N18 Ennis Bypass
and
N85 Western Relief Road

Clare Abbey, Co. Clare

Final Archaeological Excavation Report

for
Clare County Council

National Monument Consent: A025/001

Record Number: E2022

Graham Hull

Job J04/01

(NGR 134700 175730)

15th November 2008

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NDP NATIONAL DEVELOPMENT PLAN
EU STRUCTURAL FUNDS
NRA National Roads Authority
Department of Transport An Roinn Iompair

Summary

Scheme name: N18 Ennis Bypass and N85 Western Relief Road, Co. Clare, A025/000

Site name: N18 Ennis Bypass and N85 Western Relief Road, Clare Abbey, Co. Clare, A025/001

Townland: Clareabbey

Parish: Clareabbey

Barony: Islands

County: Clare

SMR/RMP Number: CL033-120

Planning Ref. No: N/A

Client: Clare County Council, New Road, Ennis, Co. Clare

Landowner: Clare County Council, New Road, Ennis, Co. Clare

Grid reference: 134717 175676 (OSI Discovery Series, 1:50,000, Sheet 58)

Naturally occurring geology: Orangish brown glacial till with limestone pieces

TVAS Ireland Job No: J04/01

Directions No: A025/001

Record Number: E2022

Licence Eligible Director: Graham Hull

Report author: Graham Hull

Site activity: Excavation

Site area: 525m^2

Excavation sample percentage: 100%

Date of fieldwork: 17th October to 28th November 2005

Date of report: 15th October 2008

Summary of results: Pits, postholes, ditches and gullies associated with Clare Abbey were excavated to the immediate south of the upstanding abbey's south-west corner. Artefacts from the features suggest dates from the medieval to post-medieval periods.

Monuments identified: Features associated with medieval abbey.

Location and reference of archive: The primary records (written, drawn and photographic) are currently held at TVAS Ireland Ltd, Ahish, Ballinruan, Crusheen, Co. Clare.

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Report edited/checked by: Kate Taylor ✓29.09.08

N18 Ennis Bypass and N85 Western Relief Road, Clare Abbey, Co. Clare
Final Archaeological Excavation Report

By Graham Hull

Report J04/0laa

Introduction

This report documents the final results of an archaeological excavation of features found on the route of an access track associated with Clare Abbey, Co. Clare (NGR 134717 175676) (Fig. 1). The excavation forms part of the Ennis Bypass Archaeological Contract 6.

The National Monuments Act 1930 (as amended) provides the legislative framework within which archaeological excavation can take place and the following government publications set out many of the procedures relating to planning/development and archaeology:

Framework and Principles for the Protection of the Archaeological Heritage (DAHGI 1999a)

Policy and Guidelines on Archaeological Excavation (DAHGI 1999b)

Code of Practice between the National Roads Authority and the Minister for Arts, Heritage, Gaeltacht and the Islands (NRA/MAHGI 2001)

Project background

As part of the National Roads Authority scheme for upgrading the N18 Limerick to Galway Road, Clare County Council, in consultation with NRA Project Archaeologist Sébastien Joubert, requested a series of archaeological investigations along the route of the proposed N18 Ennis Bypass and the N85 Western Relief Road. The proposed scheme has an overall length of 21km and involves the construction of a 13.80km eastern bypass of Ennis from Latoon, north of Newmarket-on-Fergus, to Cragard, north of Barefield. The Western Relief Road is 7.10km long and is to link Killow and Claureen (Fig. 1).

A number of sites of archaeological interest were known to lie on the route of the new roads and the mitigation strategy agreed by the Project Archaeologist and the national licensing authorities for these sites was preservation by record, i.e. full archaeological excavation. Further sites, without surface expression, were located as the result of intensive test trenching along the course of the road (Hull 2003 and Roger 2004). As preservation in situ was not a reasonable option, the resolution strategy for these new sites was also preservation by record.

Clare County Council intends to create a small carpark/turning space next to the abbey linked to the new N85 by a narrow roadway (Fig. 2). Related archaeological excavations took place on the area of the car park. Those works are described in a separate final archaeological excavation report (National Monuments Consent C020, Record Number E2021 at National Monument 197, Hull 2008).

Consent to excavate the trackway adjacent to the abbey was issued on 4th July 2005 to Clare County Council on behalf of the Minister of the Environment, Heritage and Local Government, under Section 14A(2) of the National Monuments Acts 1930-2004. These works have been registered as A025/001 and have the Record Number E2022.

The archaeological excavation and post excavation work were funded by Clare County Council through the National Roads Authority and part-financed by the European Union under the National Development Plan 2000-2006.

Location, topography and geology

The excavation area was located in the townland of Clareabbey, parish of Clareabbey, barony of Islands and lay approximately 1.75km south-east of Ennis town centre (the O'Connell Monument), 1.50km north of Clarecastle and was centred on NGR 134717 175676 (Figs 1 and 2).

The excavation area was a narrow strip of land, measuring approximately 5m by 100m that was parallel and adjacent to the Ennis to Limerick railway. The total excavation area was 525m². The land use prior to the excavation was pasture. The ground surface of the excavation area was level and lay at approximately 6m above Ordnance Datum.

The naturally deposited geological material was an orangish brown sandy silt (glacial till) with occasional limestone pieces.

Archaeological background of the road project

As part of the environmental assessment process for the road scheme, Clare County Council commissioned an Environmental Impact Statement (EIS) (ADS 1999) and desk-based and walkover surveys that formed part of an Environmental Statement (Babtie Pettit 2000). A total of 36 sites of known or potential cultural heritage significance were identified along the entire route of the proposed Ennis Bypass and Western Relief Road.

Earthwork and geophysical survey were undertaken on potential archaeological sites and invasive testing and excavation took place in 2002 and 2003 on some of the sites affected by the proposed road (Aegis 2002, IAC 2003, Geoquest 2002, Earthsound 2003).

A systematic programme of testing, along the new road route, involving the mechanical excavation of a central linear trench with offsets, took place in Summer/Autumn 2003. Twenty-two previously unknown sites, including cremation cemeteries, burnt spreads, enclosures and brick clamps were found (Hull 2003 and Roger 2004). These monuments ranged in date from the Bronze Age to the modern period were found.

Archaeological test trenches were dug in the area adjacent to the abbey and along the access roadway in 2003 (Hull 03E1291). This testing located a number of linear features that were evidently archaeological and this information informed the decision to proceed with the full archaeological excavation that is the subject of this report. The features found in the testing correspond with those examined in the excavation. No artefacts were recovered and features were found during the testing.

Other archaeological sites excavated in Clareabbey townland as part of this project are discussed below.

Historical and archaeological background of Clare Abbey and its environs

Margaret McNamara and Graham Hull

Information for this study was taken from a number of documentary, cartographic and pictorial sources as well as from the Sites and Monuments Record (SMR)/Record of Monuments and Places (RMP). The abbey itself is a National Monument that is in the care of the State and has been allocated the National Monument Number 197 and the SMR/RMP number CL033-120. The County Clare Local Studies Library provided much of the material described below. The topographical files of the National Museum of Ireland do not list any artefacts from Clareabbey townland (Gibbons et al 1999).

A more comprehensive historical and archaeological background is given in the separate final archaeological excavation report of the car park area (National Monuments Consent C020, Record Number E2021 at National Monument 197, Hull 2008).

Documentary sources

According to *A History of Clare Castle and its Environs* (Power 2004) the present boundaries of the parish of Clareabbey were created by the amalgamation of the monastic properties of Clare Abbey and Killone with the ancient parish of Killow, the monastic properties lying to the west of the River Fergus, and Killow to the east. *A History of the Diocese of Killaloe* (Gwynn and Gleeson 1962, 452) refers to Clare Abbey or 'The Abbey of SS. Peter and Paul' as an '…important house of the canons regular of Saint Augustine… founded by King Domnall Mór in 1189 on the banks of the Fergus'. Papal letters refer to it as *de Forgio*, a name presumably derived from the river. Clare Abbey is one of a number of Augustinian convents founded in the Fergus valley including Corcovaskin on Canons Island, the convent of St John at Killone and the small house in Inchicronan Lake (Westropp 1900a).

The 1461 copy of the original foundation charter of Clare Abbey describes the lands originally granted, however, the charter has been shown to be a probable forgery perpetrated in the 15th century for the purpose of extending the Augustinian's claims to other lands (Flanagan 2005, 163-74).

Westropp (1900a) notes the poorly sheltered and un-commanding situation of Clare Abbey in an area of grassland littered with rock outcrops, and surrounded on three sides by swamps subject to flooding by the River Fergus and suggests that the site was chosen because it was perceived as sacred. This sitting is not unusual as many medieval abbeys were located in remote places, echoing Christ's struggle with the Devil in the wilderness. The abbey is also sited within an area of general religious activity, represented by the church of Killoe (Killow) located a mile to the east, as well as the foundations, earthworks and well of Kilbreckan or Carntemple located a mile from Killoe.

The first reference to Clare Abbey in the papal records relates to the role played by the abbot of Clare, referred to simply as 'T', in persuading the Holy See to reject the '…unlawful intrusion of Robert Travis as bishop of the diocese in 1216' (Gwynn and Gleeson 1962, 452). The rise in prosperity of the abbey coincides with the development of the Norman settlement at Clare. The strategic location of Clare on the River Fergus, its central position in Thomond combined with the existence of a wealthy abbey, castle, weekly market and annual fair made Clare an attractive settlement choice (Power 2004).

Clare Abbey was seen as one of the most powerful and wealthy monasteries in the country and remained so up to the dissolution of the monasteries (Gwynn and Gleeson 1962). Clare Abbey was dissolved in 1543 by King Henry VIII and the site and possessions were granted to the descendants of Domnall Mór, the Earl of Thomond and the Baron of Inchiquin., '…the descendants of Murrough, 'the Tanist', inherited the monastic lands around Killone; while the descendants of Donough, 'the fat', inherited the monastic lands of Clare Abbey' (Power 2004, 162). It is assumed that religious activity at Clare ceased after the 1543 dissolution (*ibid*), although Westropp (1900b) notes that the Augustinians remained in the abbey until 1650.

The fortunes of the town of Clare followed a different path to that of the abbey as the castle became a significant military stronghold during the 1641 rebellion, the Cromwellian conquest and the 1688-91 Williamite War. The Williamite army under Baron de Ginkle took control of Clare after 1691 and the English and later, British, army maintained a continuous base at the castle up to the end of the nineteenth century (Power 2004). This military presence had a major effect on the economy of the town as provisions, laundry services, fuel etc. were in constant demand. What part the abbey and abbey buildings played in these developments is difficult to ascertain.

