Ceramic	Pottery	75	Soil		-
	Clay Pipe	5	Animal bone		15 (4,558g)
	Tiles	-	Wood		-
	Other	1			
Iron/Metal	Iron/Metal General	7	Other	Brick	-
				Glass	-
				Kiln Brick	-
				Mortar	-
				Shell	-
				Slag	1
				Stone	-
	Iron Nails	12	**Total**		16
Copper		1	**Building Materials**		
Lead		-		***Count***	***Conserved***
Glass (not including stained or window glass)		2	Stained Glass	-	-
Bone Artefacts		-	Window Lead	-	-
Wood		-	Painted Plaster	-	-
Flint		-	Architectural Fragments	-	-
Shell		-			
Total		103			

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	2
Burials	-

Paper Records	
	Count
Feature Sheets	4
Drawings	4 (4 Sheets)
Photographs	Archive is currently under revision

Table 2.16: Artefacts, ecofacts, human remains and paper archive generated through the excavation of the test trenches

Archaeological Artefacts			**Archaeological Ecofacts**		
		Count			***Count (bags/containers)***
Ceramic	Pottery	65	Soil		4
	Clay Pipe	3	Animal bone		11 (1020g)
	Tiles	-	Wood		1
	Other	-			
Iron/Metal	Iron/Metal General	-	Other	Brick	-
				Glass	-
				Kiln Brick	-
				Mortar	-
				Shell	-
				Stone	-
	Iron Nails	3	**Total**		16
Copper		-	**Building Materials**		
Lead		-		***Count***	***Conserved***
Glass (not including stained or window glass)		26	Stained Glass	-	-
Bone Artefacts		-	Window Lead	-	-
Wood		-	Painted Plaster	-	-
Flint		-	Architectural Fragments	1	-
Shell		-			
Total		97			

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	5
Burials	-

Paper Records	
	Count
Feature Sheets	29
Drawings	10 (8 Sheets)
Photographs	Archive is currently under revision

Table 2.17: Artefacts and ecofacts recovered from the Black Friary, not from an archaeological cutting – i.e. observed on the field surface or handed in from the site's neighbours

Archaeological Artefacts			**Archaeological Ecofacts**		
		Count			***Count (bags/containers)***
Ceramic	Pottery	14	Soil		-
	Clay Pipe	2	Animal bone		-
	Tiles	3	Wood		-
	Other	-			
Iron/Metal	Iron/Metal General	1	Other	Brick	-
				Glass	-
				Kiln Brick	-
				Mortar	-
				Shell	-
				Stone	-
	Iron Nails	1	**Total**		-
Copper		-	**Building Materials**		
Lead		1		***Count***	***Conserved***
Glass (not including stained or window glass)		1	Stained Glass	-	-
Bone Artefacts		-	Window Lead	3	-
Wood		-	Painted Plaster	-	-
Flint		-	Architectural Fragments	135	-
Shell		-			
Total		23			

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	8
Burials	-

Paper Records	
	Count
Feature Sheets	-
Drawings	- (- Sheets)
Photographs	Archive is currently under revision

Table 2.18: Artefacts, ecofacts, human remains and paper archive generated through all archaeological excavations

Archaeological Artefacts		
		Count
Ceramic	Pottery	2,502
	Clay Pipe	161
	Tiles	183
	Other	10
Iron/Metal	Iron/Metal General	385
	Iron Nails	2,863
Copper		41
Lead		115
Glass (not including stained or window glass)		173
Bone Artefacts		18
Wood		6
Flint		7
Shell		2
Stone		6
Total		6,472

Archaeological Ecofacts		
		Count (bags/containers)
Soil		182
Animal bone		1,326 (232,091g)
Wood		12
Other	Brick	19
	Charcoal	2
	Floor Tile	1
	Glass	60
	Kiln Brick	19
	Mortar	9
	Plant	6
	Plaster	4
	Shell	22
	Slag	13
	Stone	7
Total		1,682

Building Materials		
	Count	***Conserved***
Stained Glass	1,945	1,304
Window Lead	351	-
Painted Plaster	894 (8,646g)	25
Architectural Fragments	791	-

Human Remains	
	Count (bags or individual burials)
Disarticulated Human Bone (DHB)	1,569
Burials	120

Paper Records	
	Count
Feature Sheets	713
Drawings	356 (292 Sheets)
Photographs	Archive is currently under revision

Section 3

Community Report

Dr. Denis Shine, Dr. Stephen Mandal and Finola O' Carroll

Introduction

Section 3 provides a brief report of the 2016 community programme that was jointly delivered by IAFS and the Blackfriary Community Heritage and Archaeology Project (BCHAP). BCHAP is a joint initiative of several partners, including the Irish Archaeology Field School (IAFS), Cultural Tourism Ireland, Trim Municipal District, Meath Country Council, statutory organisations, a range of academic partners and, crucially, the local community (Figure 3.1). BCHAP can be summarised as having two main objectives – (A) to provide heritage community outreach and education events, helping to further enthuse the Trim community on their fantastic medieval heritage and (B) to help rehabilitate the Black Friary site into a valuable amenity/green space for the local community of Trim. Both these objectives are in keeping with the founding principle of BCHAP in 2010 - to help protect the heritage of the Black Friary site (see Mandal and O' Carroll 2011 and Mandal, O' Carroll, et al. 2015 for a full description of BCHAP).

A detailed report on the work of the BCHAP since the inception of the Black Friary excavations was provided in the 2016 interim report (O' Carroll, Shine et al. 2016). That report described the project's progress from 2010-2014, before presenting a detailed description of the community programme from 2014-2016 - a logical separation as the scope and scale of BCHAP projects increased significantly in those years, partly due to the placement of Gateway Jobs Initiative Scheme workers on the site. Considering previous reporting, this comparatively brief report only describes the community projects activities in the last year.

Community Amenity Work

In parallel to the excavations, a range of site amenity works commenced in 2010. The primary purpose of BCHAP's amenity plan was to help rehabilitate the Black Friary site, which over the past few decades had become an overgrown wasteland and the focus of anti-social behaviour. Key to addressing this neglect is the improvement of the Black Friary site itself, so that the site is increasingly seen locally as worthy of safeguarding as a resource that is compatible with community use – put simply that the Black Friary might become a pleasant green space suitable for community use.

A detailed description of the amenity works undertaken on the site was prepared in the last interim report (O' Carroll, Shine et al. 2016). The scale of this amenity programme grew significantly from the

summer of 2014 when Meath County Council coordinated the placement of thirteen Gateway scheme workers on the Black Friary heritage site to help improve the amenity value of the field. Conversely as the scheme draws to a close (one worker now remains on the site until June of 2017) the scale of projects has been down-scaled and we are now entering a period of maintenance rather than improvement.

Waste Management and Site Appearance

As stated the Black Friary field had become an overgrown wasteland and the focus of casual dumping prior to the intervention of the BCHAP. The initial objective of their amenity programme was to return the site to 'clean' and safe pastureland. Details on how this was achieved have been outlined previously but the site is now clean and safe, with continued labour/vigilance in place through the Gateway Scheme – such as the installation and servicing of a litter bin - to discourage further casual dumping. The scale of improvements to the field were acknowledged when the field and community garden was awarded a Gold Litter Award in June of 2016 (Figure 3.2); the award was given to the South Meath Area Response to Teens group, a key partner of BCHAP who previously have collaborated on the site to install the 'SMART' community garden (see below).

Community Garden (and Orchard)

In conjunction with the 'SMART' (South Meath Area Response to Teens) local charity group a community garden on the site was installed from 2014-2015 (that was formally launched in June 2015). Additional funding was sought toward the end of 2015 for the planting of a community orchard (of native fruit trees) and installation of additional picnic seating for 24 people. This project was successfully delivered by mid 2016. A second phase of planting was undertaken in November 2016 when additional copses of fruit trees and shrubs and a hedgerow were planted.

In May 2016 the BCHAP also collaborated with IAFS and students from Indiana State University to deliver a 'Community Engagement Programme'. These students continued amenity works on the community garden and orchard (Figures 3.3 and 3.4); they also undertook a bio-diversity project on site to encourage increased diversity of bird and bat species (Figure 3.5). Since the summer a new tool store has been rehabilitated beside the SMART garden and hopefully will be turned over to community use/storage requirements. Such amenity works are ongoing on a weekly basis, with plans for the installation of a wild-flower meadow in the coming weeks.

Collectively these works have been recognised with the SMART garden and orchard winning the Best Youth Project in the Pride of Place Awards for the second year running in November 2016.

Signage and Display

The signage programme undertaken on the site has been described in detail previously (O' Carroll, Shine et al. 2016). Since summer 2016 a number of further signs, directing people how to use the site responsibly, have been erected on the Black Friary. Permission was granted recently for further signage within the town of Trim itself directing footfall to the BCHAP project; this signage will be installed in the coming weeks.

Community Education and Outreach Events

BCHAP, supported by IAFS, have delivered a wide-ranging programme of events since 2010 that is reported in the previous interim report, and is posted on both our website, www.iafs.ie, and the BCHAP

Facebook page. For ease of description the project's community outreach events are divided below into categories, namely those that occur on site and within the wider town of Trim, as well as dissemination to the academic community nationally and internationally. As with the amenity work, the scope of community events increase every year, with in excess of 33 events in the 2016 calendar year alone!

Site Events

Regular events are held on site to encourage the local community to visit the Black Friary project and learn about the archaeological process. Such events can include community tour days, school visits; tailor made tours, evening events, site open days, Heritage Week events and launch/marquee events. Since the preparation of our last interim report the following events have been hosted on site:

- May 2016 – Saint Marys School visit the site (Figure 3.6)
- May 2016 – Saint Michaels School visit the site
- May 2016 – Marquee Evening Event, featuring food, entertainment and exhibits (Figure 3.7)
- June 2016 – Irish Walled Towns Network visit the site
- July 2016 – Trim Adult Learning Programme visit the site (Figure 3.8)
- July 2016 – A tour of Franciscan Friars visit the site
- July 2016 - Marquee Evening Event, featuring food, entertainment and tours
- October 2016 – Trinity Master of Arts group visit the site
- March 2017 – Maynooth University History Department visit the site

In addition to the above tailor made tours, a series of open days were scheduled throughout both excavation seasons (summer 2016 and winter 2017). These days were extensively advertised around the town and county and people were encouraged to visit the site, when staff members were made free of other duties, to spend an extended time learning about the world of archaeology. Such open days were scheduled on: June 9th and 26th; July 7th and 21st; August 4th and 8th and January 12th and 26th – the latter coinciding with the winter fieldschool in 2017.

The highlight of our site events in the last year, undoubtedly occurred from the 22nd to the 26th of August (coinciding with Heritage Week) when the IAFS and BCHAP held a community dig on the Black Friary (Figures 3.9 and 3.10). The dig was undertaken as part of a county wide programme of events and was deliberately organised to take place when all students had left the site – allowing staff to spend more time mixing solely with their host community. The event proved a tremendous success, partly owing to the great weather, with lots of soil being shifted and plenty of tea being consumed!

Town Events and Research

Events on site are only one facet of our community outreach efforts. We also regularly host events throughout the town including one off 'commissioned' events, evening lectures and, previously, a pop up museum (O' Carroll, Shine et al. 2016). The following events were undertaken in Trim Town since the submission of our last interim report:

- June 2016 – Evening lecture on BCHAP's oral history project
- June 2016 – Evening lecture on new research endeavours by IAFS (Figure 3.11)
- August 2016 – Open walking tour of Trim as part of Heritage Week
- August 2016 – Evening lecture on BCHAP and community archaeology, as part of Heritage Week
- January 2017 – Schools event with DiK and students of the winter IAFS programme

BCHAP and the IAFS are constantly encouraging new research opportunities within the town of Trim. In 2016 we initiated a programme of excavation focusing on the northern medieval limits of Trim with

Maynooth University. However, undoubtedly one of the highlights of the season was partnering with Ithaca University to conduct a high resolution 3D scan of Trim Castle and its environs (Figure 3.12). This scan has the potential to be an invaluable management and conservation tool in the future. Ithaca University plan to return to Trim this summer to continue scanning the inside of the castle keep.

This year we also plan to undertake a programme of geophysical survey (in partnership with Bournemouth University) around the Yellow Steeple in the ruins of the Augustinian Priory. Permissions from the Office of Public Works to conduct this work have just been granted and BCHAP are in the process of organising the associated logistics.

Oral History Project

Our oral history project 'Living Among the Monuments' – which aims to document the social history of Trim that is retained in living memory – continued to run through most of 2016. Weekly visits continued to a local nursing home and the Trim Adult Learning Programme. A highlight of the project was the first presentation of the projects results, undertaken at the Oral History of Ireland annual conference in October 2016.

For a full description of the activities of 'Living Among the Monuments' please see our last interim report or visit our website 'Trim Stories' (https://trimstories.wordpress.com/).

National and International Dissemination

The project has earned a significantly high profile nationally and internationally through an on-going programme of national and international outreach has seen the project represented at conferences worldwide, for example:

Dr. Stephen Mandal has presented lectures and seminars on the project to a wide range of audiences. Most recently, Dr Mandal undertook lecture tours as an Archaeological Institute of America guest speaker in:

- June 2016 – Presentation on BCHAP to the Archaeological Institute of America – Ireland Tour
- September 2016 – Presentation on BCHAP to the Archaeological Institute of America – Ireland/Scotland Tour
- November 2016 – Lecture on Community Archaeology at the Blackfriary – ISU
- February 2017 – Lecture on Community Archaeology at the Blackfriary – University of Toronto
- February 2017 – Seminar on Community Archaeology at the Blackfriary – ETC
  February 2017 – Lecture on Community Archaeology at the Blackfriary – De Paul University

Each member of IAFS (and visiting academics) have extensively promoted the Black Friary project and disseminated the results of the project to date. A notable highlight in 2016 was the convening of an IAFS panel at the Irish Conference of Medievalists annual conference. Below is a partial list of presentations undertaken since the submission of our last interim report:

- May 2016 – Trinity College Dublin (Dr. Stephen Mandal)
- July 2016 - Irish Conference of Medievalists (Dr. Denis Shine and Dr. Stephen Mandal)
- July 2016 - Irish Conference of Medievalists (Dr. Ciaran McDonnell)
- July 2016 - Irish Conference of Medievalists (Dr. Michael Rodgers/Dr. Scott Stull)
- July 2016 - Irish Conference of Medievalists (Finola O' Carroll)
- August 2016 - Heritage Week talk in the Office of Public Works Trim (Dr. Denis Shine)

- October 2016 – Oral History Network of Ireland, Annual conference
- October 2016 – Birr 20/20 group (Dr. Denis Shine)
- November 2016 – Cashel Heritage and Community Engagement Conference (Dr. Denis Shine)

Press and Recognition

The project has been featured in local (Trim Focus, Meath Chronicle) and national newspapers (Irish Times and Irish Examiner) on numerous occasions. BCHAP/IAFS has also featured on national television, while a number of videos have been commissioned for the project.

The project has received several national and international awards, including awards from the National Geographic, representation on CNN, several tourism and marketing awards and a number of local awards, such as Pride of Place. A full description of these awards was prepared in the last interim report (O' Carroll, Shine et al. 2016).

The highlight of the 2016 season was probably the award of Gold in the 'Best Innovation in Responsible Tourism' category in the Irish Responsible tourism awards in October 2016; the project beat stiff competition, including from the 'Great Lighthouses of Ireland' scheme.

Publications

The project, now over six years old, has progressed to the point whereby cuttings have been completed and specialist results/radiometric dates are beginning to return. This progress has facilitated the start of a publication programme aimed at both the local and academic communities. A list of publications forthcoming from the project was prepared in the last interim report (O' Carroll, Shine et al. 2016). Since that date more publication have made it to press, namely:

- Shine, D., Green, A., O' Carroll, F., Mandal, S., & Mullee, B. (2016) What Lies Beneath – Chasing the Trim Town Wall Circuit. *Archaeology Ireland, 30* (1), 34-38.

The first major academic publication on the site has also been accepted for publication and should be published this year; this is titled:

- O' Carroll, F. (Under Review). The Blackfriars Preachers, Trim, Co. Meath and the legacy of Geoffrey de Geneville in Bhreathnach, E., Krasnodębska-D'Aughton,M. & Smith, K. (eds.),*Monastic Europe AD1100-1700: landscape and settlement*. Brepols.

In an effort to help promote outstanding undergraduate students' professional development in archaeology, by honing their writing and analytical skills, we also attempt to identify a student each year to publish an experiental piece on their time with us at the Black Friary. Such pieces will help strengthen collaborations between our alumni, staff, new students, the local community and student's academic advisors. The following alumni publication was issued this year:

- Marlin, J. (2016). The Blackfriary: A Community Project. *Armstrong Undergraduate Journal of History.*

Cultural Heritage Tourism

The tourism potential that BCHAP brings to County Meath is very high and its appeal to the wider public lies in the process of transformation which is of great interest, not just the finished product. On behalf of the project, Cultural Tourism Ireland has greatly increased national and international awareness of

the project, promoting it as a reason for people to visit, to revisit, and importantly to stay in County Meath. The economic indicator figures demonstrate that this project, through the participation of the students and through the visitors who come to view the ongoing excavations, couldgenerate significant money for the local economy during its lifetime.

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Figures

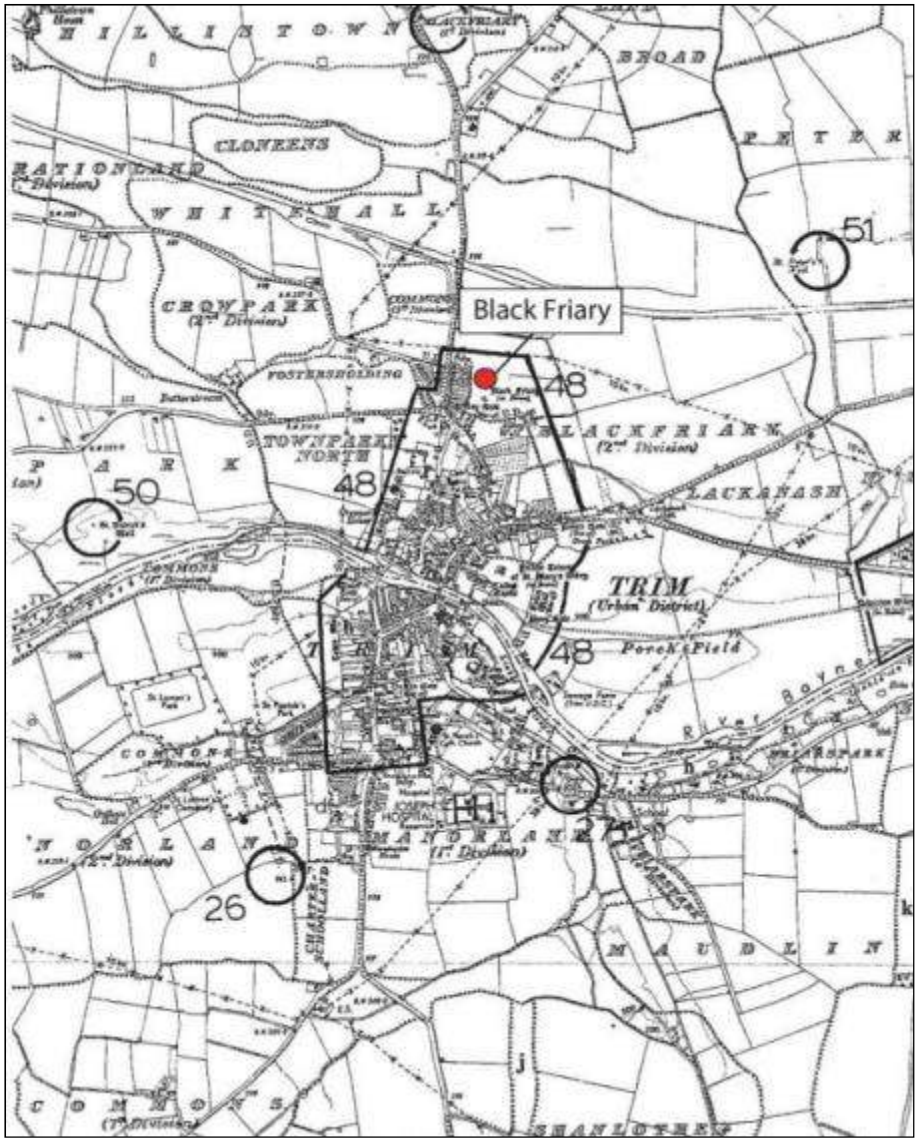

Figure 1.1: Position of the Black Friary within the town of Trim

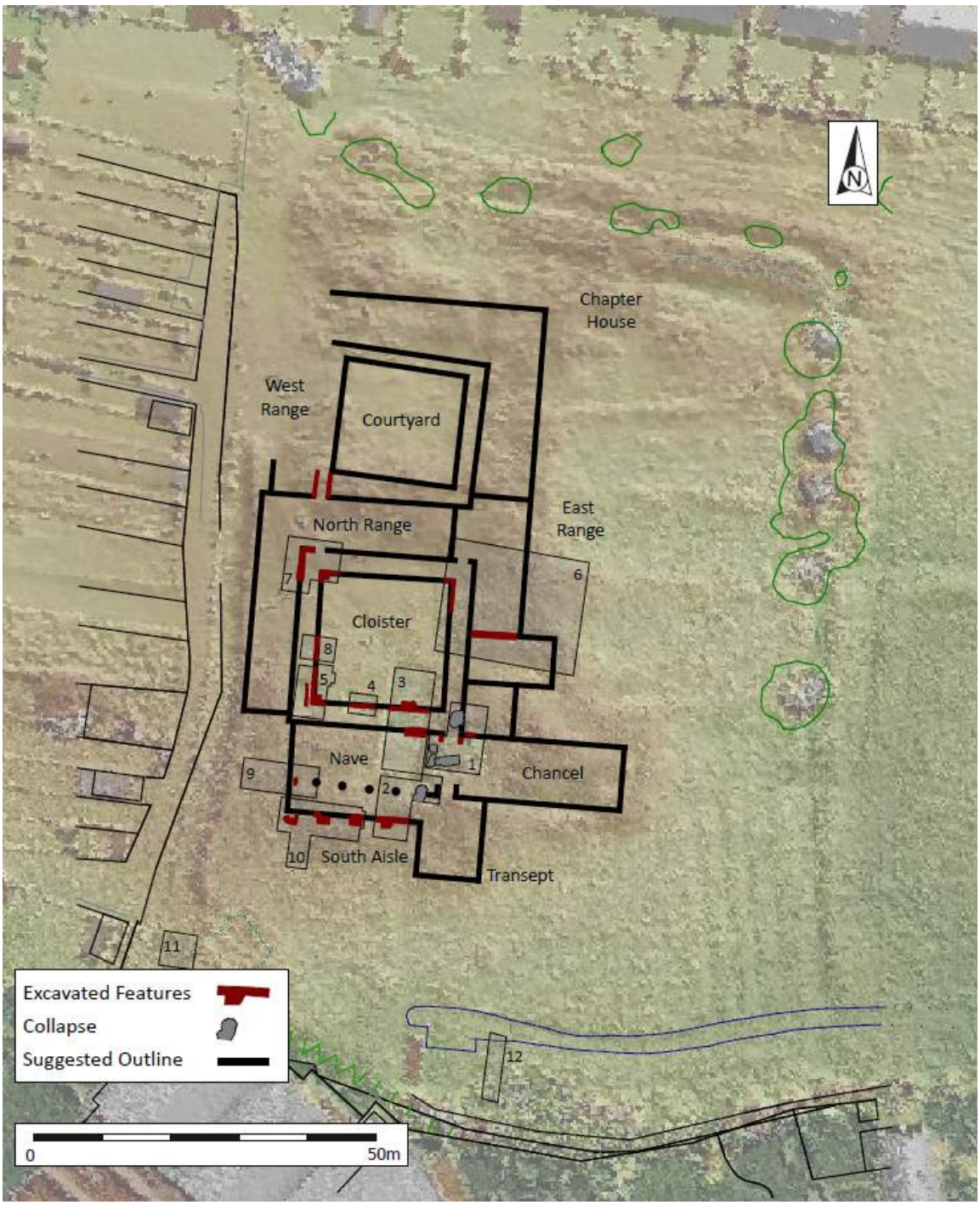

Figure 1.2: Lidar survey of the Black friary field, showing the configuration of friary buildings based on excavations to date

Figure 1.3: Cutting 3, Burials 118, 119 and 120 from south showing intercutting of burials

Figure 1.4: Cutting 3, Burial 111 from east

Figure 1.5: Cutting 3, Burial 112 alongside stone setting F3110, from east

Figure 1.6: Cutting 6, view of bench F622, and remains in section, with wall F614 to right of picture, from east

Figure 1.7: Cutting 6, foundation trenches F6100 (left) and F691 (right) with walls F620 and F643 and foundation course F693 behind, from west

Figure 1.8: Cutting 6, view looking east of foundation trench F691, slab, F693 and flagged floor F697

Figure 1.9: Cutting 6, wall F685, plinth F642 (right) and rubble F685 between, from east

Figure 1.10: Cutting 2, view looking south of the mortar rich surface with fire reddening, F661 in the sondage

Figure 1.11: Cutting 2, mortared surface F675 from north

Figure 1.12: Cutting 2, foundation trench of the east wall, F682, with foundation stones F690. The broken end of wall F622 is on the right at back, and the lime render F678 is visible on left

Figure 1.13: Cutting 2, view looking south at mortar rich surface F677 abutting the east wall to right; on left is the clay surface F688 with two stakeholes, F6112 and F6113

Figure 1.14: Cutting 2, excavation in the interface of F624 and F676 produced a parchment pricker

Figure 1.15: Parchment pricker from Cutting 2

Figure 1.16: Cutting 2, view looking east of fill F6106 in cut [F6105], wall F618 is in the foreground

Figure 1.17: Cutting 2, view looking south of drain [F6107] and backfilled gully [F6105]. Wall F618 is on the right

Figure 1.18: Cutting 2, view looking north at drain [F6107] and fill F699

Figure 1.19: Cutting 7, view to north of Cutting 7 prior to 2016 expansion, showing cloister wall ambulatory, and entrance into north range

Figure 1.20: Cutting 7, de-sodding of new extension looking east. The approximate line of the north wall of the north range is in the centre of the picture

Figure 1.21: Cutting 7, view of Quad B with wall F756 in background, from east

Figure 1.22: Cutting 7, Quad A with wall F752 appearing, looking north

Figure 1.23: Cutting 7, view looking north at walls F752 on left and F756 centre

Figure 1.24: Cutting 7, view to south of wall F764 at back, with F761, black peaty layer in front and rough stone surface F766 with wall F752 to left

Figure 1.25: Cutting 7, stained glass still in lead cames from F750

Figure 1.26: Cutting 7, east baulk of cutting, from west, showing midden deposits and cut [F763] robber trench

Figure 1.27: Cutting 9, plinth looking west; F917 and F916 (bottom)

Figure 1.28: Cutting 9, view looking west at F972, limestone spalls in the base of the possible foundation trench F970

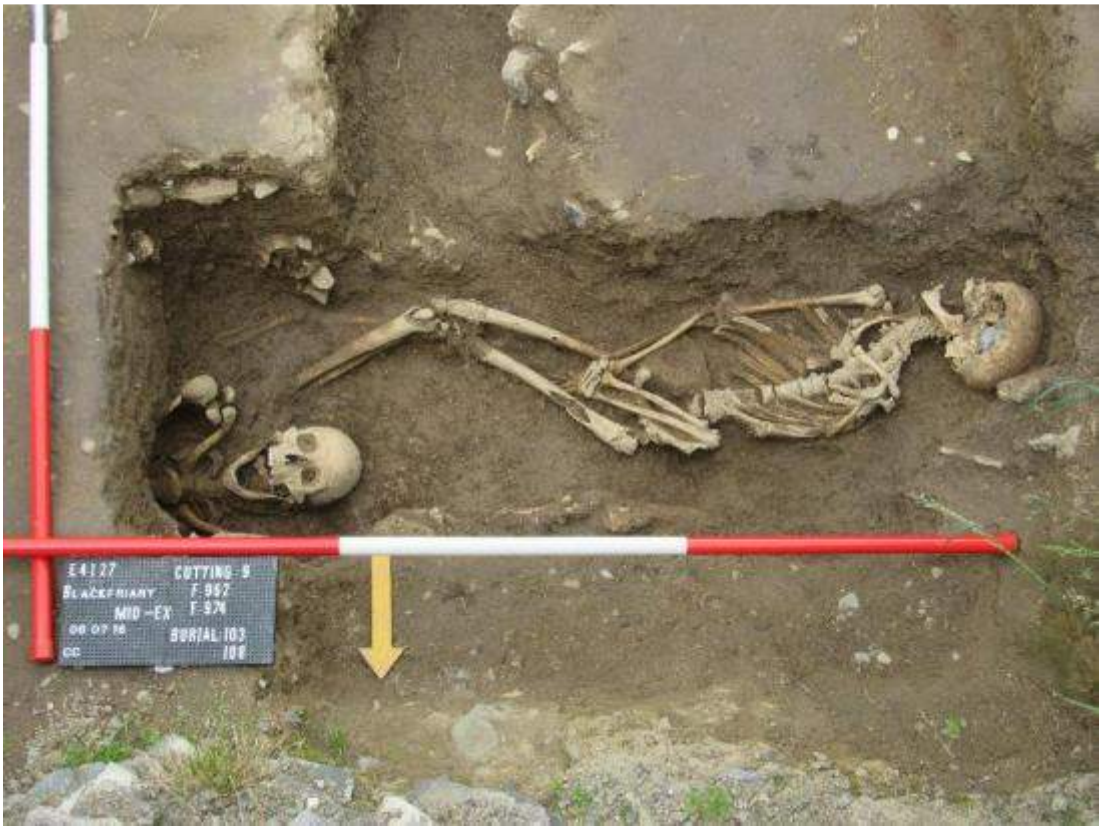

Figure 1.29: Cutting 9, Burials 103 and 108 (left), from north

Figure 1.30: Cutting 9, burial 110, skull in bottom right hand corner, from east. The skull of Burial 108 is visible beneath.

Figure 1.31: Cutting 10, buttress F1003, with west end of buttress being exposed and foundation cut1098 against it; from north

Figure 1.32: Cutting 10, hearth F1095 being sectioned, from south

Figure 1.33: Cutting 10, view looking south at metalled surface F1005, with construction deposit F1054 visible in section behind

Figure 1.34: Cutting 10, Burial 106 from east, the skull was displaced onto the pelvis

Figure 2.1: Stained glass after conservation at Cardiff University

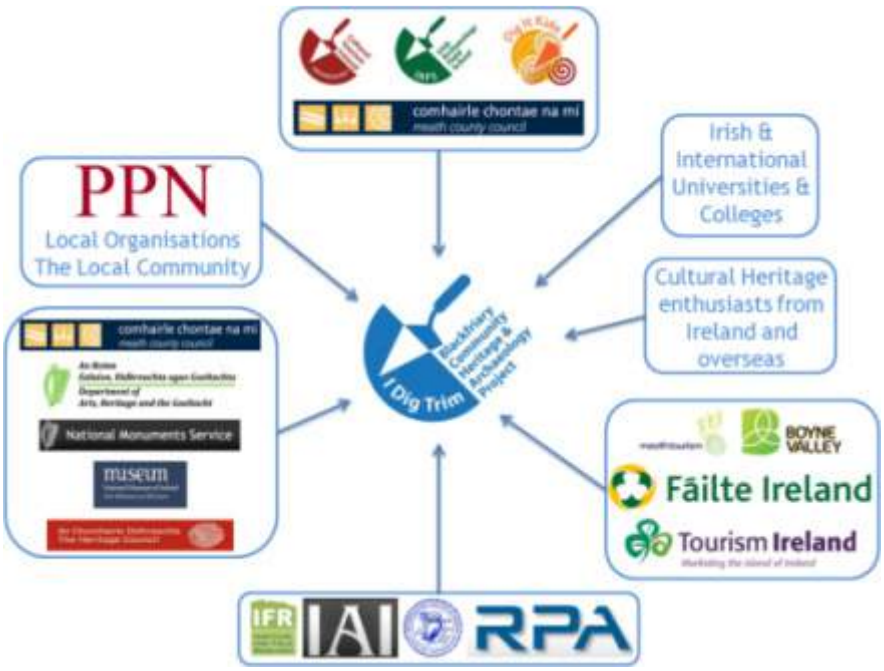

Figure 3.1: The key partners in the Blackfriary Community Heritage and Archaeology Project

Figure 3.2: Gold litter award plaque at the Black Friary field

Figure 3.3: Students from Indiana State University working on the SMART Garden

Figure 3.4: Students from Indiana State University constructed frames for new fruit tree

Figure 3.5: Bat boxes under construction at the Black Friary site

Figure 3.6: Visit of Saint Marys School to the Black Friary site

Figure 3.7: 'Reception' for a family day on the Black Friary

Figure 3.8: Trim Adult Learning Programme visit the site

Figure 3.9: Community dig at the Black Friary

Figure 3.10: Members of the Trim Community at the Black Friary community dig

Figure 3.11: Ithaca University presenting their research to the Trim Community in June 2016

Figure 3.12: Ithaca University 'scanning' Trim Castle in June 2016

Appendix 1

Method Statement for the 2017 Season

Method Statement for

Excavations at Black Friary for 2016 under

Ministerial Consent No. C420; Registration No. E4127

Excavations have been carried out at the Black Friary, Trim, Co. Meath in 2010 – 2016. The results of these excavations to date are reported on in four interim reports, the first for the 2010 season the second for the seasons 2011 – 2013, the third report for 2014 – 2015 and then this, the fourth for the 2016/ winter 2017 season. The background to this site is fully described in these reports and its location in relation to the town shown in detail.

Thus far the cloister has been located and three of its four corners exposed, the fourth, southeast corner remains unexcavated. The north and south walls of the church and its south aisle respectively have been partly exposed, the junction of the west and north ranges has been located. The east range has been exposed from the junction with the north range to approximately half way through the chapter house. The location of the cemetery has been shown to lie to the south of the church and appears to extend beyond the line of the town boundary. Significant human remains have been uncovered in the church and in the cemetery, and these are being excavated while the project osteoarchaeologist, Dr. Rachel Scott of dePaul University, Chicago, is present on site. A number of these have been dated, showing that burial was carried on at the site from the 13th to possibly the 19th century (see Tables 2.2 in the 2016 report, and Table 2.2 in this report). A boundary ditch between the friary and the town has been uncovered, although it appears it was backfilled soon after the friary was founded. In addition the area to the east of the friary precinct has been tested to establish the extent of surviving archaeological remains, in order to clarify among other things the potential availability of the area for community use.

Ongoing work for 2017

A number of cuttings continue to be worked on; Cuttings 1, 4, 5, 8, 9, 11 and 12 have been closed. Cuttings 2 and 3 have been partially backfilled pending resumption of work. Cuttings 6, 7 and 10 are still under excavation and Cutting 13 was opened this season and will continue to be worked on. Excavations will initially re-commence in Cuttings 6, 7and 13, and then Cutting 10 will be re-opened when Dr. Scott arrives in mid-June, as human remains are known to be present in this cutting.

The objectives are:

- to continue explorations within the east range to clarify phasing of the buildings
- to further explore the garden area to the rear by means of a N-S transect on the east side, all in Cutting 6;
- to continue to explore the interface between the cemetery and the church, in Cutting 10
- to continue to investigate the north range of the friary in Cutting 7 and the nature of the possible courtyard space to the north of this
- to ascertain the presence and direction of the possible town boundary in Cutting 13

As four cuttings remain active it is probable that only one small new cutting across the precinct boundary to the east of the east range will be opened. This will be opened to determine the nature of the ditch and bank at this location, and to see whether any surviving waterlogged deposits are available for examination.

Excavation Team

The team will consist of Site Director Finola O'Carroll, company Director Dr. Denis Shine, supervisors Bairbre Mullee, Laura Corrway and Ian Kinch and between 10 and 30 students (at any one time). Dr.

Rachel Scott is the project osteoarchaeologist and directs excavations and recording of the human remains, and she will be assisted by a number of post graduate students.

A number of students are returning as site support staff this season.

The project is being developed as a public /educational/tourist project. Accordingly it is hoped that members of the local community who have an interest will participate in the excavations also. If non-archaeologists wish to participate for a longer period they would be trained as are the students, and fully supervised.

Logistics

Logistical support will be provided by Trim Town Council, and further back-up can be provided by the IAFS if necessary, for additional personnel or equipment if required.

Finds and samples

All archaeological finds and samples will be stabilized, bagged and recorded according to NMI guidelines. Conservation and specialist analysis will be undertaken by the persons named below if required. Finds, samples and excavation archive will be stored in the IAFS offices, until after the completion of the report. Finds will ultimately be housed in the NMI.

Conservation

The IAFS retain the services of a number of finds conservation specialists, including Ms Susannah Kelly of the Archaeology Dept, UCD and Cardiff University Conservation Laboratory.

Specialists

The IAFS retain the services of a number of specialists, Dr. Fiona Beglane, (animal bone), Susan Lyons, (soils) and Dr Stephen Mandal (stone – in house).

Constraints

Safety Hazards – The IAFS safety statement of practices will be complied with regard to trench depth and distances from existing structures.

Reporting

A full report outlining background, methodology and results of the investigation, shall be forwarded to the NMS, NMI and to the Local Authority at the end of every season. When the programme is completed it shall be fully published, but it is envisaged that interim publications of both scholarly and popular nature shall appear at regular intervals. It is also intended to maintain and update a section on social media platforms devoted to the research project.

Figure 1: LiDAR Image of the site showing current cuttings and area of GPR Survey, where proposed new cutting will be located.

Appendix 2

Faunal report on the Black Friary site

(prepared by Fiona Beglane)

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Report

On

Faunal Material

From

Black Friary, Trim

Ministerial Consent C420

Registration No. E4127

Date: 11 December 2016

Contents

1 Introduction

The ongoing excavation at Black Friary, Trim, Co. Meath is being undertaken by Irish Archaeological Field School (IAFS) under the direction of Finola O'Carroll. This preliminary report covers faunal material from cuttings completed between 2010 and 2015 and from test trenching undertaken in the eastern portion of the site during 2014. It should be noted that these results are preliminary since some aspects of phasing and dating may be modified as a result of ongoing and future excavation findings. Furthermore, when excavation is complete it will be necessary to consolidate results from all phases of the project into a single report and create a site-wide interpretation of the faunal remains.

2 Methodology

2.1 Phasing of the site

Contexts were divided on the basis of the stratigraphic sequences provided by the excavators (Appendix 1). Phases were classified as follows: high medieval, late medieval, medieval, post-medieval, early modern and modern. In addition, some material came from test trenches that were classified as having no archaeological significance and some material could not be closely dated and was classified as high medieval-to-post medieval or as medieval-to-post medieval or was of unknown phase. All of these phases will be subject to refinement and modification in the light of ongoing and future excavation findings. Material was received from Cuttings 1, 4, 5, 8, 11 and 12 and from test trenches 1, 2 and 4. In addition, a quantity of topsoil material was scanned for overall species distribution, presence of species not otherwise noted and comments on any matters of interest.

2.2 Mammalian Remains

Mammalian faunal remains were identified using comparative collections and by reference to Hillson (1992) and Schmid (1972). Remains were quantified using a method modified from that described by Davis (1992), using selected skeletal elements where at least 50% of the diagnostic feature is present. This avoids the possibility of counting the same element on multiple occasions. Ribs and vertebrae apart from the axis and atlas are not included, since these can be difficult to identify to species, however these were quantified as number of fragments in categories of large mammal (LM), medium mammal (MM) and small mammal (SM). Elements quantified were as follows: antlers and horncores where these joined to the cranium and at the distal end, parietal cranium and cranium at the maxilla if at least two teeth were present, mandibular hinge or toothrow if at least one tooth was present, and loose teeth,

atlas (VC1) and axis (VC2), scapula at the glenoid process, pelvis at the ilium or ischium of the acetabulum, patella, calcaneus and astragalus, ulna at the articular surface and long bones where at least 50% of the proximal or distal articulation was present. Material from the topsoil was scanned for unusual species, worked bone and pathological bone, but was not fully recorded. The number of identified specimens (NISP) was calculated for each species based on these identifications. The minimum number of individuals (MNI) was calculated taking into account the side of the body but not states of fusion, sizes of bones and toothwear.

Sheep and goat bones were separated where possible using Boessneck (1969), Kratochvil (1969) and Payne (1969; 1985). Sexing was carried out using the shape of canine of pigs (von den Driesch 1976), presence of developed canines in horses, and the distal breadth (Bd) of the metacarpal of cattle (McCormick 1992). Fusion data was based on Silver (1963) and Reitz and Wing (1999, 76). For cattle and pigs, toothwear was recorded per Grant (1982) and Higham (1967) after Silver (1963). Toothwear in sheep was examined using the method described by Payne (1973; 1987). Equids were aged as described by Levine (1982), dogs were aged using the data shown in Schmid (1972).