The architecture

The buildings present today at Clare Abbey consist of a church, domicile and cloister garth. In the 1300s the long church was apparently divided into nave and chancel by the erection of a belfry tower resting on two pointed arches. Repairs were carried out to the southern wing of the domicile in 1461 by Teige Acomhad O'Brien at the same time as the supposed original charter was renewed (Westropp 1900a). Westropp deliberates as to why these events occurred, suggesting that repairs were carried out by O'Brien to stave off disease or improve his own popularity.

The Churches of County Clare (Westropp 1990b) states that areas of the single-aisled church date from the late twelfth century foundation and that the majority of the buildings are fifteenth century. Particular reference is made to the well-preserved east window, tower and domestic buildings with unusual floral window at the south-eastern corner. Westropp also notes one incised post-Norman cross at Clare Abbey (*ibid*).

Cartographic sources

The town of Clare and the parish of Clareabbey and Killone were well mapped between *c*. 1700 and 1900. Maps of Ireland that show Clare, include Mercator's map of Ireland 1567, Boazio's map of Ireland 1599 and Speed's map 1610 (Power 2004). The appearance of the town of Clare on all of the major maps of Ireland between 1564 and 1610 probably bears testament to its importance a as military settlement in the 16th century. Taylor and Skinners 1778 map is the first to show the main road through the town of Clare and also mentions Clare and Killone Abbeys among other structures. Many eighteenth and nineteenth century maps were drawn up, with particularly intensive mapping carried out between 1838 and 1850.

The Ordnance Survey (O.S.) First Edition map, surveyed in 1840 (Fig. 3) depicts the abbey as U-shaped and angular in plan. The map shows the abbey sited within an area of field boundaries that enclose five sub-rectangular plots of land. There is also a protrusion from the north-east corner of the abbey, the south-east corner of which meets another boundary. Most of these boundaries have been eradicated as the aerial photograph shows (Plate 1); apart from a small north-west to south-east aligned segment jutting out from the north-east corner of the extant remains. Traces of the removed boundaries are however still visible from the air.

Previous archaeological excavations

No archaeological excavation, prior to that described in this report, has previously taken place at the site of Clare Abbey. Previous excavations have however been carried out within 1km of the site as part of archaeological mitigation procedures relating to the N18 Ennis Bypass. These were all located within the townland of Clareabbey and are described briefly below.

AR120 (04E0027) was located 360m south-east of Clare Abbey within a flat, low-lying and slightly wet field adjacent to the west bank of the River Fergus. This site consisted of 3 separate brick clamps which when combined with other earthwork evidence (outside the road take) suggests that semi-industrial brick manufacturing was taking place in the post-medieval period in this area (Taylor 2006a).

AR121 (04E0031) was located 320m south-east of Clare Abbey within a field that was once part of the River Fergus floodplain. This site consisted of two possibly related burnt stone deposits. It is probable that this material relates to *fulacht fiadh* activity, with the lack of trough evidence explained by the possible existence of portable containers. The site has been radiocarbon dated to the late Bronze Age (Taylor 2006b).

AR122 (04E0032) was located 380m south-west of Clare Abbey within an area of waterlogged ground. The excavation revealed a number of pits and small spreads of burnt stone and charcoal. The

pits have been dated to the late Neolithic/early Bronze Age. As with AR121, the pits and spread could relate to *fulacht fiadh*-like activity. Post-medieval agricultural furrows were also recorded (Taylor 2006c).

AR123 (04E0019) was located 470m south-west of Clare Abbey within an area of gently sloping pastureland. This site consisted of six small pits and a shallow hearth. Iron slag and a possible stone axehead were also recovered. This site has been interpreted as a small scale metal production/working site and was dated to the early medieval period (Hull 2006a).

AR124 (04E0022) was located 420m south-west of Clare Abbey within an area of wet, boggy pastureland. This site consisted of a burnt stone spread and associated flat bottomed trough. This has been interpreted as a *fulacht-fiadh*-like site albeit without the typical crescent shaped spread. The site has been dated to the early Bronze Age (Hull 2006b).

AR125 (04E0023) was located 500m south-west of Clare Abbey within a level field with limestone outcropping and wet areas. This site was unfortunately destroyed prior to commencement of the archaeological excavation phase although the extent and depth of the burnt stone spread was ascertained during the testing phase. It is very likely that this site was an example of an episode, or episodes, of stone heating, and therefore of similar possible date as the aforementioned sites (Hull 2006c).

Site C020 (E2021) was an adjacent triangular plot of land excavated under National Monument Consent to the north of A025/001 (E2022) (Figs 2 and 4). The land-plot will be used as the abbey carpark/turning space. Pits, postholes, ditches, gullies and stone walls associated with Clare Abbey were excavated to the immediate west of the upstanding abbey west gable wall. Artefacts and radiocarbon determinations from the features show a range of dates from the medieval to the modern period (Hull 2008).

Earlier phases of archaeological intervention on newly constructed stretches of the N18 (Dromoland to Carrigoran), to the immediate south of this road project, have demonstrated that the locality has a rich range of prehistoric and later monuments (Hull and Tarbett-Buckley 2001).

Archaeological work on the BGE Gas Pipeline to the West in the neighbourhood of the new road route has tended to support the picture of continuous human activity in Co. Clare from the Neolithic and even becoming intensive from the Bronze Age. A number of burnt spreads and burnt mounds were excavated near the route of the new road in the summer of 2002 (Grogan *et al* 2007).

As part of the Gas Pipeline to the West, an underwater survey was undertaken by ADCO on behalf of Margaret Gowen and Co Ltd (ADCO 2003). This survey was in the River Fergus some 800m to the south-west of Clare Abbey and located an undated possible log boat (Kieran 2002).

Record of Monument and Places (RMP)

Clare Abbey is situated approximately 1.5km from the castle CL041-089 and later buildings (townland: Clare Commons) which dominate the modern town of Clarecastle. There are also five sites with archaeological potential depicted on the County Clare SMR/RMP as being within 1km or so of the site of Clare Abbey. These are listed below.

RMP No.	NGR	Townland	Description	Distance from site
CL033-117	13360/17566	Clonroad More	Enclosure	1.05km to the W
CL033-118	13423/17654	Clonroad More	Rock Scribing/Art Site	0.86km to the NW
CL033-119	13444/17638	Clonroad More	Holy Well	0.65km to the NW
CL033-121	13479/17566	Clareabbey	Battlefield	0.065km to the SE
CL042-135	13552/17480	Skehanagh	Fulacht Fiadh	1.15km to the SE

There is therefore a variety of previously recorded sites situated within 1km of the abbey, ranging in possible date from prehistoric to medieval times.

Discussion of the historical and archaeological background

To summarise, there is probable evidence for archaeological activity at or around the site of Clare Abbey covering a vast time span from the prehistoric to the post-medieval period. This activity ranges from possible prehistoric rock art, Bronze Age burnt spreads/*fulachta fiadh* to later sites in the form of an enclosure, metal-working, and later post medieval agriculture and brick manufacturing.

With regard to early ecclesiastical activity there is a holy well located to the north-west in Clonroad More as well as documentary evidence, (1461 copy of the original charter of Clare Abbey), of an earlier church at Kimony (Power 2004, Westropp 1900a). Clare Abbey itself was founded reputedly in 1189 by Domnall Mór, the chosen site possibly influenced by a perceived sanctity attached to the site (Westropp 1900a). The abbey was dissolved in 1543 by Henry VIII and the site and possessions were granted to the O'Brien descendants of Domnall Mór, the Earl of Thomond and the Baron of Inchiquin (Power 2004). It is assumed that religious activity stopped following dissolution but as Westropp (1900b) notes the monks could have remained in Clare Abbey up to 1650. It may be that the aforementioned post-medieval agricultural and brick manufacturing activity detected to the south of the abbey date to the 17th century and may be connected with the abbey.

The lease of the abbey and townland of Clare Abbey changed hands numerous times in the centuries following the 1543 dissolution (Power 2004). The decline in importance of the abbey coincides with an increase in activity, particularly of a military nature, at Clare castle in the 17th century involving the Cromwellian and Williamite disturbances, followed by a continuous British presence up to the end of the nineteenth century (Power 2004).

The Limerick to Athenry railway was built in the middle of the 19th century and is very close to Clare Abbey. The abbey is currently relatively isolated and neglected and is accessed via a level crossing (Plate 2).

Excavation aims and methodology

The aims of the excavation were to:

1) Preserve by record all archaeological deposits and features within the excavation area
2) Produce a high quality report of the findings

The fieldwork took place between 17th October and 28th November 2005 and was directed by Graham Hull, supervised by Roy Krakowicz and assisted by Tim Dean, Toby Graystone, Vincent Hanley, Paddy Lawrence, Margaret McNamara, Astrid Lesley Nathan, Feargal O'Shea, Edel Ruttle and Kate Taylor.

The excavation area was a narrow strip of ground, measuring approximately 5m by 100m and examined 525m^2. Topsoil and modern overburden were removed by a 20 tonne, 360º, tracked machine, operated under direct and continuous archaeological supervision. The digger was fitted with a 6 foot toothless bucket.

Spoil management within the relatively small excavation area meant that the site was excavated in two phases. All archaeological deposits were 100% hand excavated.

All features were hand-cleaned, sectioned and then fully excavated.

A metal detector, operated to archaeological best practice, was used to locate *in-situ* metal artefacts within stratigraphically secure contexts as well as to find objects in spoil.

A full written, drawn and photographic record was made following procedures outlined in the TVAS Ireland Field Recording Manual (First Edition 2003) and according to a specification drawn up by the Project Archaeologist and approved by the national licensing authorities.

Excavation results (Figs 4 to 9 and Plates 3 to 9)

A complete context list is given as Appendix 1. A stratigraphic matrix is given as Appendix 2.

Seven archaeological features were found beneath topsoil and cutting the natural geological deposits. These features were: four linear ditches/gullies (1, 2, 3 and 4) and three postholes/pits (5, 6 and 7). The linear features were all aligned from east to west. It is thought that the three shallow linear features (1, 2 and 4) may be cultivation furrows that respect a well-defined and deep boundary ditch (3). The postholes/pits lay close the abbey and may be related to features examined in the parallel excavation (C020 E2021 – Hull 2008).