Measurements were carried out to an accuracy of 0.1mm per von den Driesch (1976), Boessneck (1969), Payne and Bull (1988, Fig. 1), Payne (1973, 296), and Davis (1992, Fig. 2). Estimated withers heights were calculated using Fock (1966) and Matolcsi (1970) for cattle, Vitt for equids, Teichert for original (*ur*) and early (*früh*) or unimproved sheep, and Teichert for pig, all cited by von den Driesch and Boessneck (1974). The withers height for dogs was calculated from Koudelka cited by von den Driesch and Boessneck (1974) and from Clark (1995).

Evidence for chopping, cutting and sawing were recorded, as was gnawing by canids and rodents. Burnt material was classified as singed for bone with only partial blackening, burnt for blackened bones or calcinated for those bones that were predominantly white/blue-grey in colour. For non-countable fragments these aspects were only recorded where obvious on a cursory inspection. Where pathologies, developmental defects and non-metric traits were identified on bones these were examined and recorded in further detail.

2.3 Molluscan remains

Molluscs were identified using Hayward and Ryland (1995) and Morris (1986) as well as by means of a reference collection. Gastropods were counted by the number of apices present, or, in the case of dogwhelks, by the number of apertures if this exceeded the number of apices. Bivalves were counted

by the number of umbones or hinges (Murray 1999, 185). Where only non-countable fragments were identified in a feature, an approximate fragment count was recorded, with the proviso 'NC'.

2.4 Nomenclature

Throughout the text the common names for species have been used. A translation of common to Latin names is shown in Table 1, based on Schmid (1972) and other sources.

Common Name	**Latin Name**
Cat	*Felis catus*
Cattle	*Bos sp.*
Dog	*Canis familiaris*
Field- or Woodmouse / House mouse	*Apodemus sylvaticus/Mus musculus*
Fox	*Vulpes vulpes*
Hare/ Rabbit /Lagomorph	*Lepus timidus/ Oryctolagus cuniculus* /Lagomorpha
Horse	*Equus sp.*
Pig	*Sus sp.*
Rat	*Rattus sp.*
Red Deer	*Cervus elaphus*
Sheep/Goat	*Ovis/Capra*

Table 1: Translation of Latin to Common Names

3 Results

3.1 Species present

Excluding the material in the topsoil there were a total of 3115 fragments present, and these yielded a Number of Identified Specimens Present (NISP) of 308 mammal elements. The species present were cattle, sheep/goat, pig, horse, dog, cat, red deer, rabbit, mouse, bird and fish (Figure 1, Tables 2, 3, 4). The preservation levels were mainly fair or good, as would be expected from an assemblage from the historic period. The largest samples came from the post-medieval period followed by the early modern period. The medieval period as a whole yielded only 46 countable mammal bones, limiting the interpretation that could be undertaken for the friary phase, and as noted in section 3.5 below, some of this material seems to be of later date. The material classified as late medieval, high medieval-to-post medieval and as medieval-to-post medieval or as of unknown phase was limited, with no countable fragments from the late medieval. The report will therefore focus on data from the medieval (including high medieval), post-medieval and early modern phases. Cattle elements were the most common in the medieval period, with very few pig bones present. The post-medieval portion of the assemblage was dominated by sheep, while in the early modern period pig elements were most frequently found. The most diverse period was the post-medieval, with a wide range of species present.

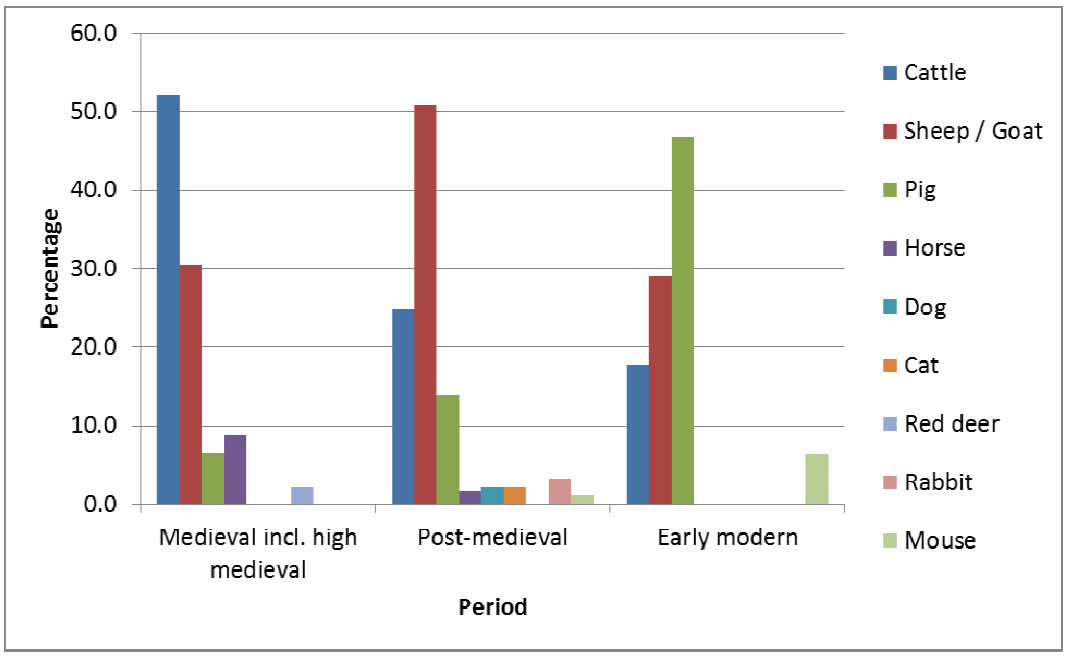

Figure 1: Number of identified specimens present (NISP)

	Total No. of frags	Cattle	Sheep / Goat	Pig	Horse	Dog	Cat	Red deer	Rabbit	Mouse	Total mammal	Bird	Fish

High medieval	99	5	5	1	2						13		
Late medieval	11												
Medieval incl. high and late	**563**	**24**	**14**	**3**	**4**			**1**			**46**	**16**	**4**
Med and high med to post-med	54		3	1							4	2	
Post-medieval	**1551**	**45**	**92**	**25**	**3**	**4**	**4**		**6**	**2**	**181**	**15**	**6**
Early modern	**783**	**11**	**18**	**29**						**4**	**62**	**34**	**1**
Modern	71	4	3	2	2						11	1	
No arch sig in test trenches	47	1	1		2						4		
Unknown	46												
Total	**3115**	**90**	**136**	**61**	**13**	**4**	**4**	**1**	**6**	**6**	**308**	**68**	**11**

Table 2: Number of identified specimens present (NISP)

	Cattle	**Sheep / Goat**	**Pig**
Medieval incl. high medieval	58.5	34.1	7.3
Post-medieval	27.8	56.8	15.4
Early modern	19.0	31.0	50.0

Table 3: Percentage NISP for the three main species

Phase	**Context size**	**LM rib**	**MM rib**	**SM rib**	**LM vert**	**MM vert**	**SM vert**
Medieval incl. high and late	563	20	18	2	13	5	
Post-medieval	1551	88	65	13	27	27	5
Med and High med to post-med	54	3	6		3	2	
Early modern	783	27	12	5	15	22	2
Modern	71	7	3		1	1	
No arch sig in test trenches	47	36					
Unknown	46	2	1		1		

Table 4: Summary of ribs and vertebrae

3.2 MNI

The minimum number of individuals was calculated for the three largest phases and the percentage MNI was then calculated for the three main species (Figure 2, Tables 5, 6). While this percentage can highlight differences in economic activity between phases, both the medieval and early modern samples were small so that comparisons should be treated with caution. This analysis showed that for the medieval period there were at least two cattle, two sheep/goat and one pig present. As with the NISP, the larger sample from the post-medieval period was dominated by sheep (58.3%) with cattle second at 25% and pig the least common of the three main food species. For the early modern period there were at least two each of cattle, sheep/goat and pig.

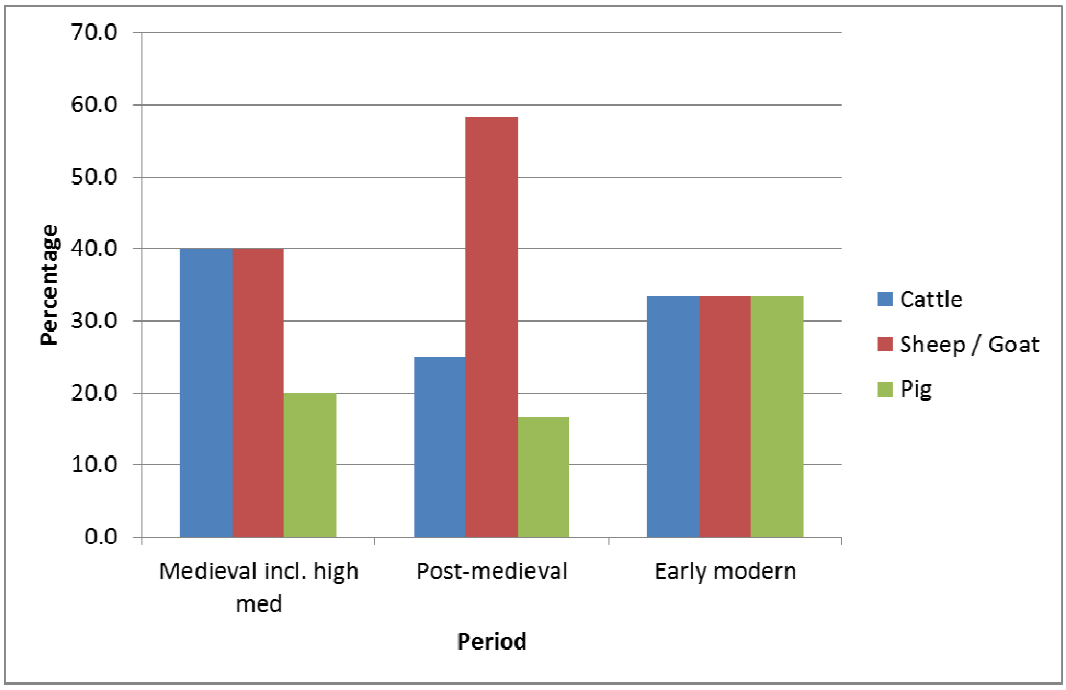

Figure 2: Percentage MNI for three main species

	Cattle	Sheep / Goat	Pig	Horse	Dog	Cat	Red deer	Rabbit	Mouse	Total
Medieval incl. high med	2	2	1	1	0	0	1	0	0	**7**
Post-medieval	3	7	2	1	2	1	0	2	1	**19**
Early modern	2	2	2	0	0	1	0	0	2	**9**

Table 5: Minimum number of individuals (MNI)

	Cattle	Sheep / Goat	Pig
Medieval incl. high med	40.0	40.0	20.0

Post-medieval	25.0	58.3	16.7
Early modern	33.3	33.3	33.3

Table 6: Percentage MNI for three main species

3.3 Topsoil analysis

Since the topsoil was being manually removed a decision was taken to scan this for overall species distribution, presence of species not otherwise noted and comments on any matters of interest. A total of 1478 fragments were identified and recorded, but only to the species level (Table 7). In addition to the species identified in the archaeological material, hare, fox and rat were also present, reflecting the recent disuse of the area, which has evidently provided a haven for wildlife. For the three main species, sheep/goat was the most common at 57.7%, with cattle less in evidence and pig in third position (Table 8). These proportions were extremely similar to those obtained for the post-medieval phase of occupation, suggesting that in many cases the topsoil contains material from this phase. A four-horned or polycerate sheep skull from this material is described in section 3.10. A total of 142 pieces of butchered bone were found in the topsoil (9.6%), of which the vast majority had been sawn, suggesting that they were of relatively recent origin. While the proportion of butchered bone is high compared to the assemblage as a whole, this is because the topsoil material was not a random sample, instead identifiable and visibly-butchered bones were selected from the mass of the topsoil material for disposal. The head of a bone pin or stylus was found in the topsoil material and is described in section 3.6 below. A small sample of marine molluscs from the topsoil included a number of species. In addition to those found in the archaeological assemblage, native oyster shells (*Ostrea edulis*) and an extremely large common whelk (*Buccinum undatum*) were also present, suggesting a change in emphasis in the recent past.

	Cattle	Sheep / Goat	Pig	Horse	Dog	Cat	Deer	Hare	Rabbit	Fox and dog/fox	Rats and mice	Bird	Fish
Number	282	643	190	51	44	18	1	6	21	20	32	139	31
Percentage	19.1	43.5	12.9	3.5	3.0	1.2	0.1	0.4	1.4	1.4	2.2	9.4	2.1

Table 7: NISP and NISP percentage in the topsoil

	Cattle	Sheep / Goat	Pig
Number	282	643	190
Percentage	25.3	57.7	17.0

Table 8: NISP percentage in the topsoil for the three main species

3.4 Survival of elements

Survival of the different skeletal elements was examined by relating the quantity of a particular bone to the MNI for that phase. Theoretically it should be possible to recover all parts of animals butchered on a site, however, some elements may be used in craft-working, joints of meat may be brought to, or removed from the site, soil conditions may lead to differential levels of preservation and butchery techniques and gnawing by animals may result in fragmentation or removal of some elements (Davis 1987, 27-28). Brain (1967) compared the proportions of different goat bones from the waste disposal areas around a Hottentot village in Namibia and found that the more robust bones survived best, and so would, in time, become part of the archaeological assemblage. Comparison with Brain's figures allows discrepancies to be examined.

For cattle, bones from the medieval phase were limited but broadly follow Brain's pattern, with high proportions of ulnae and metapodials surviving (Figure 3). The sample size for the post-medieval was more representative and in this case the robust bones of the feet were well-preserved, while the long-bones had poorer preservation. This is likely to be due to the smaller bones being less likely to be broken up over time by being crushed. The early modern bones show no particular pattern and were limited in number. For sheep the medieval and post-medieval assemblages generally follow Brain's patterning with good survival of distal tibiae, distal humeri and metacarpals. Again the early modern sample was too small to show any particular pattern (Figure 4). Pig bones were very limited in the assemblage and little can be said beyond a statement that all parts of the carcass appeared to be present in the post-medieval and early modern periods (Figure 5).

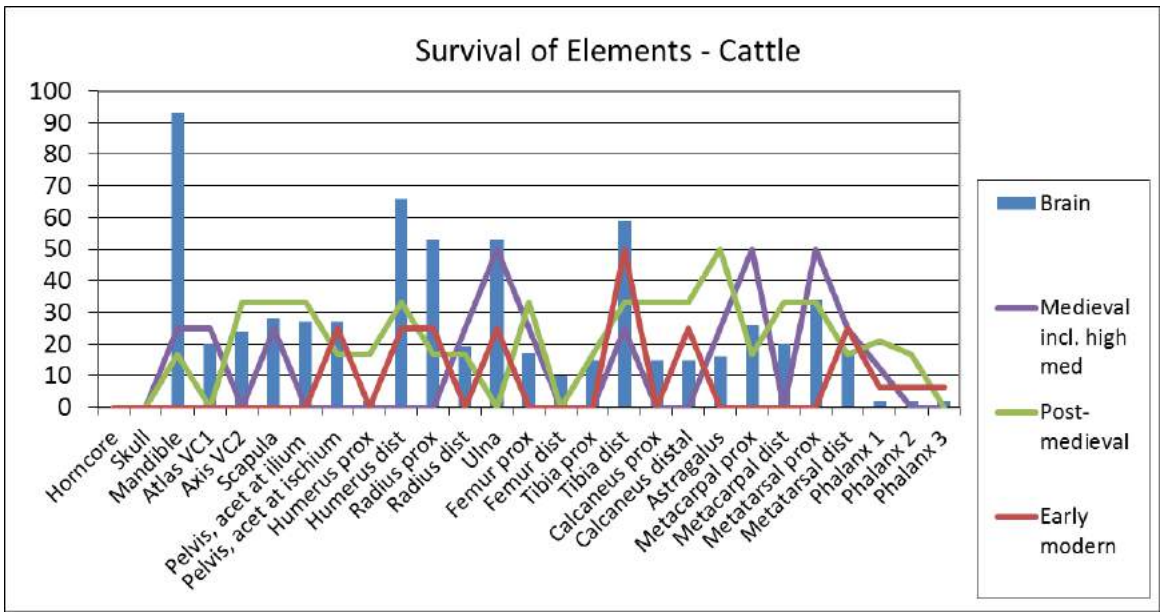

Figure 3: Survival of elements – cattle

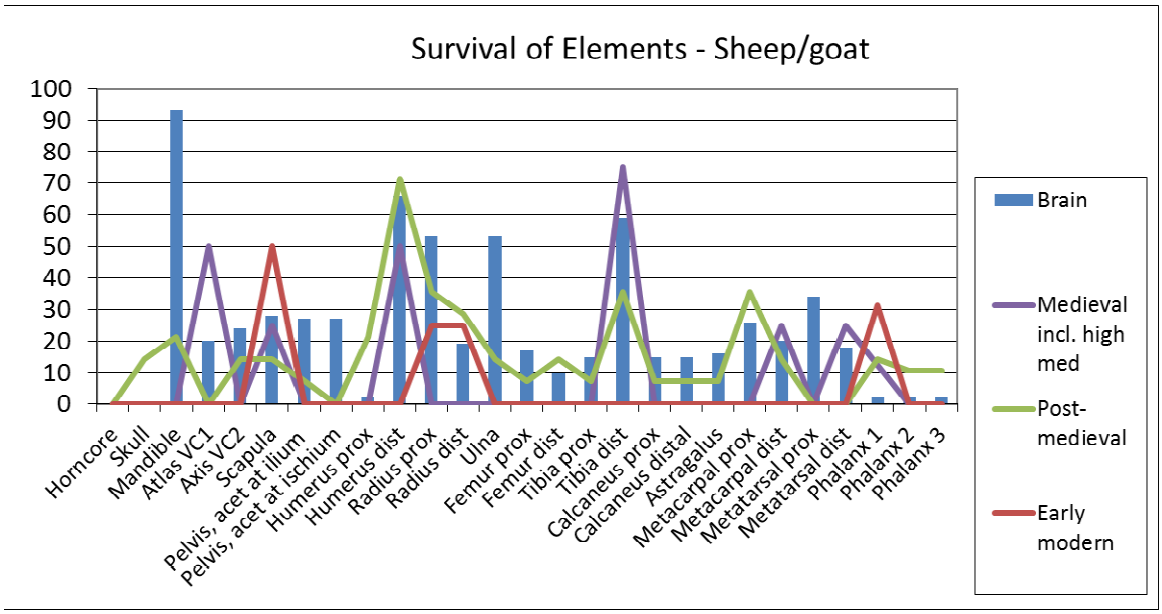

Figure 4: Survival of elements – sheep/goat

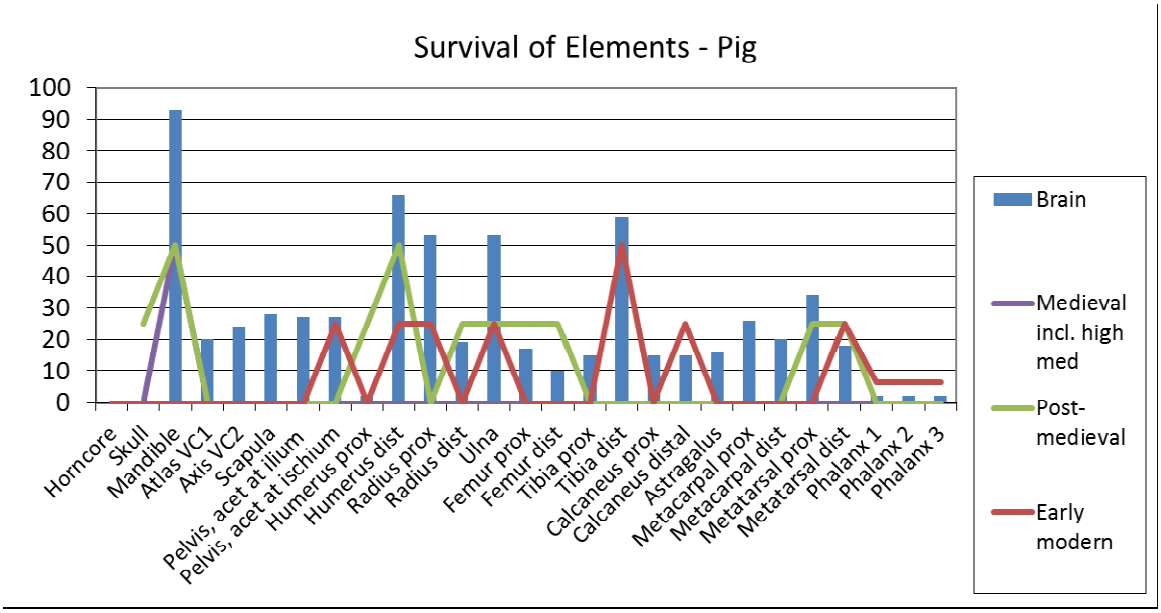

Figure 5: Survival of elements – pig

3.5 Butchery

While the majority of bones from this assemblage represent food waste, most bones will not show the tool marks of butchery, since a skilled butcher or cook will aim to avoid blunting his or her tools on the bones. Due to the increased availability of high-quality steel more recent butchery usually shows increased evidence for butchery marks, with speed rather than technique becoming more important. In particular, sawing of bone during the butchery process is most usually regarded as a post-medieval and modern technique, with medieval and earlier carcasses generally being dismembered using axes.