Linear features

Feature 1 was exposed for a length of 4.30m, was 1.10-1.30m wide and 0.10-0.30m deep (Plates 3 and 4). The gully continued beyond the excavated area to both the east and west. Two fills were noted in the gully (53 and 54). The primary fill, 54, was a friable, light greyish brown, silty clay with some sand. The deposit extended along the length of gully 1 and was typically 0.11m to 0.18m thick. The secondary fill, 53, was very similar to the primary fill but darker coloured. Deposit 53 was between 0.10m and 0.17m thick.

Feature 2 was excavated over a 4.00m long section and continued out of the excavation area to the west. The feature had a maximum width of 0.40m and was 0.10m deep (Plate 5). The feature was somewhat ephemeral and could not always be defined with confidence. A single fill, 51, was recorded. This fill was a moderately compact, light greenish/yellowish brown, silty clay.

Feature 3 was a slightly curved and well defined ditch that continued outside the excavation area to the east and west. The ditch was examined over a length of 5m and was typically 1.60m wide and 0.65m deep (Plates 6 and 7). The sides of the ditch sloped down at approximately 45 degrees to a concave base. Six fills were recognised within the ditch (55, 56, 57, 58, 59 and 60). The primary ditch fill, 60, was compact and plastic and was a yellowish orange, silty clay that had a maximum depth of 0.10m. This deposit was likely to have formed as primary silting. The secondary ditch fill, 59, was a firm, light to mid grey brown, silt that was typically 0.02m thick. The tertiary ditch fill, 58, was a friable, mid orangish brown, silty clay that had a maximum thickness of 0.20m. The fourth ditch fill, 57, was a friable, mid brown, silt with occasional charcoal flecks and limestone and sandstone pieces that was approximately 0.20m thick. The fifth ditch fill, 56, was a moderately compact, mid brownish orange silt with some clay. Some stone inclusions were noted within fill 56. The fill had a maximum thickness of 0.25m. The last ditch fill, 55, was very similar to the overlying topsoil and was a friable, dark greyish brown silt with occasional small stones and was 0.07m thick.

Feature 4 was an approximately linear gully that continued off the excavated area to the east and west. The feature was 4.90m long (within the excavation area), 1.23m wide and between 0.10m and 0.20m deep (Plate 8). The base of the feature was irregular and two fills (61 and 62) were recorded. The primary gully fill, 62, was a friable, yellowish brown, clay that probably derived from silting. Fill 62 was between 0.04m and 0.10m thick. The secondary gully fill, 61, was a loose, greyish brown deposit that was very similar to the overlying topsoil.

Pits/postholes

Feature 5 was an oval stone-lined posthole that measured 0.60m by 0.40m and was 0.50m deep. The sides of the feature were steep and the base was concave. A singular fill, 63, was recorded as a loose, greyish brown sandy silt that included small limestone pieces packed around the edges.

Feature 6 was an approximately oval large posthole or small pit. The feature measured 0.80m by 0.66m and was 0.49m deep. The feature sides were near vertical and the base was flattish. Two fills were noted (64 and 65). The primary fill, 65, was a friable, yellowish orange, mixture of natural geological clay and some brownish clay with some small stone inclusions and was 0.25m thick. The secondary feature fill, 64, was a loose, dark brown to grey, silty clay with some large pieces of limestone, and was 0.25m thick

Feature 7 was an approximately oval pit or posthole that measured 0.47m by 0.45m and was 0.25m deep. The feature had steeply sloping sides and a flattish base (Plate 9). The single fill, 66, was a loose, greyish dark brown, silty clay that was very similar to the overlying topsoil.

Finds

The excavation produced a total of 498 objects (artefacts and ecofacts) with a combined weight of 10.4kg (including slag and bone). A catalogue of finds is given as Appendix 3.

A metal detector, operated to archaeological best practice, was used daily on site. The use of this tool substantially increased the number of recovered small metal objects.

The finds have been cleaned have been conserved (where necessary), numbered, labelled, properly packed and will be deposited with the National Museum of Ireland in accordance with *Advice Notes for Excavators* (NMI 1997).

Pottery by Clare McCutcheon

Introduction

A total of three sherds of ceramics were presented for study.

Methodology

The material was identified visually.

Results

The pottery identifications are summarised in Table 1.

Table 1: Pottery identification

Cut	Deposit	Fabric type	Finds number & sherd type	Date
-	50	Unglazed red earthenware	7	18th/19th?
3	57	Unglazed red earthenware	10 (B)	18th/19th?
-	68	Unglazed red earthenware	5 (R)	18th/19th?

Discussion

Two of the sherds; 50:7 & 68:5 (Plate 10) are thick pieces in bright red, soft fired clay, one with an edge or rim surface. Both are very smooth internally which identifies them as vessels rather than tiles. It is possible that they may be parts of sugar cones, used in the processing of sugar cane into loaf sugar. A particular feature of such vessels is the very smooth interior surface to the unglazed red earthenware vessels to ensure that the mixture does not adhere to the surface. The vessels are long triangular carrot-shaped, with a wide upper opening, similar to a wide bowl rim. The vessel narrows to a blunt point with a perforation. This was plugged while the mixture cooled and contracted into sugar loaf and then the remaining liquid was drained off as treacle and used in the brewing industry.

The possibility of the use of religious houses as sugar refining centres is not unknown as for example Red Abbey in Cork where a number of sugar cones and syrup-collecting jars were recovered from a well (McCutcheon & Meenan 2004, 29). The Red Abbey premise was leased in 1755 as a sugar-refinery and it is clear that this was the reopening of a previous refinery (Harrison 1999, 127).

The third sherd is the base of a vessel, possibly a mug or tankard. As only the base is present, it is not possible to be certain whether the entire vessel was glazed or unglazed. The sherd size suggests the base of a mottled ware tankard but the red clay is not typical of this ware which is more often in beige coloured clay.

The three sherds can be broadly dated to the 18th or 19th centuries given the suggested identifications above.

Metal by Miriam Carroll and Annette Quinn

Introduction

A total of fifteen metal artefacts comprise the assemblage from this site. The artefact types recovered are representative of a range of activities which may have taken place on or near to the site. The use of horses is clearly evident from the recovery of a horseshoe fragment and horseshoe nails while dress accessories are also represented by a belt hasp. Tools and items of structural ironwork are also present. A number of items which could not be readily assigned a definite classification are listed under miscellaneous. The artefacts recovered are discussed below according to type and general function and each section is followed by a catalogue.

Horse Equipment

One horseshoe fragment (E2022:57:3) and two horseshoe nails (E2022:56:3 and E2022:57:4) came from the Clare Abbey excavations. While horseshoes have a long history of use from the medieval period to the present, several indicators exist which may be indicative of date. According to Goodall (1990, 1056) 13th century horseshoes had broad webs (20-30mm) and countersunk nail holes which would have held nails with eared, expanded heads. They also frequently had three nail holes per branch. The later form of horseshoe (i.e., from the 14th century to the present) had rectangular nail holes and fewer calkins (*ibid*.). Calkins consist of projections formed by turning down the heels of the horseshoe whose function was apparently to provide a better foothold on soft ground. After the 13th century the holes were generally no longer countersunk and the shoe consequently had a plain outline (Scully 1997, 474).

The rectangular holes of this horseshoe fragment are possibly countersunk. While corrosion has obscured this detail the x-ray of the object possibly indicates countersunk holes. This hole type is more common on medieval (13th century and earlier) shoes and would have accommodated nails with expanded heads and ears such as E2022:57:4.

Horseshoe nails are distinctive from other general nail types in that their heads are specifically shaped and expanded for the purpose of both securing the horseshoe to the hoof and also in some cases to project beyond the surface of the shoe. Two examples of eared horseshoe nails occur in the assemblage with one (E2022:57:4) also possibly displaying the distinctive 'spiral clenching' at the tip of the nail. Eared nails sat in the countersunk slot of the shoe while the function of the spiral clench is thought to have been to facilitate the tightening of loose nails (Clark 2004, 87). Eared horseshoe nails with spiral clenches are known from 13th-14th century contexts in London (Clark 2004) and an example of an unclenched horseshoe nail with an expanded head was recovered from the excavations at Clontuskert Priory, Co. Galway (Fanning 1976, 140; fig. 14:75).

Table 2: Catalogue of horse equipment

Find No.	Material	Identification	Description
E2022:56:3	*Fe*	Horseshoe nail	L. 47.1mm, W. (Head) 15.5mm, Th. (Shaft) 4.2mm. Complete. Eared horseshoe nail.
E2022:57:3	*Fe*	Horseshoe fragment	L. 128.6mm, W. 31,9mm, Th. 8.9mm. Incomplete. Corroded fragment of horseshoe branch with one nail extant. Two rectangular nail holes also visible.
E2022:57:4	*Fe*	Horseshoe nail	L. 37mm, W. (head) 14.1mm, Th. (head) 9.3mm. Complete. Expanded, possibly eared head. Shaft bent, with possible spiral clench. Corroded.

Dress Accessories

Belt hasps

A copper alloy belt hasp (E2022:59:2; Plate 11) was recovered from an undated context at Clare Abbey. The term hasp is used here in relation to an item which joins one strap to another without using a pin and eye as a buckle does (Hinton 1990, 539). Hasps of this type take many forms, however, similar examples to that from Clare Abbey have been recovered from 14th-15th century contexts in Winchester (*ibid*, 540; fig. 143:1354). This type consists of a simple, almost rectangular frame with two internal bars or projections. The two bars functioned by preventing the strap to which the frame was sewn from sliding (*ibid*.). According to Hinton (*ibid*.) the remainder of the frame was to take a metal clip terminating another strap.

Table 3: Catalogue of dress accessories

Find No.	Material	Identification	Description
E2022:59:2	*Cu Alloy*	Belt hasp	L. 15.4mm, W. 25.8mm, Th. 1.3mm. Complete. Rectangular frame with small inner projection/bar on either side.

Pins / Needles

One possible needle/pin shaft (E2022:55:3) came from an undated context at Clare Abbey. This item is classified here as a possible needle/pin shaft due to the lack of a diagnostic head or eye.

Table 4: Catalogue of pins / needles

Find No.	Material	Identification	Description
E2022:55:3	*Fe*	Possible needle/pin shaft	L. 27.6mm, D. (shaft) 1.8mm. Incomplete. Circular in section. Possible fragment of pin/needle shank, head and point missing.