Forty-three bones were identified with butchery marks, representing 1.4%, 1.4% and 1.1% of the total number of fragments from the medieval, post-medieval and early modern periods respectively (Table 9). Eleven bones had cut marks visible. Cut marks are caused when a knife is used to fillet meat from the bone or to cut through ligaments and tendons as part of the dismemberment process. As expected, these were present through all the main phases of activity, with the highest numbers in the early modern material.

Twenty-one bones had chop marks or were likely to have been chopped. Chop marks are created using axes and are usually associated with dismemberment of a large carcass into smaller portions for storage, preservation and cooking. Due to the large size of cattle compared to sheep and pigs, it was expected that the majority of chop marks would be on cattle or 'large mammal' ((LM) bones, and this was indeed the case. Chop marks appeared through all of the main phases of activity.

As described above, it was expected that sawing would be encountered only in the early modern, and possibly the post-medieval deposits, however this butchery technique was also in evidence in the medieval deposits. F1115 was a fill of a medieval grave, but it had been disturbed by a post-medieval gully. F1204 was a later fill of a medieval ditch and so again this material may have been of later origin. TT4.0 yielded evidence for a medieval ditch; however it is unclear from which fill the sawn bones came. As such, the likelihood is that these, as with the sawn bones from medieval contexts are actually later intrusions.

Phase	Context	Species	Element	Side	Part present	Butchery	Comments
H med	503	MM	Rib	U		Chop	Chop and chop through on medial side at right angles to line of bone.
Med	TT4.0, sample T4.0.01	Cattle	Atlas (VC1)	R	Distal	Sawn	Sawn through to side.
Med	1115	Cattle	Pelvis	L	Other	Sawn	Part of acetabulum at ischial end. Sawn and sawn through on ischium to remove this. Dismemberment.
Med	1204	Cattle	Astragalus	L	Prox and dist	Cut	3 pcs. Multiple diagonal cuts on medial side. Dismemberment
Med	1115	LM	Frag of trabecular bone	U		Sawn	Frag of trabecular bone. Sawn through obliquely.
Med	1204	LM	Vertebra	U		Sawn	Sawn through to side it and also sawn through at right angles to line of spine to dismember.
Med	1115	LM	Vertebra	U	Other	Sawn	Sacral vert. Sawn through on both cranial and caudal ends to leave a slice in the middle and sawn through to side it.
Med	TT4.0 sample T4.0.01	Sheep	Tibia	R	Distal	Sawn	Sawn towards top of shaft to remove proximal end.
P med	511	Cattle	Astragalus	R	Proximal	Chop	Chopped through obliquely to remove distal end of plantar face

P med	511	Cattle	Axis (VC2)	L	Prox and dist	Chop	Sided. No visible chop marks
P med	505	Cattle	Axis (VC2)	L	Proximal	Chop	Chopped to decapitate and chopped-and-broken through to side.
P med	511	Cattle	Calcaneus	R	Prox and dist	Chop	Chopped through to remove facies articularis anterior.
P med	510	Cattle	Metatarsal	R	Proximal	Chop and cut	Multiple chop and cut marks across bone on plantar surface - skinning.
P med	511	Cattle	Astragalus	R	Prox and dist	Cut	2 small cut marks going across at distal end on dorsal side
P med	511	LM	Tibia	U	Other	Chop	Chopped through obliquely.
P med	511	LM	Tibia	U	Other	Chop	Chopped across line of bone.
P med	511	LM	Rib	U	Other	Chop	Chop and break across direction of rib.
P med	511	LM	Vertebra	U	Other	Chop	Sided
P med	511	LM	Rib	U	Other	Chop	Chop and chop through at right angles to line of bone
P med	510	LM	Rib	U	Other	Chop	Chop and chop through across rib.
P med	1118	LM	Pelvis	U	Other	Sawn	Iluim sawn through twice to produce slice.
P med	1118	LM	Scapula	U	Other	Sawn	Scapula blade. Sawn through across blade in two places 42mm apart. Also part sawn at one end. Dismemberment/portions.
P med	1118	LM	Vertebra	U	Other	Sawn	Sawn through.
P med	510	LM	Frag of flat bone	U	Other	Cut	Cut mark
P med	511	MM	Humerus	L	Other	Chop	Chop and chop through to remove distal artic.
P med	511	MM	LB	U	Other	Chop	Multiple chop marks across bone.
P med	511	MM	Scapula	U	Other	Chop	chop mark
P med	109	MM	Vertebra	U	Other	Chop	Sided. No chop marks visible.
P med	511	MM	Rib	U	Other	Cut	3 cut marks across bone on lateral

							surface
P med	511	LM/MM	Frag of flat bone	U	Other	Cut	2 cut marks
E modn	509	Cattle	Pelvis	L	Distal	Chop	Glancing chop marks on medial surface - deboning.
E modn	509	Cattle	Radius	R	Proximal	Chop	Joined to ulna. Heavily hacked.
E modn	509	Cattle	Ulna	R	Other	Chop	joined to radius. Heavily hacked.
E modn	104	LM	Radius	U	Other	Sawn	Sawn through obliquely.
E modn	506	LM	Rib	U	Other	Cut	Cut marks on lateral surface.
E modn	506	LM	Rib	U	Other	Cut	Cut marks on both lateral and medial surface.
E modn	506	LM	Rib	U	Other	Cut	Cut marks on lateral surface.
E modn	119	MM	Scapula	L	Other	Sawn	Sawn through obliquely at neck of scapula.
E modn	509	Unknown	Unknown	U	Other	Chop	Chopped
Modn	809	MM	Vertebra	U	Other	Chop	Sided
NAS	TT2.6 (WEST)	Horse	Calcaneus	L	Distal	Cut	Series of cut marks on articular surfaces. Dismemberment to remove foot.
Unknown	522	Sheep / Goat	Tibia	R	Other	Cut	Two chop marks on dorsal face across bone

Table 9: Summary of butchery marks

3.6 Craftworking

Only one piece of worked bone was identified in the assemblage. This was the head of a bone pin or vellum pricker, found amongst the topsoil (Plate 1). This artefact was made from turned cortical bone from a large mammal, probably from a long bone shaft. The pin had a spherical head of maximum diameter 4.6mm, and height of 4.4mm. The shaft had a maximum diameter of 3.4mm close to the head, tapering to 3.0mm.

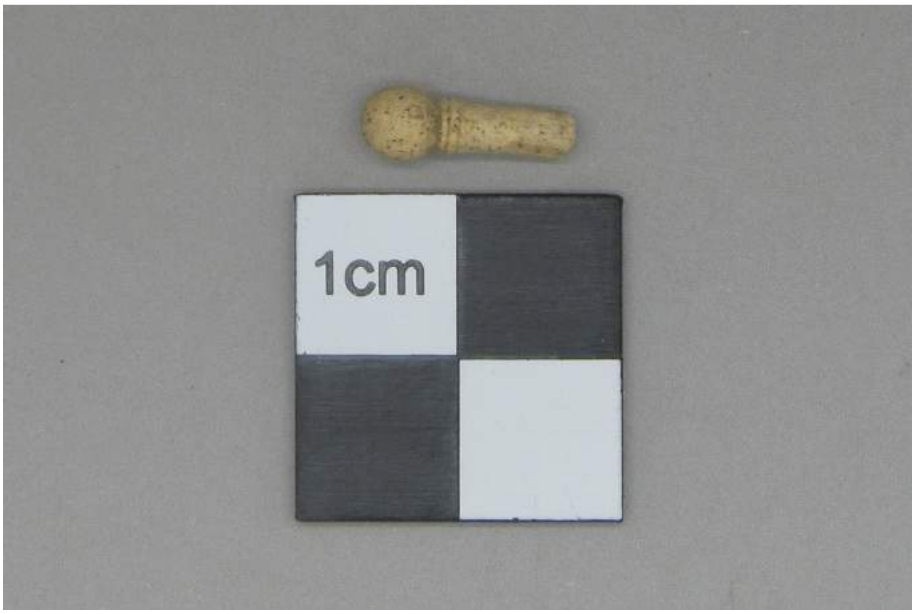

Plate 1: Bone pin or stylus

3.7 Burning

Only six fragments of burnt bone were identified, suggesting that this was not a common way of disposing of waste at Black Friary (Table 10).

Phase	Context	Species	Element	Side	Part present	Burning
H med	503	Sheep/goat	Humerus	L	Distal	Singed
H med	503	LM/MM	Long bone	U	Other	Calcinated
H med – P med	513	LM	Tibia	U	Distal	Singed
E modn	509	Unknown	Trabecular bone	U	Other	Calcinated
E modn	514	LM	Long bone	U	Shaft	Burnt
NAS	TT2.8 (EAST)	LM	Tibia	R	Proximal	Singed

Table 10: Summary of burnt bone

3.8 Gnawing

Thirty-six bones from all of the major phase of activity had been gnawed by carnivores. No evidence for rodent gnawing was found. These modest levels of gnawing suggest that waste was usually covered on disposal, rather than being left open to the elements and available to scavengers (Table 11).

Phase	Context	Species	Element	Part present	Gnawing
H med	403	LM	Long bone	Other	Carnivore
H med	503	LM	Rib	Other	Carnivore
H med	503	LM	Rib	Other	Carnivore
Med	1115	Cattle	Pelvis	Other	Carnivore
Med	123	Cattle	UL	Other	Carnivore
Med	1204	LM	Vertebra	Other	Carnivore
Med	TT1.0	LM (Horse?)	Pelvis	Proximal	Carnivore
Med	810	MM	Long bone	Other	Carnivore
P med	511	Cattle	Calcaneus	Prox and dist	Carnivore
P med	511	Cattle	Calcaneus	Distal	Carnivore
P med	511	Cattle	Femur	Other	Carnivore
P med	808	Cattle	Humerus	Distal	Carnivore
P med	511	Cattle	Metacarpal	Proximal	Carnivore
P med	511	Cattle	Metapodial unknown	Other	Carnivore
P med	505	Cattle	Radius	Distal	Carnivore
P med	511	LM	Femur	Other	Carnivore
P med	505	LM	Long bone	Other	Carnivore
P med	808	LM	Rib	Other	Carnivore
P med	510	LM	Rib	Other	Carnivore
P med	511	LM	Tibia	Other	Carnivore
P med	511	LM	Unknown	Other	Carnivore
P med	1118	LM	Vertebra	Other	Carnivore

P med	511	MM	Long bone	Other	Carnivore
P med	511	Pig	Humerus	Distal	Carnivore
E modn	514	Cattle	Metatarsal	Other	Carnivore
E modn	508	LM	Humerus	Proximal	Carnivore
E modn	804	LM	Long bone	Other	Carnivore
E modn	509	LM	Long bone	Other	Carnivore
E modn	804	LM	Trabecular bone	Other	Carnivore
E modn	509	MM	Long bone	Other	Carnivore
E modn	506	MM	Pelvis	Other	Carnivore
E modn	119	MM	Scapula	Other	Carnivore
E modn	509	Sheep/goat	Radius	Proximal	Carnivore
E modn	509	Sheep/goat	Radius	Other	Carnivore
E modn	509	Sheep/goat	Radius	Other	Carnivore
NAS	TT2.6 (WEST)	Horse	Ulna	Other	Carnivore

Table 11: Gnawed bones

3.9 Cattle Data

The age of animals at slaughter can be assessed by bone fusion and by tooth eruption and wear. Data is extremely limited and cannot be considered to be statistically valid.

For the medieval period, fusion data shows the presence only of animals aged under-36 months (Table 12). This is borne out by the tooth data, which includes deciduous teeth as well as one first or second molar at wear stage 'd', an early stage. This age range suggests slaughter for prime meat. For the post-medieval period, fusion data shows that both young animals aged under-30 months and adult animals are present. One first or second molar is at wear stage 'g', indicative of an animal of c. 2- 3 years of age. For the early modern period fusion data shows that there is one animal aged under-18 months as well as at least one older animal. Metrical data is shown in Table 13.

Skeletal Element	Age at fusion (Months)	Med (incl. high med)		Post-medieval		Early modern	
		Fused	Unfused	Fused	Unfused	Fused	Unfused
Metatarsal prox	before birth	2		2			
Metacarpal prox	before birth	2		1			
Scapula	7-10	1		2			
Pelvis prox	7-10			1			
Pelvis dist	7-10			1		1	
Humerus dist	12-18			2			1
Radius prox	12-18			1		1	
Phalanx 1	18-24	2		5		1	
Phalanx 2	18-24			4		1	
Metacarpal dist	24-30			1	1		
Tibia dist	24-30	1			2		
Metatarsal dist	27-36		1	2		1	
Calcaneus prox	36			1	1		
Femur prox	42		1	2			
Humerus prox	42-48			1			
Radius dist	42-48		1		1		
Ulna	42-48		1				
Femur dist	42-48						
Tibia prox	42-48			1			

Table 12: Cattle fusion data

Phase	Element	GL	GLl	Bp	SD	Bd	BFdm	BFdl	Ddm	Ddl	DtL	DtM	DL	B@F
Med	Astragalus		64.2			38.3							35.0	
P med	Astragalus		59.1			37.0							32.8	
P med	Astragalus		58.6			39.6							33.1	
Modn	Astragalus		60.4			36.5								
P med	Calcaneus	114												
Med	Metacarpal			50.5										
Med	Metacarpal			48.7	28.7									
P med	Metacarpal			49.7	28.1									
P med	Metacarpal					47.6	22.7	21.7	29.1	27.5	20.4	21.8		43.7
Med	Metatarsal			36.9										
P med	Metatarsal	200			21.6		21.7	19.9	27.2		18.6	20.5		41.9
P med	Metatarsal					50.2	24.8	22.5	29.6		19.7	21.6		
E modn	Metatarsal					46.0	22.6	20.8						42.7

Table 13: Cattle metrical data

3.10 Sheep/Goat data

As with cattle the age of animals at slaughter can be assessed by bone fusion and by tooth eruption and wear. Again data is extremely limited and cannot be considered to be statistically valid.

In the medieval period fusion data shows that there is at least one individual aged under-8 months as well as older animals (Table 14). Tooth data also shows the presence of older animals (Table 15). For the post-medieval period fusion shows that both juvenile and adult animals are present. A mandible from an individual aged 4-8 years suggests a breeding ewe or ram that was slaughtered when no longer viable to keep. Another mandible and a loose tooth are from a lamb aged 2-6 months and in addition two unworn incisors and a dP4 at stage 2A are likely to be from very young lambs, suggesting that these may have been natural deaths. For the early modern period the state of fusion showed that the bones were from both lambs and older individuals while a single dP4 at stage 22L was from an animal aged 1-2 years. Metrical data is shown in Table 16.

Skeletal Element	Age at fusion (Months)	Medieval (incl high med)		Post-medieval		Early modern	
		Fused	Unfused	Fused	Unfused	Fused	Unfused
Metapodium prox	before birth			5			
Humerus dist	3-10	2		9	1		
Radius prox	3-10			4	1	1	
Scapula	6-8		1	2		1	1
Pelvis prox	6-10				1		
Pelvis dist	6-10						
Phalanx 1 and 2	6-16	1				2	1
Tibia dist	15-24	3		4	1	2	
Metapodium dist	18-28	2			2	1	1
Calcaneus prox	30-36				1		
Ulna proximal	36-42						
Femur prox	30-42				1		
Humerus prox	36-42				1		
Radius dist	36-42			1	4		1
Femur dist	36-42				2		
Tibia prox	36-42				1		

Table 14: Sheep/goat fusion data

Phase	Context	Species	Element	dp2	dp3	dp4	P2	P3	P4	M1	M2	M3
Post-medieval	511	Sheep / goat	Mandible				A	P	12S	15A	11A	X
Post-medieval	511	Sheep / goat	Mandible	U	P	7M				E		

Table 15: Sheep/goat mandible data

Phase	Species	Element	Side	GLl	Bp	SD	Bd	BT	HTC	BFdm	DL
P med	Sheep/goat	Astragalus	R	25.7			17.3				14.6
H med	Sheep/goat	Humerus	L					28	13.8		
P med	Sheep/goat	Humerus	R					25.6	12.6		
NAS	Sheep/goat	Metacarpal	R		19.9	12.6				10.2	
P med	Sheep/goat	Metacarpal	R		20.1						
P med	Sheep/goat	Tibia	L				25.3				
P med	Sheep/goat	Tibia	L				23.2				
P med	Sheep/goat	Tibia	L				22.6				
P med	Sheep/goat	Tibia	R				24.1				
Med - P med	Sheep	Humerus	R					26.5	14.3		
P med	Sheep	Humerus	L				25.8	12.7			
P med	Sheep	Humerus	L					26.6	12.5		
P med	Sheep	Humerus	L					26.5	13.8		
P med	Sheep	Humerus	L					26.5	12.4		
P med	Sheep	Humerus	L					24.8	13.1		
P med	Sheep	Humerus	L					24.6	12.5		
P med	Sheep	Humerus	R					24.9	13.6		
Med	Sheep	Tibia	L			12.1	20.7				
Med	Sheep	Tibia	R			12.6	23				
Med	Sheep	Tibia	R				26.5				
Modn	Sheep	Tibia	R				25.3				

Table 16: Sheep/goat metrical data

No evidence of goats was found in the assemblage. Of 131 sheep/goat elements, eighteen were confirmed as sheep.

A sheep/goat skull fragment from the post-medieval period had evidence of polling, which is the deliberate removal of the horn. This practice is usually carried out on young lambs/kids and leaves a scar on the skull. See section 3.18.

Non-metric traits are differences from the normal development of the skeleton, with genetic or developmental causes, but which generally have little or no adverse effect on the well-being of the individual. Recording these traits can be useful in tracing breeding patterns and strategies, including in- or out-breeding of stock. In this case a sheep/goat skull from the topsoil was from a four-horned animal (Plate 2). Polycerate sheep skulls were also found at the nearby monastic grange site of Stalleen, Co.

Meath and the later medieval monastic site of Bective Abbey, Co. Meath (Beglane 2012; 2016, 120). In addition, they have been identified at Ballinderry Crannog No.1, Co. Westmeath, Collierstown 1, Co. Meath, Moynagh Crannog, Co. Meath, Fishamble Street, Dublin and during the Waterford excavations (Foster 2009, 15; McCormick 1997, 829-30; McCormick and Murray 2007, 198).

Plate 2: Four-horned sheep skull

3.11 Pig data

3.11.1 Age at Slaughter

As with cattle and sheep/goat the age of animals at slaughter can be assessed by bone fusion and by tooth eruption and wear. Data is extremely limited and cannot be considered to be statistically valid.

For the high medieval period a mandible came from an individual aged 19-21 months(Table 18). This is the prime age for meat production in pigs from archaeological samples. For the post-medieval period fusion data (Table 17) also suggests that only juvenile animals are present, and while tooth wear data is not available, the presence of deciduous teeth in the assemblage supports this interpretation. For the early modern period fusion data shows that animals both under- and over-24-27 months are present. Tooth wear data includes two unworn loose dP4s from an individual or individuals aged under-7 weeks and a mandible from a pig aged 4-10 months. The younger age group probably represents the death of a piglet or piglets that failed to thrive, although it could also indicate the consumption of suckling pig. The older individual was probably slaughtered at the start of its first winter rather than its second winter, which would be more common.

Two female pig canines were identified in the assemblage, one from the medieval and one from the post-medieval period. Metrical data is shown in Table 19.