Tools

A possible awl (E2022:55:2; Plate 12) was recovered from an undated context. Awls are a common tool found in medieval contexts and are generally regarded to have been used for leather working. Larger examples may also have been used in woodworking. Awls have been recovered from 11th-12th century contexts in Waterford (Scully 1997, 469-472) and 13th-14th century contexts in Cork city (Carroll and Quinn 2003, 266-8).

Table 5: Catalogue of tools

Find No.	Material	Identification	Description
E2022:55:	*Fe*	Possible awl	L. 56.5mm, W. 4.8mm, Th. 3.8mm. Incomplete. Rectangular in section. Tapers at either end. Widens towards one end, opposing, narrower end possibly for attachment to handle.

Structural Ironwork

Three nails and nail shafts and a bolt came from predominantly post-medieval contexts. Only one nail (E2022:68:2) has an extant head, the form of which is largely obscured by corrosion. While different nail types can be identified through their distinct heads and/or size (e.g. horseshoe nails), little can be said of the typological development of nails with rectangular or circular heads which continued in use form the medieval period through to the 19th century.

Table 6: Catalogue of structural ironwork

Find No.	Material	Identification	Description
E2022:50:2	*Fe*	Bolt	L. 185.8mm, W. (shaft) 11.2mm, Th. (shaft) 10.8mm. Complete. Iron bolt with rectangular sectioned shaft and domed rectangular head.
E2022:55:4	*Fe*	Possible nail shaft	L. 17.2mm, W. 3.4mm, Th. 2.4mm. Incomplete. Rectangular in section. Possible nail shaft, bent at tapered end.
E2022:63:1	*Fe*	Nail shaft	L. 65mm, W. 8.5mm, Th. 7mm. Incomplete. Corroded nail shaft in two pieces. Head not extant.
E2022:68:2	*Fe*.	Nail	L. 27.6mm, W. 6.4mm, Th. 4.7mm. Incomplete. Highly corroded nail with possibly flat head. Shaft rectangular in section.

Miscellaneous

A number of items which are not readily classifiable due to their fragmentary state or which are undiagnostic are included here. A total of five objects whose precise function could not be determined are listed below with a basic description. A possible horse harness pendant (E2022:68:4) was unstratified, while three copper alloy objects (E2022:57:5, E2022:57:6 and E2022:57:7) came from an 18th/19th century context.

Table 7: Catalogue of miscellaneous items

Find No.	Material	Identification	Description
E2022:57:5	*Cu Alloy*	Strip	L. 18mm, W. 14.2mm, Th. 0.6mm. Incomplete. Folded strip of metal. Possible scrap.
E2022:57:6	*Cu Alloy*	Miscellaneous	L. 18.2mm, W. 11.9mm, Th. 0.6mm. Incomplete. Fragment of thin metal object. Function unknown.
E2022:57:7	*Cu Alloy*	Miscellaneous	L. 17.5mm, W. 6.7mm, Th. 0.6mm. Incomplete. Fragment of thin metal strip. Function unknown. 18th/19th century.
E2022:68:3	*Fe*	Miscellaneous	L. 18.3mm, W. 15.5mm, Th. 13.8mm. Incomplete. Fragment of oval sectioned bar with flat sub-circular piece of metal at one end. Undiagnostic. Unstratified.
E2022:68:4	*Pb*?	Miscellaneous	L. 37mm, W. 18.4mm, Th. 2.4mm. Incomplete. Oblong object, curved at broken end. One surface decorated with raised linear motif which terminates in 'Y'. Possible horse harness pendant?

Coin by Edel Ruttle

A coin (E2022:68:1) was found in an unstratified context and is clearly identifiable as a 1964 Irish *flóirín* 2 shilling piece. This version of the Irish *flóirín* was struck from 1951 onwards, to the introduction of decimalisation from 1968, when the metal composition was changed under the Coinage Act of 1950 from silver to cupro-nickel (Colgan 2003).

Table 8: Catalogue of coins

Find No.	Material	Identification	Description
E2022:68:1	*NiCu*	1964 Irish *flóirín* 2 shilling	2.8cm in diameter, Front salmon with '*flóirín* and 2s', Reverse Harp with 'éIRe 1964'

Clay tobacco pipe by Edel Ruttle

Introduction

Two pieces of clay tobacco pipe were examined (Table 9). All the material was collected by hand from context 50, topsoil.

Results

Both finds are stems that have been broken from their bowl. Find E2022:50:3 has a backward protruding spur, while find E2022:50:4 has a rounded spur. The development of a rounded spur is post 1640 (Ayto 1979). Spurs went out of fashion from the early eighteenth century.

Discussion

In the absence of bowls for more accurate dating one can only conclude that this assemblage dates from at the earliest mid 17th century to mid/late 18th century.

Table 9: Catalogue of clay pipe finds

Find no.	Deposit	Identification	Dimensions	Weight (gm)	Comment
E2022:50:3	50	Stem fragment	64mm long fragment, oval cross-section 12mm x 10mm at thickest and 8mm x 7mm at thinnest, 2.5mm diameter bore	6	Protruding spur
E2022:50:4	50	Stem fragment	33mm long fragment, 10mm diameter stem at thickest and 9mm diameter stem at thinnest, 3mm diameter bore	4	Rounded spur

Stone roofing tile by Edel Ruttle

Introduction

A single stone roofing tile was examined. The find was collected by hand from the topsoil. The assemblage is detailed in the catalogue (Table 10).

Results

Roof tile fragment
This fragmented of roof tile is sandstone and dark grey in colour. It is flat and has one straight edge.

Sources of sandstone:

The collection is sandstone and most likely from the West Clare area. This type of slate is quarried from Liscannor to the Shannon Estuary. This part of West Clare is situated on the Central Clare Group of Namurian shale, sandstone, siltstone and coal. Clare Abbey itself is situated on thick bedded Ailwee and Maumcaha group of limestone formations (Geological Survey of Ireland 1999).

Discussion

It is seemingly apparent that the source of sandstone for the tile was at least 30km away from the site.

Table 10: Catalogue of stone

Find No.	Cut	Deposit	Description	Weight (gm)	Dimensions
E2022:50:6	-	50	Roof tile fragment	162	105mm x 69mm x 13mm

Dimensions are at widest point

Iron slag by Lynne Keys

A small assemblage of iron slag weighing just less than 4.4kg was examined for this report (Table 11). Most had been recovered by hand but some was found in sieved soil samples taken on site. The assemblage was examined by eye and categorised on the basis of morphology alone. Each slag or other material type in each context was weighed; smithing hearth bottoms were individually weighed and measured to obtain statistical information. Quantification data are given in the slag table in which weight (wt.) is shown in grams; length (len.), breadth (br.) and depth (dep.) in millimetres.

Activities involving iron can take two forms:
1) *Smelting* is the manufacture of iron from ore and fuel in a smelting furnace. The resulting products are a spongy mass called an unconsolidated bloom (iron with a considerable amount of slag still

trapped inside) and slag (waste). The latter may take various forms depending on the technology used: tap slag, run slag, dense slag, or furnace slag.

2a) *Primary smithing*: hot working (by a smith using a hammer) of the bloom on a stringhearth (usually near the smelting furnace) to remove excess slag. The bloom becomes a rough lump of iron ready for use; the slags from this process include smithing hearth bottoms and micro-slags, in particular tiny smithing spheres.

2b) S*econdary smithing:* hot working, using a hammer, of one or more pieces of iron to create or repair an object. As well as bulk slags, including the smithing hearth bottom, this generates micro-slags: hammerscale flakes from ordinary hot working of a piece of iron (making or repairing an object) or tiny spheres from high temperature welding to join or fuse two pieces of iron.

Although a small amount of smelting slag (tap sag) was found in ditch 3 (fill 59) the date of this context is not known; another piece of tap sag occurred in deposit 51, which is described as a natural geological deposit. Tap slag is a dense, low porosity, fayalitic (iron silicate) slag with a ropy flowed structure. It is formed as the liquid slag is allowed to flow out continuously or intermittently through a hole in the side of the furnace. This removal of the slag facilitated retrieval of the bloom after the smelting operation.

The rest of the assemblage recovered consists of slag diagnostic of smithing or undiagnostic iron slag. The smithing evidence is very scant with a tiny amount of hammerscale being found in postholes 5 and 7. It is unlikely smithing was taking place in the immediate vicinity.

Table 11: Quantification table for the iron slag

Find No	Cut	Deposit	Sample	Slag description	Weight (gm)	len	br	dep	Comment	Pieces
E2022:51:1		51		Tap slag	117					
E2022:51:1		51		Undiagnostic	348				Part of smithing hearth bottom	
E2022:55:8	3	55		Vitrified hearth lining	8					
E2022:56:9	3	56		Undiagnostic	583				Possibly irregularly shaped smithing hearth bottom	
E2022:56:9	3	56		Smithing hearth bottom	500	115	80	40		
E2022:56:9	3	56		Undiagnostic	525					3
E2022:56:10	3	56	6	Undiagnostic	0.5					
E2022:57:11	3	57		Undiagnostic	92					
E2022:57:11	3	57		Smithing hearth bottom	1467	170	145	50		
E2022:57:12	3	57	8	Undiagnostic	0.5					
E2022:59:12	3	59	10	Undiagnostic	1					
E2022:59:12	3	59	10	Undiagnostic	432					
E2022:59:12	3	59	10	Tap slag	249					
E2022:61:1	4	61	7	Fired clay	6					
E2022:63:2	5	63	3	Hammerscale	0					
E2022:64:2	6	64	4	Microslags	2					
E2022:66:1	7	66	11	Undiagnostic	36					
E2022:66:1	7	66	11	Fired clay	10					
E2022:66:1	7	66	11	Hammerscale	0				One large flake and two spheres	

Quartz by Dr Steve Ford

A collection comprising 23 lithic items was submitted for identification recovered from seven contexts (Table 12). The collection wholly comprised items of quartz. The majority of the pieces of quartz show no obvious patterns of deliberate flaking either as cores or as flakes. Whether these lumps are a product of deliberate breakage, with use of whatever shapes luck brought someone, is unclear.

Two lumps of quartz with what appear to be fresher breaks than the remainder of the lump may possibly be cores. These pieces by analogy with the techniques of the flaking of flint and chert have the correct juxtaposition of a face for flaking and striking platform. Characteristics of flake scars, such as bulbs of percussion are not, though, clearly marked as quartz does not, by and large, exhibit conchoidal fractures and there is clearly some doubt as to the authenticity of these pieces. It is also possible that even if any flakes produced are considered as valid, there is no certainty that their production were a deliberate intention. Yet the material can produce sharp edges (Knight 1991) and its presence here in areas where the natural material does not outcrop but may be found locally in drift deposits (Briggs 1988) could suggest it was brought to the site and used.

Table 12: Catalogue of quartz

Find No	Cut	Deposit	Description	Weight (gm)
E2022:50:5		50	Lump of quartz. Not obviously flaked	5
E2022:54:2		54	Lump of quartz. Not obviously flaked	22
E2022:55:5-55:7	3	55	3 lumps of quartz. Not obviously flaked	82
E2022:56:4-56:8	3	56	5 lumps of quartz. Not obviously flaked	88
E2022:57:8-57:9	3	57	2 lumps of quartz. Not obviously flaked	19
E2022:58:1	3	58	Lump of quartz. Not obviously flaked	86
E2022:59:3-59:11	3	59	10 lumps of quartz. 8 are not obviously flaked. 2 lumps (59:3; 59:6) have possible flake scars (1 each)	537

Bone by Matilda Holmes

Methodology

Bones were identified using the author's reference collection, and further guidelines from Bass (1995), Cohen and Serjeantson (1996), Hillson (1992) and Schmidt (1972). Due to anatomical similarities between sheep and goat, bones of this type were assigned to the category 'sheep/goat', unless a definite identification using guidelines from Prummel and Frisch (1986) or Payne (1985) could be made.

Bones that could not be identified to species were, where possible, categorised according to the relative size of the animal represented (small – rodent /rabbit sized; medium – sheep / pig / dog size; or large – cattle / horse size). Ribs and vertebrae were not identified to species with the exception of 1st and 2nd cervical vertebrae and sacral elements.

Tooth wear and eruption were recorded using guidelines from Grant (1982) and Silver (1969), as were bone fusion (Amorosi 1989 and Silver 1969), metrical data (von den Driesch, 1976), anatomy, side, zone (Serjeantson 1996) and any evidence of pathological changes, butchery and working. The condition of fragments was noted on a scale of 1-5, where 1 is perfectly preserved and by 5 the bone is so badly degraded to be unrecognisable (Lyman 1994). Other taphonomic factors were also recorded, including the incidence of burning, gnawing, recent breakage and refitted fragments.

A number of sieved samples were collected but because of the volume of such samples a selective process was undertaken, whereby fragments were recorded only if they could be identified to species and / or element, or showed signs of taphonomic processes.

Results

All fragments were recorded, although articulated or associated fragments were entered as a count of 1, so as not to bias the relative frequency of species present. The bones from site E2022 could only be broadly dated to medieval / post medieval date, so it was decided that it would not be profitable to analyse these further than the species represented (Table 13).

Table 13: Catalogue of species representation and diet

Species	**Fragment count**	**% of identified assemblage**
Cattle	77	36
Sheep / Goat	73	34
Pig	28	13
Horse	1	0.5
Dog	4	2
Rodent	1	0.5
Chicken	2	1
Fish	28	13
Total Identified	**214**	
Unidentified Large Mammal	70	
Unidentified Medium Mammal	94	
Unidentified Mammal	59	
Total	**437**	

Species proportions from this site, of medieval / post medieval date were most comparable to those of phase IV from site E2021 (Hull 2008). Cattle and sheep were found in similar numbers, and pigs were also present in significant, yet smaller numbers. Horse, dog and chicken were present in very low quantities, as were rodent (vole) and fish.

The relative number of species within the complete assemblage suggest (including site E2021) that either the site itself, or the area excavated was relatively unused prior to the 15th Century, at which point the diet of the inhabitants would have included beef, lamb, pig, chicken and goose, supplemented with a wide range of wild mammals, birds, molluscs and fish, a trend which appears to have continued into the 18th century.

Fish

A summary of species identified is given in Table 14, nearly all of which were retrieved by the sieving programme. The presence of cod species suggests connections with the coast but perch would have been common in local rivers.

Table 14: Catalogue of fish species

Species	
Gadoid	X
Percidae	X
Unidentified	X
Number of Fragments	**28**

Summary

This area of Clare Abbey appears to have been inhabited most intensively from the 15th century, and the variety of wild and domestic mammals, birds, shellfish and fish suggests that this was a high status site (Grant 1988). The economy of the hinterland was probably based on secondary products, utilising animals for traction, milk and wool, any surplus stock being sent to the Abbey. Cattle, sheep and pigs

were probably brought to the site on the hoof to be butchered, although domestic fowl and geese may have been bred and kept on site. A number of animals were most likely hunted from nearby woods (deer, hare and woodcock), and local rivers were important sources of molluscs, fish and duck. There is also some evidence for links with the coast in the presence of sea fish.

Shell *by Matilda Holmes*

Five pieces of shell were examined and were catalogued by species (Table 15).

Table 15: Catalogue of shell species

Find No	Species	Fragment count
E2022:56:2 a-d	Oyster	4
E2022:57:2	Cockle	1

Samples

Carbonised plant remains and charcoal by Lucy Cramp

Introduction

Samples of sediment, measuring between 4 and 12 litres, were taken from eleven features across the site (Appendix 4). These samples were assessed for environmental remains for the recovery and identification of preserved plant remains and charcoal which might allow the reconstruction of human activity or environmental conditions at the site.

Methodology

Organic flots were obtained through wet-sieving and flotation of sediment samples over a 0.3mm and then a 0.2mm mesh. Samples were dried and the resulting flots were sorted using a low-power binocular microscope at x10-x20 magnification.

Charcoal was examined using a x45 magnification binocular microscope and further analysed using up to x400 magnification to examine the tangential and radial sections where charcoal could not be identified by the transverse section alone. The charcoal was identified with reference to a modern reference collection and Vernet (2001). Where <20 identifiable fragments were present (>~2mm fragment), all fragments were examined. Where >20 fragments were present then 20 were randomly selected for identification.

Cereal grains and other plant macrofossils were all picked out, quantified and identified at x10-x20 magnification.

Results

All material recovered from the samples was preserved by carbonisation. Samples are summarised overall and then by feature below, whilst results are presented quantitatively (according to a three-point scale of + present, ++ some, +++ much for charcoal, or the absolute number of grains for cereal caryopses or other plant parts) in Table 16.

<u>Charcoal</u>

Charcoal was thinly distributed throughout all eleven samples, although it was often rather fragmentary and generally present in low abundance. Taxa consisted of: oak (*Quercus* sp.); hazel

(*Corylus* sp.); alder (*Alnus* sp.); ash (*Fraxinus* sp.); hawthorn/apple family (Rosaceae, subfamily Pomoideae). Some fragments of charcoal could only be identified as either alder (*Alnus* sp.) or hazel, as they were too fragmentary to be differentiated. The presence of both alder and hazel at numerous other archaeological sites in the region means that alder cannot be excluded despite the positive identification of hazel here. A mixture of one or more of these charcoal types was present in most samples.

Other plant remains

Cereal grains were present in the majority of samples. Species included free-threshing bread or rivet wheat (*Triticum aestivum* or *turgidum*), along with a small number of barley grains (*Hordeum* sp.), including hulled and 6-row barley. There was no cereal chaff, nor arable weed seeds, recovered from the samples.

Further plants of potential economic value were represented by numerous fragments of hazel nut (*Corylus avellana*) shell and a small number of vetch or tare (*Vicia* or *Lathryus* sp.) seeds.

Samples 1 and 2 Ditch [1] deposits (53) and (54)

Preserved plant macrofossils were sparse. The sample included isolated wheat grains (including free-threshing bread or rivet wheat) and a twisted barley grain indicating 6-row barley. A few fragments of hazelnut shell and a vetch or tare were also present.

Sample 3 Pit [5] deposit (63)

This deposit contained a low scatter of free-threshing wheat grains and hazelnut shell. Wood charcoal included fragments of oak, hazel and hawthorn/apple type.

Samples 4 and 5 Posthole/small pit [6] deposits (64) and (65)

These deposits contained a low scatter of free-threshing wheat grains and hazelnut shell. Charcoal included ash and hawthorn/apple type.

Samples 6, 8, 9 & 10 Ditch [3] deposits (56), (57), (58) and (59)

Cereal grains were slightly more frequent in these deposits than elsewhere and were dominated by free-threshing wheat, whilst barley (including evidence for hulled and 6-row barley) was also present. Other plant remains included hazelnut shell and vetch or tare. Charcoal included a mixture of hazel, alder/hazel, oak, ash and hawthorn/apple type.

Sample 7 Gully [4] deposit (61)

Plant remains were very sparse and comprised a single wheat grain and hazelnut shell.

Sample 11 Oval pit/posthole [7] deposit (66)

Grains of free-threshing wheat were comparatively abundant here along with a couple of barley grains. Hazelnut shell, vetch or tare and charcoal from hazel, oak and ash.

Discussion and Conclusions

The charcoal recovered from the site was relatively limited both in terms of actual abundance and the range of species which were represented. Oak charcoal, along with ash and some scrub species, including hazel and hawthorn/apple type charcoal were all identified. These wood types are all native species which grow commonly in the region, although alder tends to prefer damper ground. The recovery is entirely consistent with other sites which were excavated along the Ennis Bypass. These charcoal deposits are consistent with small-scale, and most likely deliberate, episodes of burning; the

wood may have been selected specifically as fuel or although it is possible it was used first for other purposes (structures, tools etc.) before disposal.

Evidence for cereals from this site is dominated by grains of free-threshing wheat, which is a crop that is entirely typical for the medieval and later periods. This wheat was supplemented by lower amounts of barley (including evidence for 6-row and hulled barley). A low number of vetch or tare was also recovered. Vetch was cultivated as animal fodder or, indeed, for human consumption during the medieval and later period, although none could be determined conclusively as domesticated. The lack of chaff and arable weed seeds indicates that the cereal was cleaned, processed grain ready for consumption, rather than having been stored or imported as ears. The grain may therefore have become accidentally charred through cooking or drying prior to grinding for flour.

In addition to hazel charcoal, carbonised hazelnut shell was also found in the majority of samples. Although numerous fragments were recovered, this did not exceed a minimum number of one hazelnut per sample. Hazelnuts may well therefore have been consumed at the site, although they are only represented in low abundance and so may have derived incidentally (e.g. when collecting hazel wood for burning), rather than being specifically sought.