Skeletal Element	Age at fusion (Months)	Post-medieval		Early modern	
		Fused	Unfused	Fused	Unfused
Metapodium prox	before birth	1		2	2
Scapula	12				
Pelvis prox	12				
Pelvis dist	12				
Radius prox	12	1			
Phalanx 2	12		1		
Humerus dist	12-18	1	1		2
Phalanx 1	24				
Tibia dist	24				
Metapodium dist	24-27		1	2	2
Calcaneus prox	24-30				
Ulna proximal	36-42				1
Femur prox	42				1
Humerus prox	42		1		1
Radius dist	42				1
Femur dist	42		1		1
Tibia prox	42	1			

Table 17: Pig fusion data

Phase	Context	Species	Element	Side	dc	I2	I3	dp2	dp3	dp4	M2	M3
Medieval	123	Pig	Mandible	R							c	U
Post-medieval	511	Pig	Mandible	L	A	A	A	U	P	X		
Early modern	507	Pig	Mandible	L				A	P	e		
Early modern	506	Pig	Mandible	R					A	U		

Table 18: Pig mandible data

Phase	Element	GL	GLl	Bp
P med	Astragalus		40.9	
E modn	Metacarpal 4	64.1		
P med	Radius			26.9

Table 19: Pig metrical data

3.12 Horse data

Eleven horse elements were recovered from a variety of contexts and phases. As horses are not usually eaten in Europe their remains can often be found in articulated or semi-articulated groups, however this was not the case at Black Friary. Dead horses did however, have an economic value as they were often skinned to make leather. The majority of elements at Black Friary were from the head or feet, suggesting that these may have been the waste from skin processing. In support of this, a calcaneus

from test trench TT2.6 (west), had a series of cut marks on the articular surfaces that would have been caused during dismemberment to separate the foot from the leg (see section 3.5). Metrical data is shown in Table 20.

Phase	Element	Bp	SD
H med	Metacarpal	48.7	
H med	Phalanx 1		34.1

Table 20: Horse metrical data

3.13 Dog data

As with horses, animals such as dogs and cats are usually found in groups of articulated or semi-articulated bones rather than individually. This is because they are rarely eaten in Europe and so carcases are disposed of whole, often by being thrown into a ditch or pit. Only four dog bones were found in the assemblage, all from the post-medieval period. Three of these were from Cutting 1 and one from Cutting 5. All were from adults. Metrical data is shown in Table 21.

Phase	Element	GL	DD	Bd
P med	Metacarpal 3	55.4		
P med	Tibia		18.5	27.3

Table 21: Dog metrical data

3.14 Cat data

Four bones from an adult cat were found as a group in a post-medieval context in Cutting 11, suggesting that these are the remains of a single individual, disposed of onto unused ground. There was also a single cat bone from an early modern context in Cutting 1. Metrical data is shown in Table 22.

Phase	Element	GL
P med	Metatarsal 3	44.6

Table 22: Cat metrical data

3.15 Deer data

Based on size, a deer radius from a medieval context in Cutting 5 was from an adult male red deer. This had green staining at the proximal end, suggesting that it had been in contact with a copper object in the soil. Hunting manuals of the period state that the left shoulder of the carcass should be given to the person doing the 'unmaking' or dismembering and the right shoulder to the forester (Beglane 2015, 16). This meat-bearing bone is evidence that the friars had access to venison, potentially as an offering

donated by the forester of the forest of Trim. The only other deer bone present was a phalanx or toe bone found in the topsoil. Metrical data is shown in Table 23.

Phase	Element	Bp
Med	Radius	49.6

Table 23: Red deer metrical data

3.16 Lagomorph data

Hares and rabbits are both members of the order Lagomorpha and are very similar in form. While hares are native to Ireland, rabbits were introduced by the Anglo-Normans (McCormick 1991). Only six rabbit bones were found in the archaeological assemblage, all from the post-medieval period. Four metatarsals found as a group in Cutting 11 represent a single rabbit's foot. While these were probably separated from the rest of the carcass and discarded during butchery, it is also possible that they represent a 'lucky rabbit's foot' that was lost on the site. The tradition of using rabbits feet as amulets is not well recorded, however Ellis (2002, 58) notes that in Britain it dates back to at least 1584 when Reginald Scot commented that hare or rabbit's feet were carried to ward off cramps and arthritis. Hare was only present in the topsoil. Metrical data is shown in Table 24.

Phase	Element	GL
P med	Metatarsal 2	34.0
P med	Metatarsal 4	34.5

Table 24: Rabbit metrical data

3.17 Rodent data

Two types of mouse are present in Ireland, the house mouse (*Mus musculus*) and the field- or woodmouse (*Apodemus sylvaticus*). Both are similar in form, and can often not be told apart. Two mouse bones were identified amongst the post-medieval material in Cutting 5 and four in the early modern material in Cuttings 1 and 5. Rats were absent from the archaeological levels but were found in the topsoil. This absence of rodent infestation in the medieval period and the low level in the post-medieval period suggest a lack of opportunistic food sources in and around the Friary, and this is supported by the lack of evidence for rodent-gnawed animal bones in the assemblage. Given the presence of substantial numbers of burials in the grounds, the low numbers of rodents may indicate that corpses were well-buried, rather than exposed to the elements. However, in conversation with the excavators it emerged that bones of microfauna such as rodents may not always have been systematically retained and this may therefore mean that these species are under-represented.

3.18 Pathologies

All recorded pathological bones were from the post-medieval phase of activity (Table 25). One cattle and one sheep/goat metacarpal had a lesion on the medial portion of the proximal articulation. This is known as *osteochrondritis dissecans* and is caused by herniation or rupturing of the cartilage at the articular surface of the bone (Rajkovača 2009). It has been linked to rapid growth, over-nutrition, mineral imbalance, and trauma (Aiello and Moses 2011). A loose deciduous horse incisor had a groove worn through the enamel close to the gum line (Plate 3). This is likely to have been caused by repeatedly pulling grass through the gaps in the teeth. A sheep/goat skull fragment had evidence of polling, which is the deliberate removal of the horn (Plate 4). This practice is usually carried out on young lambs/kids and leaves a scar on the skull.

Phase	Context	Species	Element	Side	Part present	Comments
P med	511	Cattle	Metacarpal	L	Proximal	*Osteochrondritis dissecans* on medial side of articulation
P med	511	Sheep/goat	Metacarpal	R	Proximal	*Osteochrondritis dissecans* on medial side of articulation
P med	808	Horse	Loose deciduous incisor tooth	U		Well worn. Groove at base of tooth - caused by pulling grass
P med	511	Sheep/goat	Cranium	L		Polled - scar from horn removal

Table 25: Pathological elements

Plate 3: Horse incisor with abnormal wear

Plate 4: Polled sheep/goat cranium

3.19 Molluscs

Only a few marine molluscs were identified in the assemblage, but as with rodents it may be that these were not being systematically collected. The species identified were cockles and mussels (Table 26). While the numbers are limited, their presence at Black Friary, some 40km from the nearest coast demonstrates relatively long-distance trading links in the post-medieval and early modern period. Notably, the topsoil also contained native oyster shells (*Ostrea edulis*) and an extremely large common whelk (*Buccinum undatum*), suggesting a change in emphasis in the recent past.

Phase	Context	Common cockle	Mussel	Land snail
		Cerastoderma edule	***Mytilus edulis***	***Oxychilus sp.***
Post-medieval	511		1	
Early modern	509	1 NC		1
Early modern	804	1	1nc	

Table 26: Mollusc remains

4 Discussion

This was a relatively small assemblage, and most of the material dated to the period after the friary went out of use. As such, it provides only limited evidence for diet and economy in the friary, but does give an insight into activities in the surrounding town.

The medieval portion of the assemblage is associated with the period of use of the friary. This material is limited and so caution must be exercised in interpreting this phase of activity. There is also evidence that some material classified as medieval may date to a later period, however some comments can be made. Since the areas under excavation to date have included the church, cloister and ambulatory (O'Carroll 2010; 2014; O'Carroll et al 2016), it would be reasonable to assume that while in use these areas were kept clean and tidy. As such, the small size of the assemblage was to be expected. The assemblage was dominated by the three main domesticates: cattle sheep/goat and pig, with horse and red deer also present as well as bird and fish bones. As with other orders of monks and friars, the Dominicans were meant to abstain from meat and have a frugal diet, however the evidence from Black Friary, as with that from the nearby Cistercian Abbey at Bective (Beglane 2016) suggests that this was not the case, with meat evidently being consumed at the friary.

During the post-medieval period the site of the friary continued to be used for burials and some of the buildings may have been used as farm buildings (O'Carroll 2014; O'Carroll et al 2016). Much of the material in the faunal assemblage dates to this period. A wider diversity of species is present, with dog, cat, rabbit and mouse bones also being found. There is also considerable evidence for butchery and cooking waste from the three main domesticates being disposed of in and around the friary. A range of body parts are present, including heads and feet, which are separated from meat-bearing elements early in the butchery process. Also present are more meaty elements such as the long bones, ribs and vertebrae, many of which bear signs of sawing and chopping into portions suitable for cooking. It may well be that the disused friary was a convenient location for town-dwellers and tradespeople to deposit waste. There is a noticeable dominance of sheep/goat bones in the post-medieval assemblage which is unusual for sites in Ireland and it will be interesting to see if this trend continues as the excavation develops.

Material from the early modern period is also limited but again is dominated by the three main food species, and again there is evidence that the friary was used as a dumping ground for waste from the town. The presence of limited numbers of marine molluscs from the post medieval and early modern

deposits is interesting given the inland location of Trim. These would have had to have been transported while still alive and so can be considered to have been relatively high-status foods before the advent of motorised transport. This highlights the value placed on diversity in the diet and may also be evidence of religious fast days when meat could not be consumed.

Brief analysis of the topsoil from the site has been useful. The proportions of the main species and the evidence from the butchered bone suggest that the majority of this material dates to the post-medieval period or later. The presence of a number of wild species attests to the wildlife value of open spaces within urban environments. Of most significance was the identification of a polycerate sheep skull and of the head of a bone pin or vellum pricker in this material.

5 Conclusions and recommendations

This preliminary report provides an insight into the faunal remains from Cuttings 1, 4, 5, 8, 11 and 12 and from test trenches 1, 2 and 4 at the site of the medieval Dominican Friary at Trim. However, the majority of the assemblage dates to the period after the Dissolution of the Monasteries. Results to date have identified the expected range of domestic species, with the bones of some wild species also recovered. Some unusual findings have included the skull of a four-horned sheep from topsoil and a very high proportion of sheep in the post-medieval period.

There is some evidence that very small bones may not always have been systematically retained up to now and it is recommended that these are actively collected. As well as rodents, the bones of birds and fish may otherwise be under-represented in the assemblage. Given the dietary rules of the medieval orders, it would be extremely valuable to maximise collection of bird and fish bones by extensive use of wet sieving. Furthermore, rodent bones can help to shed light on such matters as waste disposal practices and the uses of various buildings (Beglane 2016). For the same reasons it is recommended that marine mollusc shells are retained for analysis.

Bird and fish bones have been separated from the mammal bones and it is recommended that these be analysed by a specialist.

Some butchered bones recovered from the medieval assemblage appear to date to a later period. As such, the excavators may wish to reconsider the dating of some of the contexts currently deemed to be

medieval. It may well be that other aspects of phasing and dating may also be modified as a result of ongoing and future excavation findings. Furthermore, when the excavation is complete it will be necessary to consolidate results from all phases of the project into a single report and create a site-wide interpretation of the faunal remains. It is therefore recommended that all stratified material is retained for future reference and for future possible research into areas such as ancient DNA, stable isotope analysis and geometric morphometrics.

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Appendix 1: Context phasing

Context	Phase	Context	Phase
104	E modn	820	Med
107	E modn	1115	Med
108	E modn	1118	P med
109	P med	1126	Med
118	Possibly Modn	1128	Med
119	E modn	1131	Modn
123	Med	1204	Med
126	L med	FT101	Modn
131	Med	FT102	Med
132	P med	FT106	Med
403	H med	FT112	Med
503	H med	FT403	Modn
505	P med	TT1.0	Med
506	E modn	TT2.0	NAS
507	E modn	TT2.6 (west)	NAS
508	E modn	TT2.8 (east)	NAS
509	E modn	TT4.0	Med
510	P med		
511	P med		
513	H med - P med		
514	E modn		
516	Med		
517	Med		
519	unknown		
521	unknown		
522	unknown		
523	unknown		
525	Med		
804	E modn		
807	E modn		
808	P med		
809	Modn		
810	Med		
812	Med - P med		
818	P med		

Appendix 3

Burials recorded from Cutting 3 in the summer of 2016

Burial	Age	Condition	Location	Cut and Fill nos.	Association with other Burials	Description	Coordinates	Levels: metres OD
111	Adult	Incomplete	Cutting 3, Grid G	Cut [F3102]; Fill (F3103)	Below B.79 which was below B.84	The pelvis and maxilla had been partly exposed during previous excavation but remained in situ. Work to define the limits of the burial revealed a small quantity of DHB # 3.785, 3.786, 3.792 from F3104, including talus, calcaneus, ribs, lumbar vertebrae, and manubrium. An articulated, non-associated, left lower leg to the east (Burial 112) was uncovered during work to define extent of B111 which is roughly orientated along the east-west axis with skull to the west and is a supine, extended burial. Overall preservation is poor (bone condition deteriorated during washing and drying process). The burial's orientation differs slightly to previous burials recovered from the area which were more closely orientated along the east-west axis. The cranium was resting slightly on the right side, facing south, mandible and a number of cervical vertebrae were absent. Left arm was absent with exception of shoulder girdle, right arm present until elbow, right radius and ulna absent. Lower limbs and right os coxa were absent, it is likely that these were removed during the insertion of later juvenile burial (Burial 84) excavated from above Burial 111. Although there was disturbance to the arms and right os coxa the position of both hands could be established. The left hand was crossing the left ilium/sacrum, and the right hand was crossing the sacrum/pelvis. It is possible the hands were intertwined prior to disturbance. No vertebral bodies were recovered during excavation, this is thought to be a result of soil conditions in the area excavated. Despite the level of disturbance to B111 no evidence of intercutting was perceptible during excavation. Material present: right humerus, right clavicle, left clavicle, left scapula, right scapula, left os coxa, sacrum, left and right ribs, vertebrae, sternum, left and right hands, and cranium. Soil samples were collected from the pelvis, hands, and skull. Sample numbers 3,.329, 3.330, and 3.331. These samples will be sieved and materials recovered to be reunited with burial. Associated finds included three Fe objects, presumed nails recovered during excavation (bagged find numbers: 3.565, 3.566, and 3.570) and a small sherd of medieval pottery (bagged find number 3.589) was recovered from the pelvic sample.	Skull: 1025.17E; 929.44N. Pubis: 1026.04E; 929.66N	Skull: 61.345 Pubis: 61.32

Burial	Age	Condition	Location	Cut and Fill nos.	Association with other Burials	Description	Coordinates	Levels: metres OD
112	Juvenile	Incomplete	Cutting 3, Grid G	Cut [F3105]; Fill (F3106)	Below B.77	Burial 112 is the articulated lower leg of a juvenile, with evidence of epiphyseal fusion to the proximal and distal tibia. The limb is not associated with Burial 79 or 84, two individuals previously excavated from the surrounding area. Burial 112 lay immediately south of F3110, a linear stone feature consisting of a single course of regular stones thought to represent the remnants of a stone lined grave. The association between F3110 and Burial 112 is unclear. Work to define the limits of Burial 112 revealed that this burial was solely represented by left tibia, fibula, tarsals, metatarsals, and phalanges. Excavation to lift Burial 112 revealed six associated nails (bagged find numbers: 3.572, 3.573, 3.574, 3.575, 3.576, 3.577), the location of these are possibly indicative of Burial 112 being a coffined burial. Four of these nails were recovered from the area immediately east of the foot, one was recovered immediately north of the midshaft of the tibia, and the sixth was recovered from the west of the tibial plateau. Although most of the individual no longer remained in situ no evidence for intercutting was perceptible during excavation. The grave fill was not distinguishable from the surrounding general matrix F3104. The overall homogeneous nature of the soil at this level in Grid G hampers identification of individual cuts and fills. A soil sample was collected from around the foot (3.333). This sample will be sieved and materials recovered to be reunited with burial.	Proximal Tibia: 1026.31E, 930.10N Distal Tibia: 1026.64E, 930.10N Foot: 1026.74E, 930.12N	Tibia mid-ex level: 61.43 Tibia post-ex level: 61.37 Foot mid-ex level: 61.47 Foot mid-ex level: 61.37
113	Juvenile	Incomplete	Cutting 3, Grid H	Cut [F3108]; Fill (F3109)	Below B.99	Burial 113, a juvenile burial (approximately 2-3years) was revealed during initial trowel back of area immediately below the area where Burial 99 was excavated during the 2015 field season. The burial was represented by the left and right scapulae, proximal half of the left humerus, left and right clavicle, 2-3 vertebrae, 2-3 ribs, and a single tooth. It is thought that the burial was disturbed by the insertion of Burial 99 and excavation of this interment in the 2015 field season. DHB records reveal that a number of skeletal elements potentially associated with Burial 113 were lifted in association with Burial 99 (DHB numbers: 3.773, 3.774, 3.775, 3.776, 3.777, 3.778, 3.779, 3.780). During work to reduce and straighten the west facing baulk to the east of Burial 113, a number of articulated adult cervical vertebrae (1027.389e, 929.406n; 61.601) were uncovered. There was no	Central coordinate:1 026.31E, 929.24N	Central mid-ex level: 61.459 Central post-ex level: 61.427

Burial	Age	Condition	Location	Cut and Fill nos.	Association with other Burials	Description	Coordinates	Levels: metres OD
						immediate indication to suggest that the skull associated with these vertebrae had been lifted previously. Upon checking burial records for Grid H, it was concluded that this burial was previously undisturbed by excavation and that the skull was most likely disarticulated by the insertion of later burials in the area. A soil sample was collected from around the entire burial (3.334). This sample will be sieved and materials recovered to be reunited with burial.		
29	Adult	Incomplete	Cutting 3, Grid H	Cut [F3111]; Fill (3112)	Cut by B.99, cuts B.115	The cranium of Burial 29 was uncovered during work in the area in a previous field season, although documented the burial was left in situ. The cranium was covered and marked with a permatrace label. Work to define the extent of the burial revealed an articulated lower left leg to the south east, and a distal left humerus in articulation with radius and ulna. No further work was immediately conducted on these skeletal elements, and excavation was focused on Burial 29. Burial 29 represents an articulated, supine, extended burial of an adult. The left side of the burial was most likely disturbed by the insertion of Burial 99 to the north, disturbance to the right side of the burial was most likely caused by the insertion of Burial 21 to the south-east. Burial 29 was represented by cranium, right humerus, right clavicle, right scapula, right radius and ulna, right ribs, and vertebrae. The cranium was resting on the right side, facing south with mandible to the right of vertebral column. The right arm was flexed at the elbow with distal radius and ulna resting on a large stone and right hand absent. A soil sample was collected from around the skull (3.335). This sample will be sieved and materials recovered to be reunited with burial.	Skull: 1026.28E, 928.86N Right proximal humerus: 1026.52E, 928.81N Right distal humerus: 1026.80E, 928.87N Vertebrae: 1026.535E, 929.038N	Skull post-ex level: 61.467 Right proximal humerus post-ex level: 61.45 Distal radius and ulna post-ex level: 61.44
21	Adult	Complete	Cutting 3, Grid H	Cut [F3113]; Fill (F3114)	Cuts B.115	Burial 21 was orientated along the east-west axis with skull to the west. The skull was identified and lifted in previous field season along with the first four cervical vertebrae. After lifting, the location of the skull was marked with a permatrace tag. The left distal humerus was uncovered during excavation of Burial 29. Work to define the extent of Burial 21 revealed an articulated, extended, supine adult burial with lower limbs extending under the west facing baulk. The burial appears not to be disturbed by later insertions. The lower left leg identified during the excavation of Burial 29, lay immediately to the north of Burial 21's left femur and os coxa, care was taken not to excavate or disturb this material during excavation of Burial 21. Burial 21 was represented by left and right	Vertebrae: 1026.55E, 928.62N Sacrum: 1027.06E, 928.65N Right distal humerus: 1026.90E, 928.43N Left distal	Vertebrae post-ex level: 61.47 Sacrum post-ex level: 61.435