The plant macrofossils recovered from this site therefore indicate a small, rural settlement using wood and scrub from local woodland as fuel; cereal subsistence appears to have been based upon free-threshing wheat and barley although this may well have been grown and imported from elsewhere. The samples taken from this site are all broadly similar in character and no differences can be discerned from different context types (pits, gullies, ditches etc.); all therefore are likely to derive from the disposal of waste from domestic burning. These findings are entirely consistent with expectations for a medieval to post-medieval rural settlement in this area.

Table 16: Catalogue of carbonised plant remains and charcoal

Sample		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Cut		1	1	5	6	6	3	4	3	3	3	7
Deposit		53	54	63	64	65	56	61	57	58	59	66
Sample vol. (L)		4	4	4	4	4	8	8	8	4	12	8
Context type		Gully	Gully	Posthole	Posthole /pit	Posthole /pit	Ditch	Gully	Ditch	Ditch	Ditch	Pit/posthole
Cereal grain												
Free-threshing *Triticum* sp. (*aestivum* or *turgidum*)	Free-threshing bread or rivet wheat	1	1	4	1				22			17
Triticum sp.	Wheat	1	1	1	3		4	1	9	7	5	
Hordeum sp. (hulled)	Hulled barley								1			
Hordeum sp. (lateral)	Barley (lateral grain)	1							1			
Hordeum sp.	Barley			1			2		3	2		2
Cereal indet.			1	2	2				7			6
Other plants												
Corylus avellana (shell)	Hazelnut shell		+	+	+		+	+	++		+	+
Vicia or *Lathrus* sp.	Vetch or tare		1				1					1
Items/litre		0.75	1	2	1.5		0.875	0.125	5.375	2.25	0.42	3.25
Charcoal												
Quercus sp.	Oak			+			+			+		+
Corylus sp.	Hazel			+								+
Alnus or *Corylus sp.*	Alder or hazel						+				+	

Discussion

The archaeological excavation of the access road to the carpark/turning space adjacent to Clare Abbey has produced evidence of activity that was most likely associated with the abbey. Because of the very narrow strip of ground excavated it is difficult to fully explain the archaeological features. Analysis of the artefacts and ecofacts has assigned the site to the medieval and post-medieval periods. The other archaeological excavation site to the immediate north (C020, E2021) has demonstrated that considerable activity, from the 11th/12th century onwards, was taking place at Clare Abbey. Radiocarbon dating was not undertaken on artefacts or ecofacts from this narrow strip of ground as the dates from the main site (C020, E2021) were thought sufficient to understand the site chronology.

Ditch 3 produced the only loosely datable finds. The fragmentary metal finds are possibly medieval and relate to horses and leather. Horse equipment was also found at site E2021 and it is possible that the finds are related to the horse activity noted there (Hull 2008). Pottery from ditch 3 (but also from topsoil) is possibly part of sugar cones used in the processing of sugar cane into loaf sugar. Evidence of sugar manufacture was found at Red Abbey in Cork during the 18th century (McCutcheon and Meenan 2004) but there was a precedent for sugar manufacture at Red Abbey. There is no documentary evidence for sugar manufacture at Clare Abbey and as the abbey was not in use as an ecclesiastical house in the 18th century, the remains of the sugar cones are probably the result of dumping at the site.

Manufacturing in the form of smithing was taking place at the site with nails and iron slag found in the excavation.

One roof tile fragment was retrieved from the topsoil. This roofing material was sandstone and very likely came from the Moher region of west Clare, 30km to the north-west. Numerous similar roof tiles were found at site E2021.

The presence of non-local quartz crystals, particularly in association with a medieval abbey, suggests that these stones may have been votive lapidaries, collected and deposited for their perceived powers.

The animal species represented at the site were typical of the medieval/post-medieval period. Cattle, sheep, goat and pig would have been brought in on the hoof for butchering. Chickens and fish also formed part of the diet. The other species found at the site were horse, dog and rodent.

The grain identified was also typical of the medieval/post-medieval period. The predominate cereal identified was free-threshing wheat with smaller amounts of barley and vetch present.

Archaeological potential on adjacent land

The ground to the east of the excavation area, as well as the existing abbey remains to the north, has a very high probability of containing archaeological deposits and features associated with the abbey's foundation, use and decline from at least the 13th century onwards. Any groundworks in the immediate vicinity should be subject to archaeological constraint. To the immediate west of the excavation area, it is very likely that early deposits have been destroyed by the construction of the railway in the mid-19th century. Archaeological deposits may, however survive to the west of the railway. Topographic survey (Murphy 2007), geophysical survey (06R0195, Leigh 2006) and archaeological test trenching (07E0703-Hull 2007, Hull 2006d, Hull and McNamara 2006 and) have been carried out on the lands immediately surrounding Clare Abbey for a proposed private development. The geophysical survey identified high archaeological potential in the form of probable ancillary buildings to the south, east and north of the abbey as well as cut features (possibly graves) to the immediate north of the abbey church. The archaeological test trenching demonstrated an absence of archaeological features or deposits on or in the deep peat (up to 3m deep) to the north of the abbey. Further archaeological

features, perhaps relating to post-medieval brick making, were also identified in the geophysical and topographic surveys.

Publication and further work

A summary of the findings of the excavation has been submitted to *Excavations 2005*.

This archaeological final report will be posted on the County Clare Library website (**www.clarelibrary.ie**)

A public lecture, highlighting the excavation results, was made in September 2007 and the proceedings of that seminar have been published by the National Roads Authority (Hull and Joubert 2008).

An article, illustrating the excavation results, has been published in *The Other Clare* (Hull and Joubert 2008).

The excavation results from the two sites at Clare Abbey will be synthesised and published as part of a National Roads Authority monograph devoted to the archaeology of the N18 Ennis Bypass and N85 Western Relief Road.

An accessible archive of primary records has been prepared for long term storage and will be kept at the offices of TVAS (Ireland) Ltd until such time as a State archive repository becomes available.

The finds have been cleaned and conserved (where necessary), numbered, labelled, properly packed and will be deposited with the National Museum of Ireland in accordance with *Advice Notes for Excavators* (NMI 1997).

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Graham Hull MIFA MIAI
TVAS Ireland Ltd
15th October 2008

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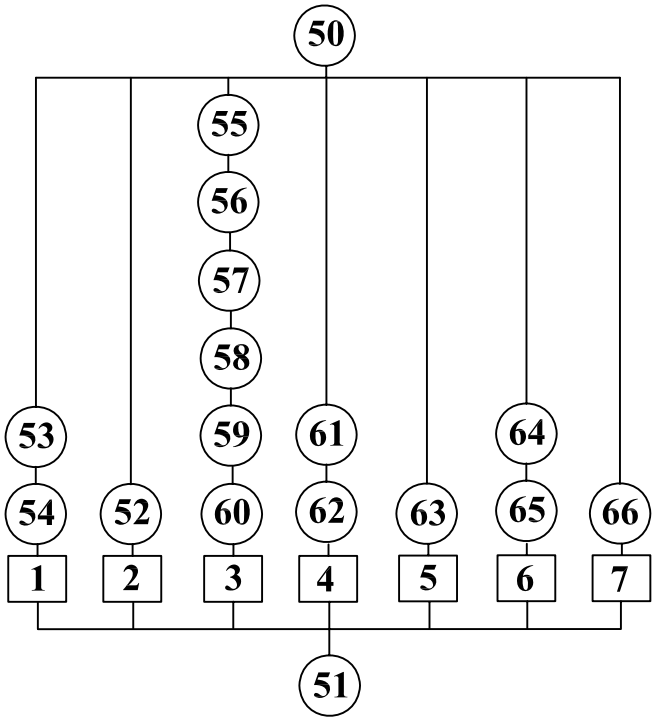
Appendix 1: Catalogue of features and deposits

Context No.	Description	Date
1	Ditch	?
2	Ditch	?
3	Ditch	11/19
4	Ditch	?
5	Posthole	?
6	Posthole	?
7	Posthole	?
8-49	Not used	n/a
50	Topsoil	n/a
51	Natural geology	n/a
52	Fill of 2	?
53	Fill of 1	?
54	Fill of 1	?
55	Fill of 3	11/14 awl possible
56	Fill of 3	?
57	Fill of 3	13 horse – 18/19 pot
58	Fill of 3	?
59	Fill of 3	14/15 belt hasp
60	Fill of 3	?
61	Fill of 4	?
62	Fill of 4	?
63	Fill of 5	?
64	Fill of 6	?
65	Fill of 6	?
66	Fill of 7	?
67	Not used	n/a
68	Number allocated for unstratified finds	n/a



N18 Ennis Bypass and N85 Western Relief Road
A025/001, E2022, Clare Abbey, Co. Clare

Appendix 2: Stratigraphic matrix

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Appendix 3: Catalogue of finds

Find No	Cut	Deposit	Category	Description	No pieces	Weight (g)
50:1		50	Bone	Animal bone	36	237
50:2		50	Metal	Bolt w/domed rectangular head-iron	1	139
50:3		50	Clay tobacco pipe	Stem fragment with backward protruding spur	1	6
50:4		50	Clay tobacco pipe	Stem fragment with rounded spur	1	4
50:5		50	Stone	Quartz – small prism tip fragment worked to a tapered end	1	4
50:6		50	Stone	Roof tile fragment - sandstone	1	162
50:7		50	Pottery	Unglazed red earthenware body sherd (?sugar cone fragment)	1	14
51:1		51	Slag	Tap slag & undiagnostic part of smithing bottom	2	474
53:1	1	53	Bone	Animal bone	56	685
53:2				Cancelled		
54:1	1	54	Bone	Animal bone	22	642
54:2	1	54	Stone	Quartz – lump/fragment struck	1	22
54:3	1	54	Bone	Animal bone	30	6
55:1	3	55	Bone	Animal bone	21	190
55:2	3	55	Metal	Awl (possible) - iron	1	4
55:3	3	55	Metal	Needle / pin shaft (possible) - iron	1	<1
55:4	3	55	Metal	Nail fragment, rectangular in section - iron	1	<1
55:5	3	55	Stone	Quartz – several surface struck with rounded end	1	31
55:6	3	55	Stone	Quartz – prism tip fragment, struck	1	10
55:7	3	55	Stone	Quartz – several surfaces struck, triangular	1	41
55:8	3	55	Slag	Vitrified hearth lining	1	7
56:1	3	56	Bone	Animal bone	107	1190
56:2	3	56	Shell	Oyster shell fragments	4	15
56:3	3	56	Metal	Eared horseshoe nail - iron	1	8
56:4	3	56	Stone	Quartz – lump, struck	1	35
56:5	3	56	Stone	Quartz – rough, worked to a tapered end	1	21
56:6	3	56	Stone	Quartz – lump, struck	1	23
56:7	3	56	Stone	Quartz – small fragment, struck	1	5
56:8	3	56	Stone	Quartz – small fragment, struck	1	3
56:9	3	56	Slag	Undiagnostic, smithing hearth bottom	5	1654
56:10	3	56	Slag	Undiagnostic	1	<1
56:11	3	56	Bone	Animal bone	20	14
57:1	3	57	Bone	Animal bone	112	842

Appendix 3: Catalogue of finds continued

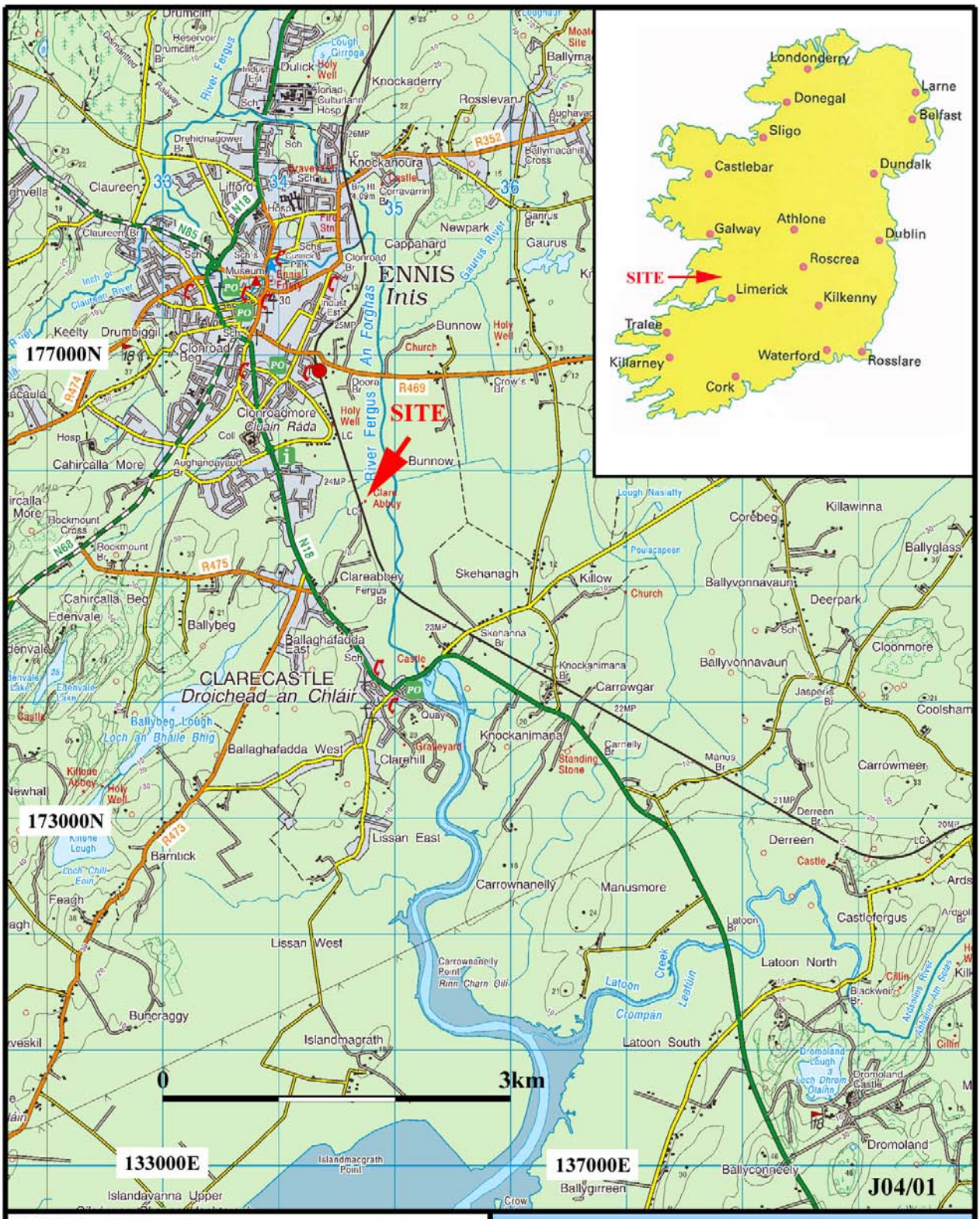
Find No	Cut	Deposit	Category	Description	No pieces	Weight (g)
57:2	3	57	Shell	Cockle shell fragment	1	23
57:3	3	57	Metal	Horseshoe fragment	1	154
57:4	3	57	Metal	Eared horseshoe nail with spiral clenching	1	7
57:5	3	57	Metal	Folded strip of metal (possible scrap) – copper alloy	1	2
57:6	3	57	Metal	Thin metal object, fragment – copper alloy	1	<1
57:7	3	57	Metal	Thin metal strip, fragment – copper alloy	1	<1
57:8	3	57	Stone	Quartz – small prism tip fragment, struck	1	1
57:9	3	57	Stone	Quartz – prism tip worked to a tapered end	1	16
57:10	3	57	Pottery	Unglazed red earthenware body sherd (?sugar cone fragment)	1	5
57:11	3	57	Slag	Undiagnostic, smithing hearth bottom	3	1585
57:12	3	57	Slag	Undiagnostic	3	1
57:13	3	57	Bone	Animal bone	20	14
58:1	3	58	Stone	Quartz – large lump, struck	1	88
58:2	3	58	Bone	Animal bone	15	4
59:1	3	59	Bone	Animal bone	71	490
59:2	3	59	Metal	Copper alloy belt hasp	1	1
59:3	3	59	Stone	Quartz – large prism tip fragment worked to a tapered end	1	178
59:4	3	59	Stone	Quartz – large prism tip fragment, struck	1	122
59:5	3	59	Stone	Quartz – small fragment, struck	1	56
59:6	3	59	Stone	Quartz – large prism tip fragment worked to a tapered end	1	66
59:7	3	59	Stone	Quartz – prism tip fragment, struck	1	33
59:8	3	59	Stone	Quartz – large prism tip fragment, struck	1	53
59:9	3	59	Stone	Quartz – small fragment, struck	1	8
59:10	3	59	Stone	Quartz – small fragment, struck	1	13
59:11	3	59	Stone	Quartz – small fragment, struck	1	10
59:12	3	59	Slag	Undiagnostic	3	712
59:13	3	59	Bone	Animal bone	15	13
61:1	4	61	Slag	Fired clay	15	5
61:2	4	61	Bone	Animal bone	40	11
63:1	5	63	Metal	Nail shaft fragment - iron	2	13
63:2	5	63	Slag	Hammerscale	1	<1
63:3	5	63	Bone	Animal bone	30	18
64:1	6	64	Bone	Animal bone	6	10

Appendix 3: Catalogue of finds continued

Find No	Cut	Deposit	Category	Description	No pieces	Weight (g)
64:2	6	64	Slag	Microslag	5	1
64:3	6	64	Bone	Animal bone	40	17
65:1	6	65	Bone	Animal bone	21	5
66:1	7	66	Slag	Undiagnostic, fired clay, hammerscale	>50	50
66:2	7	66	Bone	Animal bone	30	15
68:1		68	Metal	1964 Irish *flóirín* 2 shillings	1	11
68:2		68	Metal	Nail fragment, rectangular in section - iron	3	7
68:3		68	Metal	Oval sectioned bar with flat piece at one end - iron	1	28
68:4		68	Metal	Horse harness pendant (possible) - lead	1	12
68:5		68	Pottery	Unglazed red earthenware base sherd	1	14

Appendix 4: Catalogue of Samples

Sample No	Cut	Deposit	Volume sieved (L)	Volume floated (L)	Charred plant material?	Finds
1	1	53	4	4	Y	Bone
2	1	54	4	4	Y	Bone
3	5	63	4	4	Y	Bone, iron nail and slag
4	6	64	4	4	Y	Slag and bone
5	6	65	4	4	Y	Bone
6	3	56	8	8	Y	Bone and slag fragments
7	4	61	8	8	Y	Bone and slag
8	3	57	8	8	Y	Bone and slag fragments
9	3	58	4	4	Y	Bone
10	3	59	12	12	Y	Bone and slag
11	7	66	8	8	Y	Bone and slag



N18 Ennis Bypass
and N85 Western Relief Road
A025/001, E2022, Clare Abbey, Co. Clare