Burial	Age	Condition	Location	Cut and Fill nos.	Association with other Burials	Description	Coordinates	Levels: metres OD
						shoulder girdle, upper limbs, hands, pelvis, sacrum, vertebrae, left and right ribs, and left and right femora. As the femora extended under the west facing baulk at their midshafts these were left in situ with coordinates and levels taken for reference. The left femur was broken at the femoral neck and therefore the femoral head and partial neck were lifted during excavation. The right arm was extended with right hand palmar surface down resting above right ilium with phalanges curling around the proximal right femur. The left arm was flexed at the elbow and the radius and ulna crossed the abdominal cavity. The distal radius and ulna were splayed and indicative of some disturbance, however the left hand, including carpels, was in situ resting palmar surface down above the right os coxa with phalanges flexed and resting on the right pubis. Soil samples were collected from around the pelvis, left hand, and right hand (sample numbers: 3.336, 3.337, 3.338). These samples will be sieved and materials recovered to be reunited with burial. A Fe nail (bagged find number: 3.587) was recovered from the right shoulder above the glenoid fossa: 1026.64E, 928.496N; 61.539m OD. F3114 represents the grave fill. The fill was not identifiable from the surrounding general matrix (F348, F3104). The dimensions and coordinates depicted in the sketch plan on the cut and fill feature sheets denote the limit of excavation, with the exception of a small section of the southern edge of the grave cut. The grave cut was cut into natural, identified as gravelly pale yellow clay. Maximum depth is unknown, minimum depth was calculated based on the highest point of the skeleton and the lowest post-excavation point.	humerus: 1026.91E, 928.80N Right femoral head: 1027.17E, 928.49N Left femoral head: 1027.13E, 928.70N Right femoral mid-shaft at point entering baulk: 1026.40E, 928.55N; 61.549 Left femoral mid-shaft at point entering baulk: 1026.39E, 928.73N; 61.54	

Burial	Age	Condition	Location	Cut and Fill nos.	Association with other Burials	Description	Coordinates	Levels: metres OD
115	Adult	Incomplete	Cutting 3, Grid H	Cut [F3115]; Fill (F3116)	Cut by B.29 and B.21	Burial 115 was orientated along the east-west axis with skull to the west, resting on right side, facing south with DHB ulna between maxilla and mandible. The skull was identified in the 2013 field season, but was not excavated and no burial number was assigned. Work to define the limits of the articulated lower left leg unearthed during the excavation of Burials 29 and 21 revealed that the associated femur was absent. Due to the orientation and positioning it was decided to explore the extent of Burial 115 and investigate the possible association between the skull and lower left limb. Excavation of Burial 115 unearthed an articulated, extended, supine adult burial represented by the cranium, left ribs, right ribs, left humerus, right humerus, radius, and ulna, right os coxa, left os coxa, vertebrae, left fibula, tarsals and fifth metatarsal. Burial 115 had been disturbed by the insertion of later burials, Burial 21 to the south-east and 29 to the north-east. The right lower limb was entirely absent, the left femur, tibia, radius, and ulna, and sacrum were absent. The left os coxa was rotated 180^0 and no longer in articulation, the pubis was to the west with the iliac crest to the east. It was concluded that the lower left leg most likely belongs to Burial 115 and as such as lifted as part of this burial, lab analysis will hopefully definitively reveal the association between these. Soil samples were collected from around the pelvis and skull (3.339 and 3.340). These samples will be sieved and materials recovered to be reunited with burial. F3116 represents the grave fill. The fill was not identifiable from the surrounding general matrix (F348, F3104). The dimensions and coordinates depicted in the sketch plan on the cut and fill feature sheets denote the limit of excavation. The base of the cut was identified but as the sides of the grave cut were not perceptible it was not possible to plan this feature. The grave cut cuts into natural identified as gravelly pale yellow clay. Maximum depth is unknown, minimum depth was calculated based on the highest point of the skeleton and the lowest point of the basal section of the grave cut.	Skull: 1025.69E, 928.66N Right proximal humerus: 1025.92E, 928.52N Left proximal humerus: 1025.93E, 928.83N Right distal humerus: 1026.25E, 928.57N Pelvis: 1026.32E, 928.72N Left proximal fibula: 1026.85E, 928.80N Left calcaneus: 1027.16E, 928.91N 5th metatarsal: 1027.27E, 928.83N	Skull post-ex level: 61.48 Right pubis post-ex level: 61.41 Fibula mid-shaft post-ex level: 61.449 Left foot post-ex level 61.46

Burial	Age	Condition	Location	Cut and Fill nos.	Association with other Burials	Description	Coordinates	Levels: metres OD
116	Adult	Incomplete	Cutting 3, Grid H	Cut [F3117]; Fill (F3118)	Below B.99	Burial 116 was initially unearthed during work to trowel back a section of Grid H immediately west of the limit of excavation for Burial 99. This work uncovered a left humerus in articulation with scapula, and a series of four nails in linear formation to the north of the humerus. The association between the nails and the humerus is unclear. Burial 116 is a supine, extended adult interment orientated along the southwest-northeast axis, with skull to the southwest. The burial was disturbed by insertion of later Burial 99 (a fully articulated burial, orientated along the east-west axis) to the north-east. Both radaii and ulnae were absent, the left os coxa and sacrum were absent, the left ribs and mid-thoracic vertebrae were entirely absent. As no truncation cuts were identified it is unclear if ribs and vertebrae were absent due to poor preservation or if these elements were disturbed by the insertion of later burials. The former was thought to be the cause of their absence due to the heavy clay based soil excavated from the areas these elements would have been located. The skull was located to the south near the right proximal humerus and rested on its right side facing south, the mandible rested on the mid-shaft of the clavicle. The upper thoracic and cervical vertebrae formed a 'L' shape, indicating that the skull was disturbed while soft tissue remained attached. The burial was cut into heavy clay (possibly natural), this may account for the adverse impact on preservation, which overall was poor. The skull was badly damaged post-mortem with pressure fractures along the cranial vault. Soil samples were collected from around the pelvis and skull (sample numbers 3.341, 3.342). These samples will be sieved and materials recovered to be reunited with burial. Five nails were excavated in association with the burial. Bagged find number: 3.592, 3.593, 3.594	Skull: 1025.00E, 928.696N Right proximal humerus: 1025.18E, 928.59N Left proximal humerus: 1025.11E, 928.98N Right distal humerus: 1025.47E, 928.69N Left distal humerus: 1025.42E, 29.05N Right os coxa auricular surface: 1025.60E, 928.89N Right hand: 1025.829E, 928.851N	Skull post-ex level: 61.477 Pelvis post-ex level: 61.452 Right hand post-ex level: 61.449

Burial	Age	Condition	Location	Cut and Fill nos.	Association with other Burials	Description	Coordinates	Levels: metres OD
117	Adult	Incomplete	Cutting 3, Grid H	Cut [F3119]; Fill (F3120)	Unclear, skull absent	Burial 117 represents an adult articulated burial, orientated along the east-west axis with skull to the west. Burial 117 was unearthed when articulated cervical vertebrae were uncovered during work to straighten west facing baulk in Grid H. No associated skull was recovered and there was no evidence for this skull having been lifted in previous seasons. Comparison between coordinates on the vertebrae and disarticulated skulls recovered from Grid H confirmed that there was no associated skull for Burial 117. During work to recover the vertebrae (C1-7 excavated), the right shoulder girdle was exposed, however as this material and skeleton extend under the west facing baulk the majority of the burial was left in situ. Coordinates and levels were taken with the total station on the exposed material in situ to assist in reuniting all elements of this burial if the remaining elements are excavated during future work.	Right shoulder girdle: 1027.39E, 929.40n	Right shoulder girdle mix-ex level: 61.55 (remains in situ)
118	Adult	Incomplete	Cutting 3, Grid H	Cut [F3121]; Fill (F3122)	Truncates Burial 120 and truncated by 119	Burial 118 was unearthed during trowel back of south portion of grid H. The burial represents an articulated adult interment, orientated along the east-west axis with head to the west. No associated skull was recovered during excavation. Comparison of levels and coordinates of previously excavated disarticulated skulls from Grid H did not produce any significant findings to suggest the skull of Burial 118 had been previously excavated. It is possible that the insertion of the unexcavated juvenile burial to the west of Burial 118 disturbed the skull. (This burial was not given a burial number and was left in situ and coordinates and levels were taken (1025.29E, 928.07N; 61.54)). Burial 118 had been truncated by Burial 119 to the south-east, the right leg of Burial 118 is entirely absent and the left leg is absent from the tibial midshaft. The insertion of Burial 118 truncated Burial 120, Burial 120 was represented solely by right arm and right os coxa which lay immediately to the south of Burial 118 and were initially thought to be part of Burial 118. The overall preservation of Burial 118 is poor, during excavation Burial 118 and Burial 120 appeared to have worse preservation than surrounding burials. A number of pieces of wood were recovered in association with the burial during excavation, detailed photographs of wood in situ were taken. After lifting and during troweling to locate grave cut base, more wood was recovered. Given the quantity	Vertebra: 1025.52E, 928.18N Distal right humerus: 1025.78E, 928.09N Proximal left femur: 1025.80E, 928.33N Midshaft left tibia: 1026.42E, 928.40N Sacrum: 1025.74E, 928.25N	Vertebra post-ex level: 61.42 Sacrum post-ex level: 61.42 Tibial mid-shaft post-ex level: 61.37

Burial	Age	Condition	Location	Cut and Fill nos.	Association with other Burials	Description	Coordinates	Levels: metres OD
						and location of wood unearthed it is posited that Burial 118 represents a coffined burial. Soil samples were taken from the area surrounding the pelvis (3.347), left hand (3.346), and right hand (3.348). These will be sieved for bone and any material recovered will be reunited with the burial. A total of eight finds were recovered (nails and oxidised wood) in association with the burial as well as a single piece of painted plaster (PP191) weighing 13g. Additional plaster fragments were recovered from F348 in close proximity to the burial but as not retained as they collectively weighed less than 1gram and had no evidence of painting.		
119	Adult	Incomplete	Cutting 3, Grid H	Cut [F3123]; Fill (F3124)	Truncates Burial 118, possibly below B.25	Burial 119 was unearthed during trowel back of south portion of grid H. The burial represents an articulated, supine, extended adult interment, orientated along the east-west axis with head to the west. No associated skull was recovered during excavation. Comparison of levels and coordinates of previously excavated disarticulated skulls from Grid H suggests a possible association between disarticulated skull Burial 60 excavated in 2013 (central coordinate 1026.13E, 928.00n) or disarticulated skull Burial 15 excavated in 2013 (central coordinate 1026.02E, 927.88n) and the articulated post-cranial skeleton of Burial 119 with C1 at 1026.10E, 928.10n. However, the mid-ex and post-ex levels for Burials 15 and 61 (mid-ex level Burial 15: 61.71 and 61.645) are considerably higher than the mid-ex level for Burial 119's first cervical vertebra, (61.45). Burial 119 truncated Burial 118 to the north west, the right leg of Burial 118 is entirely absent and the left leg is absent from the tibial midshaft. The overall preservation of Burial 118 is moderate. The right side of Burial 119 was disturbed presumably by the insertion of later burials the right femur, os coxa, ribs, arm and hand were entirely absent. The radius of an articulated left arm (humeral head: 1026.94E, 927.81n, 61.51) overlies the right tibia of Burial 119 which extends under the baulk. This articulated arm was partly revealed during excavation of Burial 25. Despite the disturbance to the right side of Burial 119 the right patella remained in situ. The lower lumbar vertebrae and sacrum are absent, however, the positioning of the left os coxa and leg in relation to the left arm suggests this material belongs to one individual. A single find (bagged find number: 3.623) was recovered in	C1: 1026.10E, 928.10N Left humeral head: 1026.23E, 928.27N Left distal humerus: 1026.57E, 928.26N Left hand: 1026.57E, 928.19N Left os coxa: 1026.70E, 928.07N Proximal left tibia: 1027.27E, 928.10N Proximal right tibia: 1027.18E,	C1 post-ex level: 61.40 Left os coxa post-ex level: 61.39 Left humerus post-ex level: 61.44

Burial	Age	Condition	Location	Cut and Fill nos.	Association with other Burials	Description	Coordinates	Levels: metres OD
						association with Burial 119, a metal object found immediately north of the proximal left humerus. A large quantity of DHB was recovered in association with Burial 119, including two tibiae, two fibulae, a humerus, a radius, and vertebrae. Much of this DHB was recovered from immediately above the left arm. DHB: 3.822, 3.825. Mid-ex photographs of Burial 119 depict the positioning of this DHB (see 108:1011–1016). Soil samples were taken and will sieved and material reunited with burial. Left hand sample 3.350 and pelvic sample 3.349.	927.92N	
120	Adult	Incomplete	Cutting 3, Grid H	Cut [F3127]; Fill (F3128)	Truncated by B.118 and B.119	Burial 120 was unearthed during work to define the extent of Burial 118 in the south portion of grid H. Initially, due to its positioning in close proximity to the location of where the right arm of Burial 118 was expected it was thought that material (right arm and os coxa) for Burial 120 belonged to Burial 118. However, further exploration of the area definitively showed that these were two separate individuals and that Burial 120 had been cut into by Burial 118 to the north and probably Burial 119 to the east. Very little of Burial 120 remained in situ, as can be seen in the sketch plans and photographs (108: 1023-1025; 1027-1029; 1031-1034; 1036; 1065-1068; 1071-1072; 1079-1080). It is thought that Burial 120 represents an articulated adult interment, orientated along the east-west axis with head to the west. No associated skull was recovered during excavation. Comparison of levels and coordinates of previously excavated disarticulated skulls from Grid H did not produce any significant findings to suggest the skull of Burial 120 had been previously excavated. A soil sample was taken from the area surrounding the right hand (3.344) This will be sieved for bone and any material recovered will be reunited with the burial.	Proximal Right Humerus: 1025.43E, 927.86N Distal Right Humerus: 1025.74E, 927.97N Distal Right Arm: 1025.91E, 928.11N Right Os coxa: 1025.99E, 928.11N	Proximal humerus mid-ex level: 61.49 Proximal humerus post-ex level: 61.44 Distal humerus mid-ex level: 61.47 Distal humerus post-ex level: 61.40 Distal arm mid-ex level: 61.43 Distal arm mid-ex level: 61.40 Os coxa mid-shaft mid-ex level: 61.43 Os coxa mid-shaft post-ex

Burial	Age	Condition	Location	Cut and Fill nos.	Association with other Burials	Description	Coordinates	Levels: metres OD
								level: 61.40
62	Infant	Complete	Cutting 3, Grid H	Cut [F3125]; Fill F3126)	Below B.58, possibly interred at same time	Burial 62 was initially unearthed during excavation of Burial 58 in 2013. Excavation of Burial 58 disturbed the lower limbs of Burial 62 which lay immediately below the skull of Burial 58, the cranium of Burial 62 was below the right scapula of Burial 58. The majority of Burial 62 was left in situ at the end of the 2013 season. After comparison between coordinates, levels, and skeletal morphology between excavated and unexcavated material it was concluded that the articulated material in situ was the same individual as material excavated in 2013. This has been noted on the burial sheet. Burial 62 represents an articulated infant burial, orientated along the east-west axis with skull to the east. The exact position of the burial is unclear, however, it is thought to be in the foetal position lying on it's right side, the left humerus was positioned on top of other skeletal elements indicating it was over the body. Overall preservation appears good. The close proximity between Burial 58 and 62 suggest an association between these two individuals, mid-ex level on the right scapula of Burial 58 was 61.51, mid-ex level on cranium of Burial 62 was 61.51 and post-ex level for Burial 62 was 61.49. It is therefore possible 62 and 58 were interred at the same time and that there may be a familial association between the two. A complete soil sample of the grave fill was collected (3.345). This sample will be sieved and material recovered to be reunited with burial. Two nails were excavated in association with the burial. Bagged find numbers: 3.628, 3.629.	C1: 1027.33E, 929.40N C7: 1027.38E, 929.435N T1: 1027.39E, 929.44N Right shoulder: 1027.39E, 929.40N	C1 mid-ex level: 61.60 C1 post-ex level: 61.546 Right shoulder mid-ex level: 61.55 (remains in situ) T1 mid-ex level: 61.546 (remains in situ)

Appendix 4

Geophysical report on the Black Friary site

(prepared by Ashely Green)

Land at the Dominican Friary and Griffin Park,

Trim,

County Meath

Geophysical Survey Report

For the National Monuments Service Ireland,

Department of Arts, Heritage and the Gaeltacht

Detection Licence Number

15R0023

Summary

A geophysical (ground-penetrating radar, electromagnetic, and gradiometry) survey covering approximately 0.5 hectares was conducted on land at The Black Friary and the adjacent greenspace at Griffin Park in Trim, Co Meath. The survey identified a number of possible archaeological anomalies and anthropogenic features including a possible well dating to the medieval period, in addition to possible human burials of unknown date. Other anomalies relating to geological variation, surface morphology, and modern rubbish have also been noted.

TABLE OF CONTENTS

REPORT INFORMATION

Site Address:	The Blackfriary Community Heritage and Archaeology Project (BCHAP), Griffin Park, Trim, County Meath, Ireland
Report Type:	Geophysical Survey
Location:	Blackfriary, Trim, County Meath
Detection Licence Number:	15R0023
National Grid Reference:	N 80119 56777
Period(s) of Activity:	Early Medieval – Modern
Date of Fieldwork:	April – July 2015; June 2016
Survey Size:	*c*. 0.5 ha
Survey Type:	Ground-penetrating Radar, Electromagnetic, Gradiometry
Weather Conditions:	Overcast/mixed, wet
Site Conditions:	Overgrown
Survey Equipment:	MALÅ RAMAC X3M, Geonics EM38B, Bartington Grad-601, Geoscan Research FM256
Date of Report:	20 June 2016
Fieldwork:	Ashely Green, IAFS Students
Report:	Ashely Green, Denis Shine
Illustrations:	Ashely Green
Photography:	Ashely Green

LIST OF FIGURES

LIST OF PLATES

1. INTRODUCTION

Ashely Green, Postgraduate Researcher at Bournemouth University, undertook geophysical survey (ground-penetrating radar, EM, and gradiometry) at the Black Friary, Trim, Co Meath (see Fig. 1; Detection Licence Number 15R0023 granted to Denis Shine and Ashely Green, extended in 2016). Surveys were conducted as part of an MSc dissertation focused on forensic and archaeological applications of GPR in clay soils. This work was supported by the Irish Archaeology Field School (IAFS) and Bournemouth University. The results of this survey will be used to inform geophysics practitioners on the appropriate survey parameters for obtaining high-resolution data in clay soils as well as IAFS' excavation strategy. The survey was conducted intermittently throughout April and July 2015 and expanded in June 2016.

SITE LOCATION, TOPOGRAPHY, AND LAND-USE

The site, remains of a 13th century Dominican friary, located east of Kells Road is bounded to the north and east by the Tower View housing estate (centred at N 80119 56777). The site is situated near to the River Boyne, outside the medieval boundaries of Trim town. The survey area consists of a single field of flat land with overgrown grasses ranging from 61m to 63m above Ordnance Datum (aOD) where archaeological excavations are currently undertaken, and the greenspace immediately adjacent to the southern site boundary in Griffin Park approximately 60m aOD. During the time of survey the land was in pastoral use and served as a community amenity (see Plates 1-10). The surviving ruins of the friary present as grassy hummocks across the survey area with some sections of exposed stonework (see O'Carroll, Shine *et al*. 2016 for a full description).

GEOLOGY AND SOILS

The solid geology of the site is sandstone and limestone of the Lower Carboniferous Age representing the "northward return of the sea at the end of the Devonian period, *c*. 360 million years ago, owing to the opening of a new ocean to the south called the Palaeo-Tethys in what is now central Europe" (O'Carroll 2014:3). The underlying geology is comprised of two formations. The northern sector of the site has marine basinal facies of the Tobercolleen and Lucan Formations, which are dark grey argillaceous and cherty limestone (GSI 2016). These formations date to the Palaeozoic, Carboniferous, and Mississippian periods (GSI 2016). In the southern sector of the site the underlying bedrock is fluvia-deltaic and basal marine of the Turbiditic formation, comprised of shale sandstone, siltstone, and coal dating to the Palaeozoic, Carboniferous, and Pennsylvanian periods (GSI 2016).

The overlying soil groups include Carboniferous Limestone Till, a grey-brown podzolic and brown earths derived from calcareous limestone, and glaciofluvial sands and gravels of the Renzinas and Lithosols formations (GSI 2016). Excavations across the site have identified superficial soil deposits of clay, silty-clay, sandy-clay, and clayey-silt formations.

2. ARCHAEOLOGICAL BACKGROUND

The Black Friary, a Dominican friary founded in 1263 by Geoffrey de Geneville, is located within the historic boundaries of the Blackfriary Township, Co Meath (Moore 1987; Potterton 2005; Potterton and Seaver 2009). The friary was one of several Dominican houses founded after the order arrived in Ireland (Flynn 1993; Ó Clabaigh 2012). The friary's

structures were demolished and quarried for stone after the dissolution of religious orders (Conwell 1878). Despite the destruction of the Friary, it continued to hold significance within the community, as evidenced by its sustained use as a burial ground after the post-medieval period, particularly for individuals that were ineligible for burial on consecrated ground (O'Carroll 2014). Based on excavations of the site and surrounding area, the boundaries of the cemetery are assumed to be Kells Road (part of the town's medieval road network) to the west and the precinct boundary to the east. As of the time of these surveys there was no archaeological evidence for the location of the southern boundary of the cemetery or northern sector of the town wall (argued by some to be south of the southern extent of the friary). See O'Carroll (2014) for a full archaeological and historical background.

Three surveys have previously been conducted on the site. A geophysical survey conducted by William J. Kennedy (1989) consisted of earth resistivity and proton magnetometry surveys and low altitude infrared aerial photography. The survey identified subsurface features, which were interpreted as foundations of the kitchen, cloister, living quarters, rectory, tower, chancel and entrance. A non-terrestrial Light Detection and Ranging (LiDAR) survey isolated several features, possibly indicative of garden structures (O'Carroll 2014). A later topographical survey confirmed initial interpretations of the friary layout (O'Carroll 2014). Ian Elliott (IGAS Ltd.) also conducted fluxgate gradiometry and earth resistivity surveys of the accessible areas of the site. Though the results of the gradiometry survey proved inconclusive, the earth resistivity surveys delineated large portions of the remaining subsurface structures, including the cloister wall (O'Carroll 2014).

3. AIMS, METHODS, AND PRESENTATION

The primary aim of the 2015 surveys was to establish appropriate parameters for surveys of clay variant soils, as well as to differentiate relevant features or target objects from overlying rubble and rubbish. A secondary aim for the survey was to investigate the remaining subsurface features in order to inform the IAFS excavation strategy, with a focus on the modern southern site boundary (Shine, Green *et al*. 2016), the north range of buildings, and a potential second cloister. The detailed results of this survey and implications for forensic investigations are detailed in the author's dissertation and presentation (Green 2015; 2016) available through Bournemouth University.

The survey was later expanded in June 2016 to delineate the cemetery boundary. Subsequently, this data will inform a doctoral dissertation on isolating the unique geophysical signature of characteristic interment practices within medieval cemeteries.

Survey grids were geolocated using the permanent site grid or permanent markers (assumed minimum 0.50m accuracy). Coordinates for the 2016 grids were recorded with a Topcon™ dGPS with *c*. 0.1m accuracy after being set out manually with measuring tapes.

Ground-penetrating radar (GPR) is a non-invasive technique used to detect subsurface archaeology, geology, infrastructures, and utilities. The technique is able to detect slight variations in the subsurface material (e.g. geological variations, anthropogenic activity, grave cuts) by emitting electromagnetic pulses of a set frequency into the ground or water surface from a transmitting antenna. Once the emitted signal converges with a variation in the subsurface material, the signal is reflected back to the ground surface to the receiving antenna and converted to wavelets presented on a monitor held by the surveyor (Ruffell and McKinley 2008; Conyers 2013; David *et al*. 2008). As such GPR detects any minute

changes in the subsurface matrix, whether they are significant archaeological features or non-discrete variations in geology. The amount of time passed from the emission of the electromagnetic signal to receiving it is recorded to determine the approximate depth of any detected objects – this is known as two-way travel time and is dependent on the soil's relative velocity. GPR antennas are available in a range of frequencies from 30MHz to 12.4GHz (David *et al*. 2008). Higher frequency antennas are suitable for detecting near surface objects, while lower frequency antennas have a higher potential signal depth but lower vertical resolution (up to 20m under certain conditions).

Electromagnetic (EM) techniques "use alternating, orthogonal electrical intensity and magnetizing waves" generated by coils of conductive wire at a specific frequency to detect variations in subsurface material (Ruffell and McKinley 2008:71). A transmitting coil emits an alternating current, with a frequency in the kilohertz (KHz) range, to create a primary, time-varying magnetic field that passes through the ground (Simms 1995:3; Ruffell and McKinley 2008). Eddy currents generated when the primary magnetic field encounters subsurface conductive materials create a secondary magnetic field that is returned to the ground surface to be detected by the receiver coil (Simms 1995:3; Ruffell and McKinley 2008). Surveys can be conducted in the vertical dipole mode (machine held perpendicular to the ground) or the horizontal dipole mode (machine held parallel to the ground). In the vertical dipole mode, sensitivity increases relative to depth; conversely, in horizontal dipole mode relative sensitivity is highest at the ground surface and decreases as depth increases (Geonics Ltd. 2003:10). EM methods record the magnetic susceptibility (in-phase value) and conductivity (quadrature phase value) of the soil. It is important to note that areas of high conductivity may be a result of moisture or chemical changes and not necessarily a result of anthropogenic activity. However, these responses should not be dismissed as areas of interest without further examination with other geophysical techniques.

Gradiometry systems detect changes in the Earth's magnetic field within a localized area (Ruffell and McKinley 2008). A gradiometer has two magnetometer sensors spaced 1 metre apart; these are mounted on a frame carried by the operator at a constant height across survey grids in either a parallel or zig zag traverse pattern (Ruffell and McKinley 2008:70). The two magnetometers serve to create a differential gradient independent of the changes in the Earth's magnetic field (Ruffell and McKinley 2008:70). While magnetometry detects notable differences in the ferrous character of a subsurface material, it can be strongly affected by any aboveground ferrous objects near the survey area.

Soil velocity and chemistry, the condition of the target object, groundwater retention, ferrous objects, rubble, and the presence of subsurface obstacles such as tree roots, animal activity, and large stones, all affect data acquisition in geophysical surveys (Ruffell and McKinley 2008; Conyers 2013). The techniques utilised in these surveys provide the highest quality data in surveys of sands, silts, and other permeable materials. Conversely, data quality and depth of signal penetration are reduced in surveys of non-permeable, high-attenuation materials, such as clays. For an object to be detected, it must differ from the surrounding material. During survey the operator has control over the traverse spacing, sampling interval (the spacing between data points along a traverse), and grid size in order to acquire high-resolution data. Under optimal conditions, these techniques are likely to detect large voids, stratigraphic changes, interments (modern and archaeological), geomorphological changes, structures (or their foundations), and large stones.

2015 SURVEY

The location of all survey grids (2015-2016) are mapped relative to the cuttings to date and the permanent site grid in Figure 2 relative to the open cuttings and sections of the cloister wall were in Cuttings 3, 6 and 7.

GPR SURVEYS

The GPR surveys were conducted by hand-pulling the MALÅ RAMAC X3M system along at a variable rate of 0.6m/sec to 0.8m/sec. Surveys of Grids A, B, C, D, E, and F employed a 0.1m transect interval. Readings along traverses in all grids were taken at an automatic sampling interval of 0.02m using autostack mode. All surveys used a calibrated odometer wheel to calculate the position along the traverse. Traverses were oriented parallel to each other in order to simplify the post-survey data processing and reduce positional errors (Conyers 2004). Data from these surveys was analyzed in Easy3D™, GroundVision™, and GPR-Slice™. Surveys were conducted with 250 MHz, 500 MHz, and 800 MHz antennae.

Grids A-G covered the cloister garth and the north section of the cloister wall and the previously excavated southern cloister wall. Surveys within these grids were conducted with a 0.1m transect interval and 0.02m reading interval. Computer-simulated transect sizes of 0.2m, 0.5m, and 1m were created by removing the appropriate files during the data processing stage. Orthogonal surveys were conducted with these 0.1m transect intervals, so that the data could be analysed as a 3-dimensional figure when imported into GPR-Slice. Filters were not applied during processing in GPR-Slice as the standard procedure recommended in the program manual was followed. The DC removal, time gain, and delete mean trace filters were applied in Easy3D™. Individual depth profiles were processed using the DC removal, time-varying gain, and subtract mean trace filters in GroundVision™.

Survey of Grids B and G were conducted with an 800 MHz antenna. Grids C, D, and E were surveyed using a 500 MHz antenna, with parallel traverses oriented north-south. Grid F is the combined area of grids C, D, and E; survey of this area was conducted with parallel transects oriented east-west. It was determined that a large-scale survey of grids C, D, and E with the 800MHz antenna would not be feasible within the timescale of the project and that data acquired with the 500MHz antenna was adequate for the scope of the investigation.

The test grids across the possible location of the medieval town wall and well (Grid I, Grid II, Grid III, Grid IV) (see Figs. 2, 3, and 6) were initially surveyed using a MALÅ RAMAC X3M GPR system then resurveyed using a Geonics™ EM38B to confirm the results of the GPR survey, as the area could not be ground-truthed at the time of survey. Grids I and II were surveyed using a 250 MHz antenna with a transect interval of 0.25m. A 0.5m transect interval was then simulated by deleting every other data file. These survey grids were orientated north-south because as historic mapping indicates the town wall was oriented east-west; therefore GPR would have a maximum chance of encountering any remains of a wall. Grids III and IV were surveyed with a 500 MHz antenna and 0.25m transect interval. Similarly, a 0.5m transect interval was simulated as well by removing appropriate files from the data set. Grid III was orientated north-south to increase the probability of the radar signal hitting any remnants of the wall or foundation trench. Grid IV, however, was oriented east-west as it was assumed the well was circular and therefore the probability of identifying the well would not differ between east-west and north-south orientations. The time-slices from these survey grids were analysed using Easy3D™, and the individual depth profiles were analysed using GroundVision™.

EM SURVEYS

The survey also utilised the Geonics™ EM38B for a number of grids as a comparison to the GPR data. These surveys were conducted in vertical and horizontal magnetic dipole mode where terrain and vegetation growth permitted. The EM38B was operated with an intercoil spacing of 1.00m and operating frequency of 14.6 KHz. Both in-phase (susceptibility) and quadrature phase (conductivity) values were recorded using a data logger.

Seven grids ranging in size from 25m^2 to 400m^2 were surveyed using the Geonics™ EM38B (see Fig. 6). These surveys employed a 1m transect interval with in-phase and quadrature phase values recorded to a data logger every 0.5m. The location of these grids was chosen so as to cover as much of the GPR survey grids as possible; however, the relocation and expansion of archaeological spoil heaps reduced the area of the cloister that could be surveyed. The aim of the EM surveys was to collect to comparable data to the GPR data in order to corroborate or refute the conclusions made from the GPR data. Two surveys were conducted on each grid with the EM38B – a survey in horizontal dipole mode and a survey in vertical dipole mode. Survey data from this grid was processed in TerraSurveryor™. The following alterations were made to the data: clipping to +/- 3 standard deviations and a 3x3 Gaussian low pass filter.

2016 SURVEY

GRADIOMETER SURVEYS

Grid sizes of 20m x 20m were utilised in all survey sectors, where the actual survey area did not fill this space, dummy values of 2047.5nT were entered (see Figs. 2, 7-8). A transect interval of 1m and sampling interval of 0.125m were employed in these zig-zag surveys. All grids were surveyed north-south at a variable pace of 1.3m/sec to 1.6m/sec with a Bartington™ Grad601-2 gradiometer. Composites were processed in TerraSurveyor™ and Geoplot™.

A Geoscan Research™ FM256 gradiometer was used to survey four 10m x 10m grids. The surveys employed a 0.5m transect interval and 0.125m sampling interval at a pace of 1.6m/sec. All grids were surveyed in parallel traverses to reduce positional error and served as a comparison to the Bartington™ Grad601 data. The FM256 data was also processed using TerraSurveyor™ and Geoplot™.

The gradiometer survey covered areas of the north range, east and west sectors of the proposed cemetery boundaries, and the greenspace at Griffin Park.

GPR SURVEYS

The GPR surveys were conducted by hand-pulling the MALÅ RAMAC X3M GPR system with a 500MHz antenna along at a variable rate of 0.6m/sec to 0.8m/sec. Surveys of west sector of the cloister garth and the west sector of the cemetery employed a 0.25m transect interval. Surveys of the greenspace at Griffin Park and the east sector of the cemetery employed a 0.5m transect interval. Readings along traverses in all grids were taken at an automatic sampling interval of 0.02m using autostack mode. All surveys used a calibrated odometer wheel to calculate the position along the traverse. Traverses were conducted in a zig-zag pattern, reversing every second profile. Data from these surveys was analyzed in Easy3D™ and GPR-Slice™.

The GPR survey covered areas of the cloister garth, east and west sectors of the proposed cemetery boundaries, and the greenspace at Griffin Park.

4. RESULTS

The interpretation of all minimally processed geophysical data is presented in Figure 9. Responses were categorised by the following classifications:

Category	**Description**
Geology	Responses indicative of non-discrete geological variations, discrete geological formations, or stones
Possible Archaeology	Responses similar to archaeological features but are not morphologically discrete or definitive
Ferrous/Magnetic	Responses indicative of ferrous materials
Modern Disturbance	Responses resulting from modern disturbance or vegetation on the ground surface and/or tree roots – these are noted during survey
Signal Noise/Drift	'Noise', or erroneous responses, caused by the machine during survey that could not be eliminated during data processing
Uncertain Origin	Responses that cannot be readily attributed to an archaeology, possible archaeology, geology, or signal noise

CLOISTER

Anomalies of possible archaeological origin (anomalies with signatures that cannot be positively assigned to a geological, modern, or archaeological origin) were identified along the southern border of Grid B where it adjoins to Cutting 3 (see Fig. 9). Based on their proximity to Cutting 3, where human remains have been recovered from a similar depth (O'Carroll 2014), it is possible these anomalies relate to graves. However, without excavation it cannot be determined if these anomalies are a result of geological variation, interment, or modern disturbance. No anomalies of archaeological origin were identified in Grid D. Due to its size, Grid E did not provide any conclusive evidence for the presence of anomalies.

Several large anomalies were identified in Grids A, C, and F. The primary anomaly, located centrally within the cloister, is likely to be of archaeological origin. Based on its size and depth, it is possible this anomaly corresponds to a well or similar access to groundwater. A secondary anomaly, located along the edge of Cutting 6, is likely to correspond to modern disturbance. Other anomalies within this grid relate to geological variation, likely a result of topographical variation. Three anomalies indicative of possible burials of east-west orientation were identified. However, because these anomalies were identified based on size, depth, and orientation they must be investigated further using excavation techniques.

In Grid G anomalies corresponding to the backfilled Cutting 4 were identified. Two anomalies of possible archaeological origin are located in proximity to Cutting 3. Considering their size, orientation, depth, it is possible these anomalies correspond to graves, but further investigation through excavation is necessary. There are additional anomalies resulting from geological variation throughout the survey area; this is likely due to slight topographic variation.

MEDIEVAL TOWN WALL AND WELL

The results of these surveys are particularly important to modern forensic investigations, as there was a large quantity of modern rubbish within the survey area. It was anticipated that

these surveys would shed light on GPR's ability to detect features below this rubbish layer. However, the results were inconclusive as anomalies are only weakly visible (see Figs. 6 and 9). Grids I and III delineate possible anomalies relating to a ditch or wall structure, but without excavation it cannot be determined if these are modern or medieval. These surveys do, however, demonstrate responses caused by modern rubbish and electrical lines.

EM proved even less conclusive on this site than the GPR. While there are faint patterns, possibly associated with the expected burials in the cloister garth, the depth of investigation was not comparable to the GPR and therefore, only a partial comparison can be done of these techniques. Naturally, EM demonstrated levels of geological variation and modern rubbish within the north range.

'CEMETERY'

In the area thought to contain the main cemetery (based on archaeological investigations to date) gradiometric data acquisition was hindered by modern made-ground and ferrous rubbish; however, the GPR proved successful. Numerous ferrous responses were noted along the southern boundary of the survey – these are likely to do ferrous rubbish or a recently constructed 'stone faced bank' recently landscaped along the access way into the site. Possible archaeological anomalies (similar in response to archaeological human interments) were noted in the GPR surveys; however, further investigation through excavation will be necessary to determine the date of these anomalies.

GRIFFIN PARK

Responses indicative of ferrous materials, geological variation, and possible archaeology were noted in the gradiometric and GPR surveys of the Griffin Park greenspace. Non-discrete ferrous responses are likely due to modern dumping or repeated burning. While responses indicative of anthropogenic activity possibly of an archaeological origin were noted, they are of a non-discrete morphology and as such will need further investigation through excavation to positively determine their origin.

5. DISCUSSION AND CONCLUSION

Anomalies resulting from geological variation, modern disturbance, and possible anthropogenic activity were identified throughout the survey area. Due to the superficial geology and modern disturbance across the site, anomalies of possible archaeology are not of discrete morphology and therefore cannot be confidently assigned an archaeological or anthropogenic origin. Areas of interest include a sub-rounded (circular) response located almost centrally within the cloister garth, grave-like responses north of the site access, and a *c*. 2m x 2m response north of Cutting 6.

Based on the results of this study and previous geophysical survey on the site it is concluded unexcavated areas of the site have moderate-high archaeological potential. While GPR proved successful in delineating areas of archaeological potential, similar to the success of resistivity methods in previous surveys, the other techniques remained hindered by modern rubbish as in previous surveys. It is recommended that test excavations be undertaken to conclusively determine the source of the identified anomalies.

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Land at the Dominican Friary and Griffin Park, Trim, County Meath

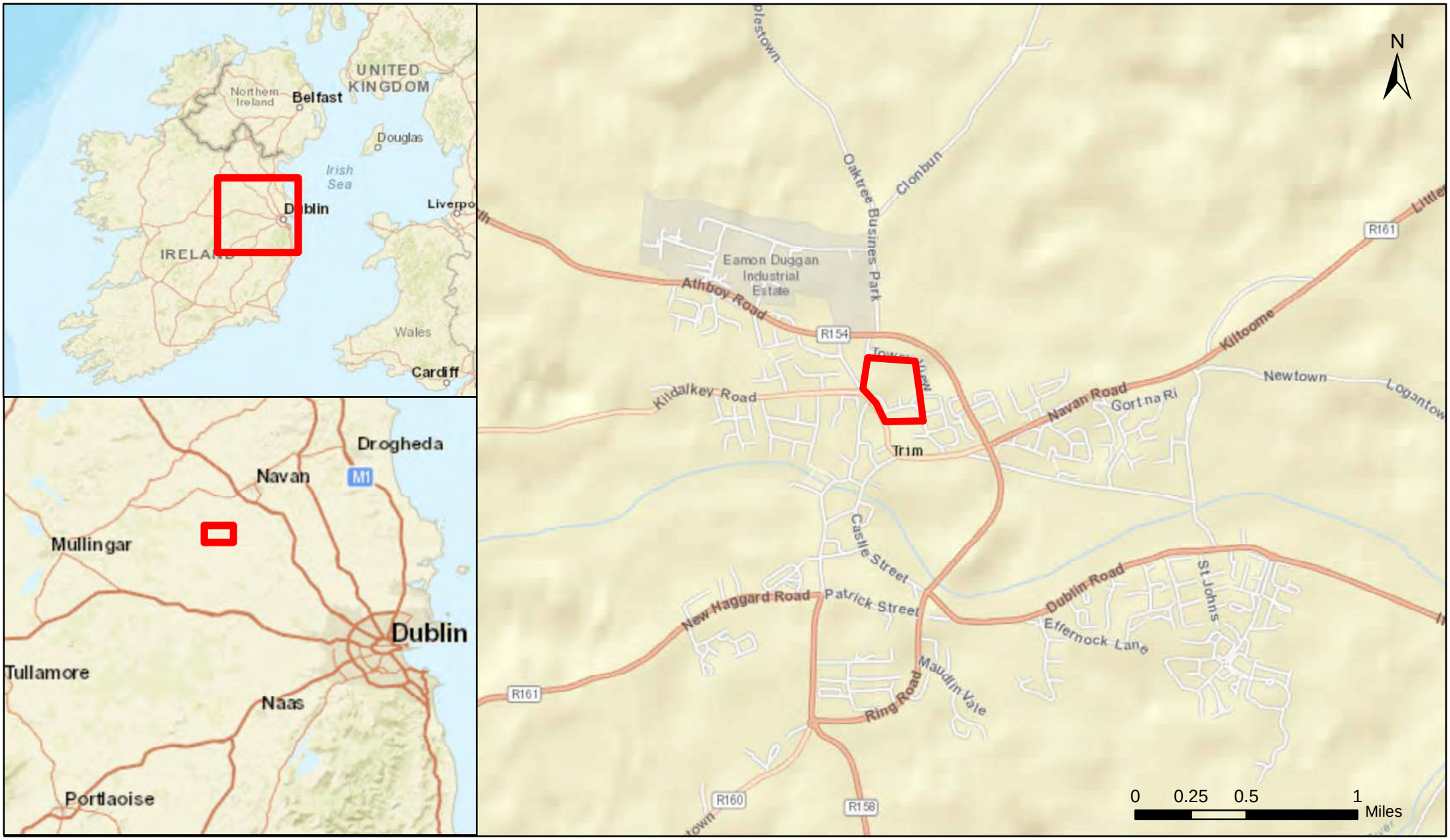

Figure 1: Site location

Figure 2: Location of 2015-2016 survey grids. (Scale 1:750)

Figure 3: Minimally Processed 250 MHz data c.1m bgl. Red = high amplitude; Blue = low amplitude. (Scale 1:200)

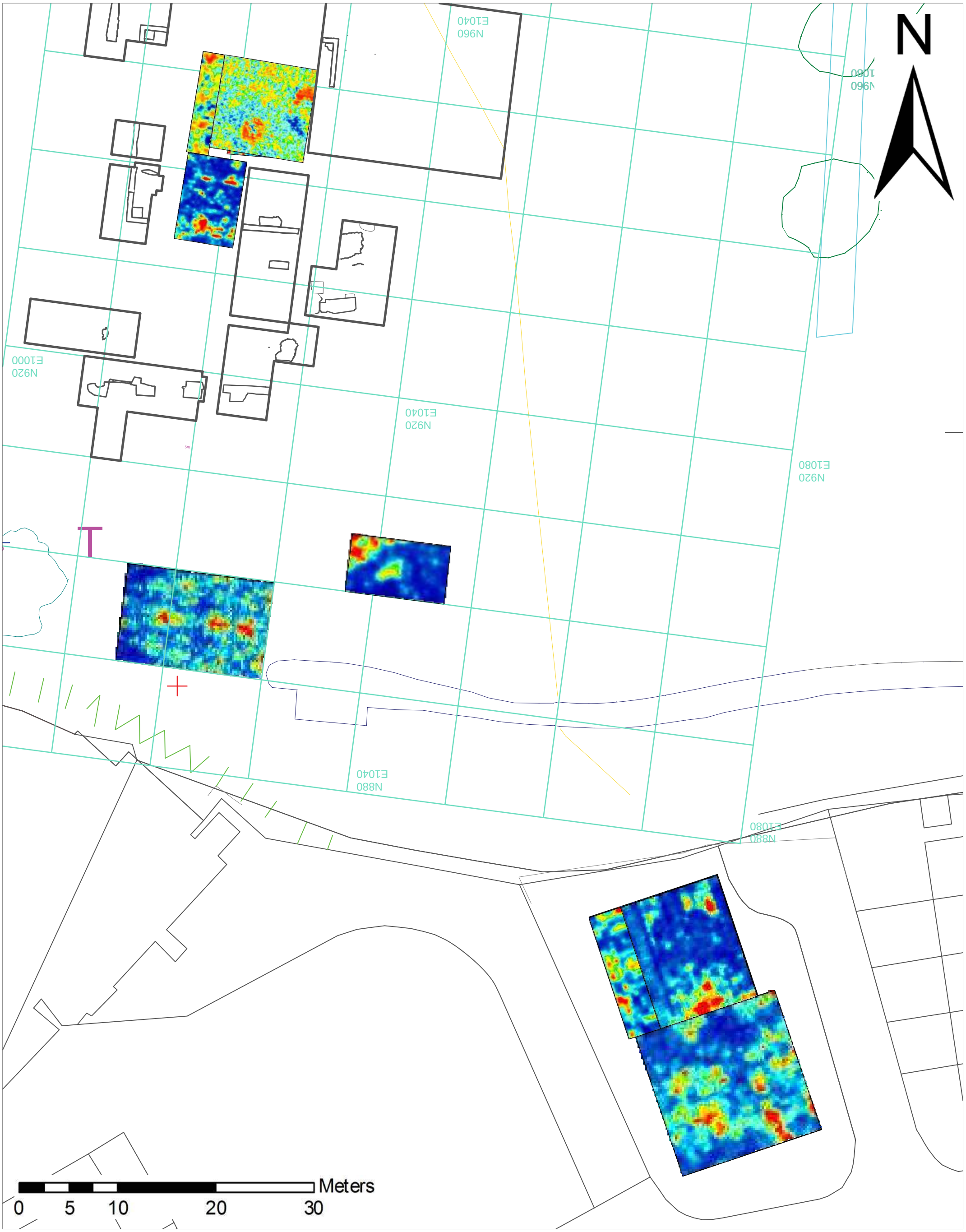

Figure 4: Minimally processed 500 MHz GPR data. Red = high amplitude; Blue = low amplitude (Scale 1:350)

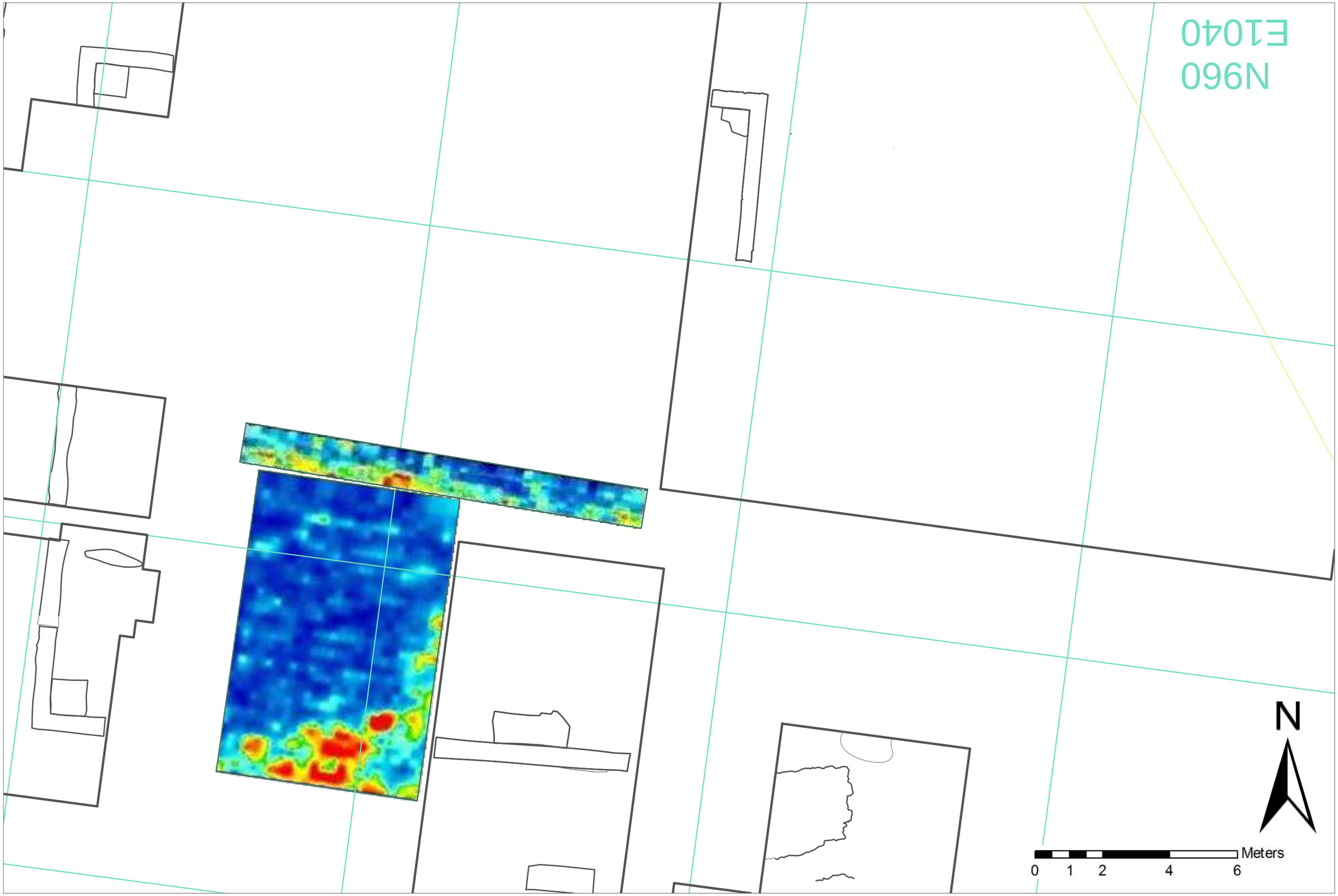

Figure 5: Minimally processed 800 MHz GPR data. Red = high amplitude; Blue = low amplitude (Scale 1:100)

Figure 6: Minimally processed greyscale EM in-phase (susceptibility) data (Scale 1:400)

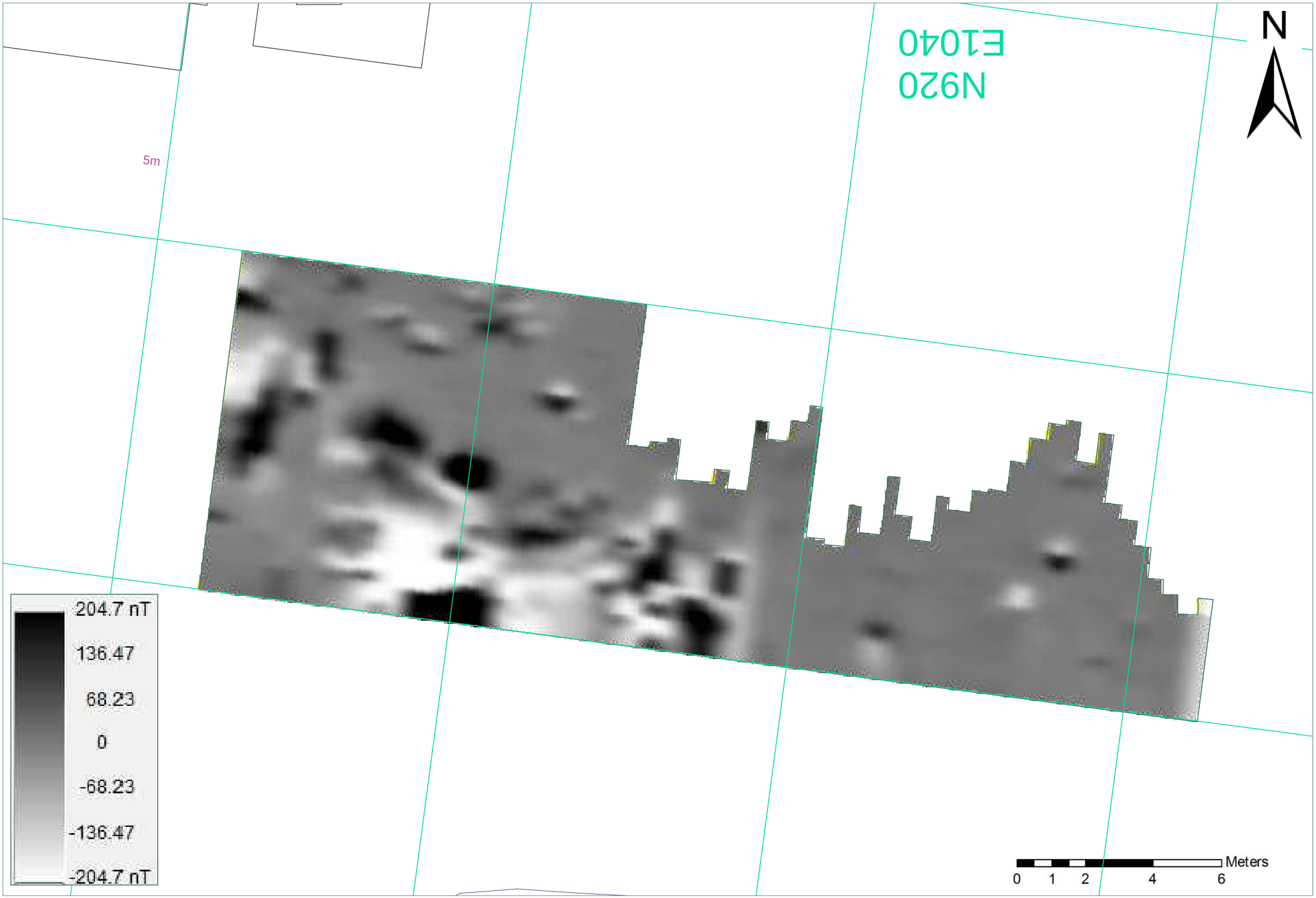

Figure 7: Minimally processed greyscale gradiometer (Geoscan Research FM256) data (Scale 1:100)

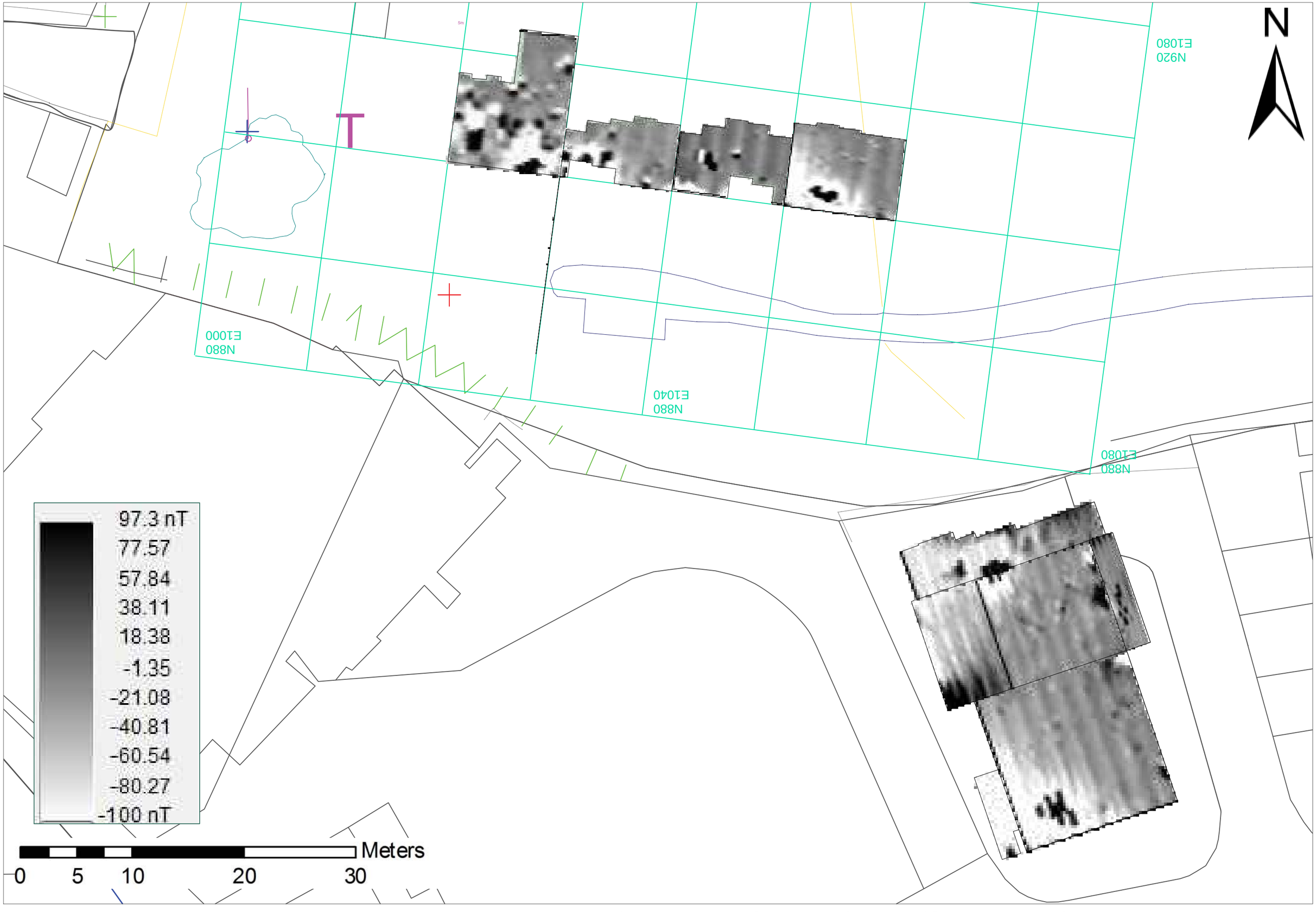

Figure 8: Minimally processed greyscale gradiometer (Bartington Grad601) data (Scale 1:300)

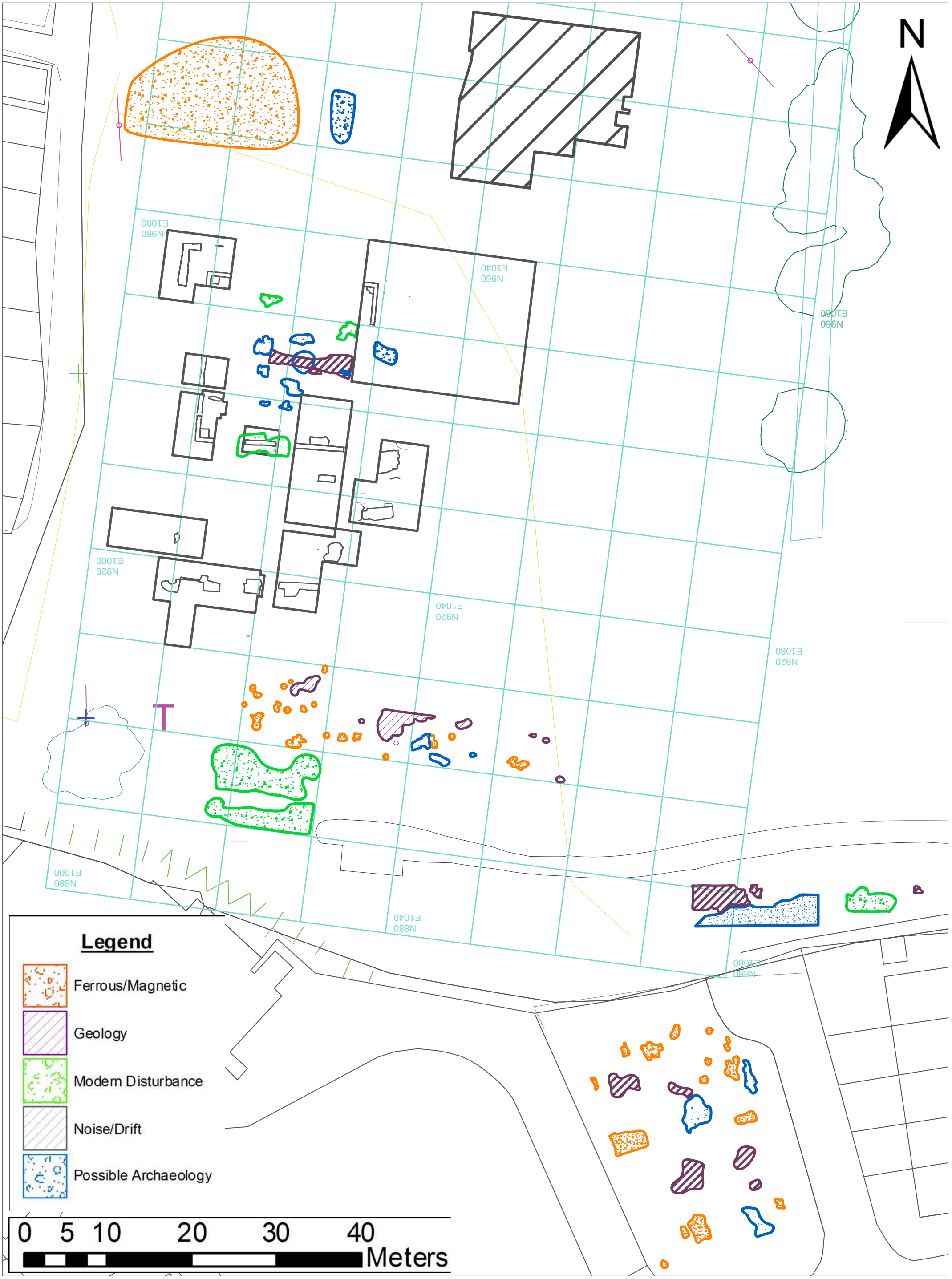

Figure 9: Overall interpretation of minimally processed geophysical data (Scale 1:400)

Plate 1: View of survey areas I-III, facing west.

Plate 2: View of survey areas I-IV, facing east.

Plate 3: View of the north range survey areas (2015), facing west.

Plate 4: View of the north range survey areas (2016), facing northeast.

Plate 5: View of the ‘cemetery’ survey area, facing north.

Plate 6: View of the ‘cemetery’ survey area, facing west.

Plate 7: View of the cloister garth survey area (2015), facing south.

Plate 8: View of the cloister garth survey area (2015), facing southeast.

Plate 9: View of the cloister garth survey area (2016), facing northeast.

Plate 10: View of Griffin Park, facing south.

Plate 11: View of the cloister , Cuttings 4 and 10, and the ‘cemetery’ survey area, facing south.