Figure 1: Site location

Based on Ordnance Survey Ireland, 1:50000, Discovery Series
1st Edition, 1996
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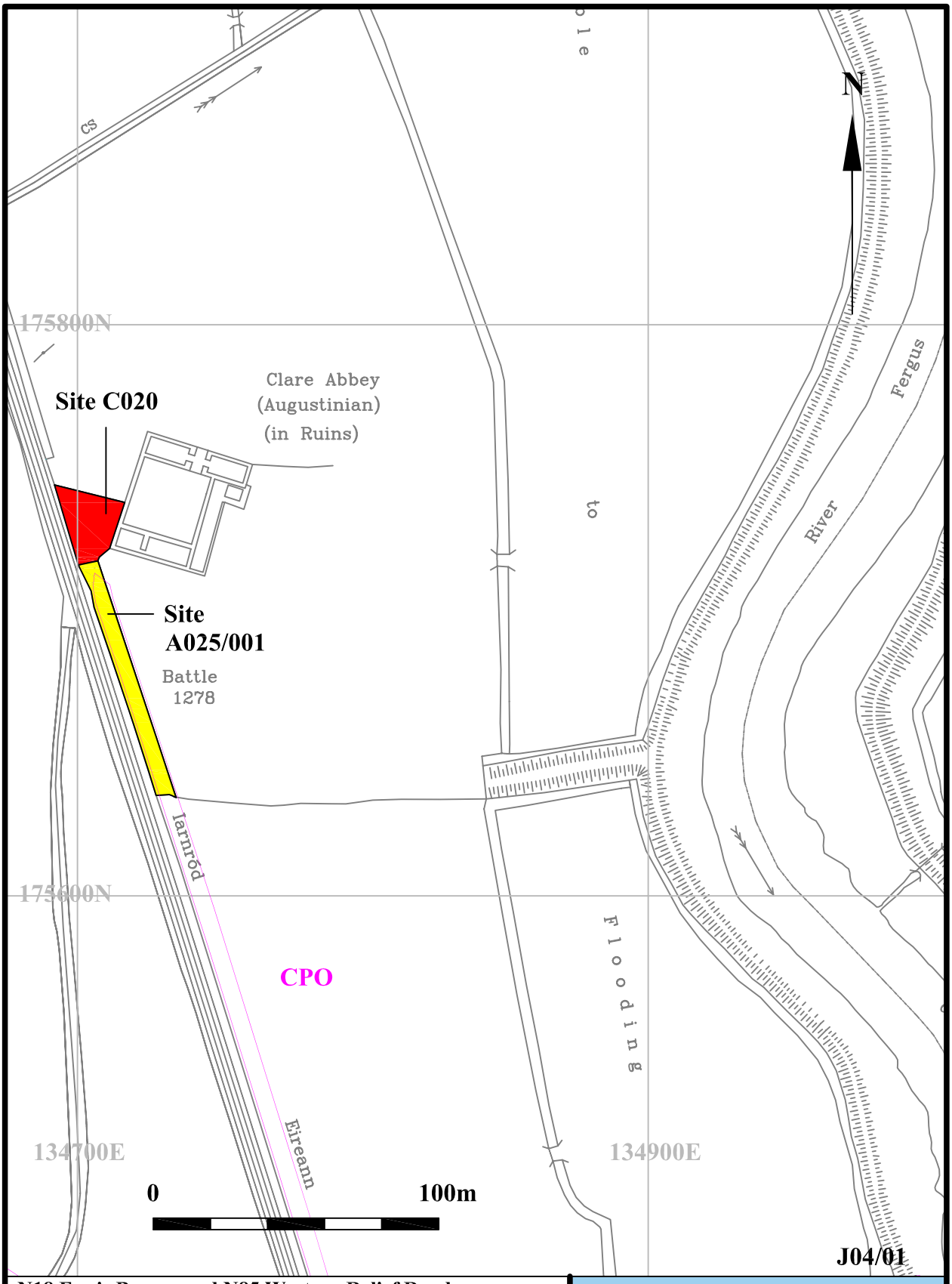

N18 Ennis Bypass and N85 Western Relief Road
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Figure 2: Site location

Scale 1:2000
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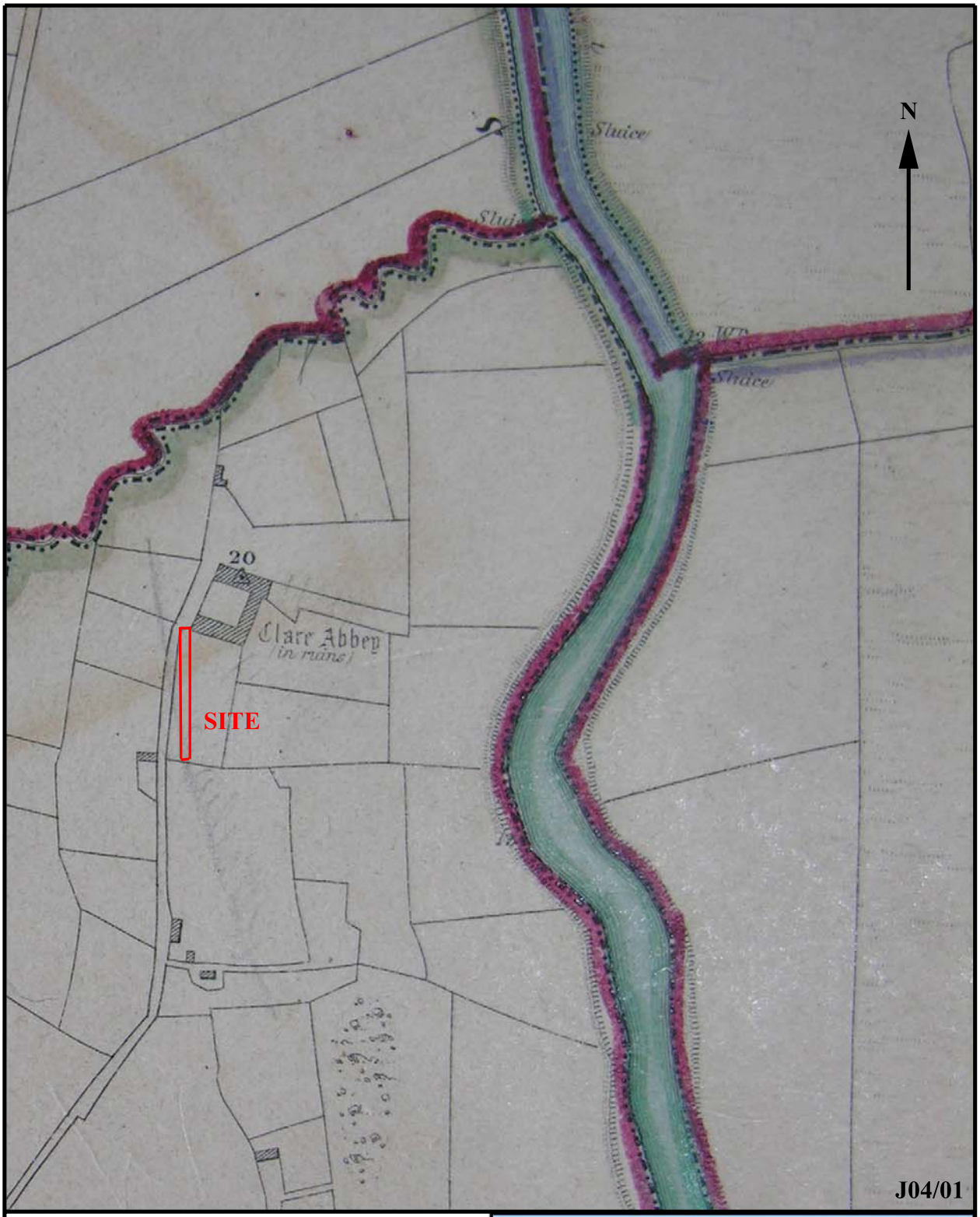

N18 Ennis Bypass and
N85 Western Relief Road
A025/001, E2022, Clare Abbey, Co. Clare

Figure 3: Ordnance Survey 1st Edition

Ordnance Survey 1st Edition, Co. Clare, Sheet 33
6" to mile, Surveyed 1840, Not reproduced to scale

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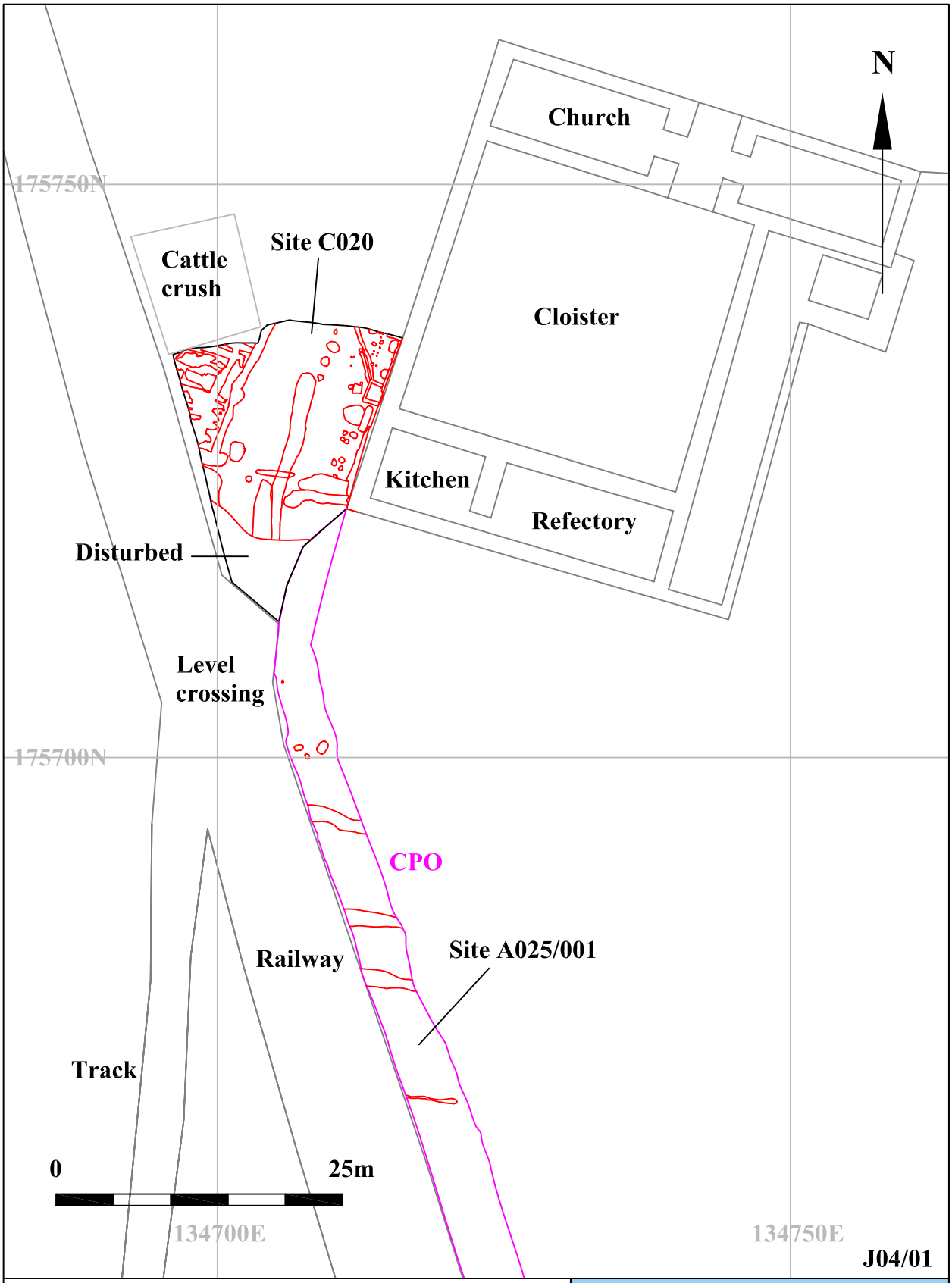

N18 Ennis Bypass and N85 Western Relief Road
A025/001, Clare Abbey, Co. Clare, E2022

Figure 4: Location of archaeological features and abbey

Scale 1:500
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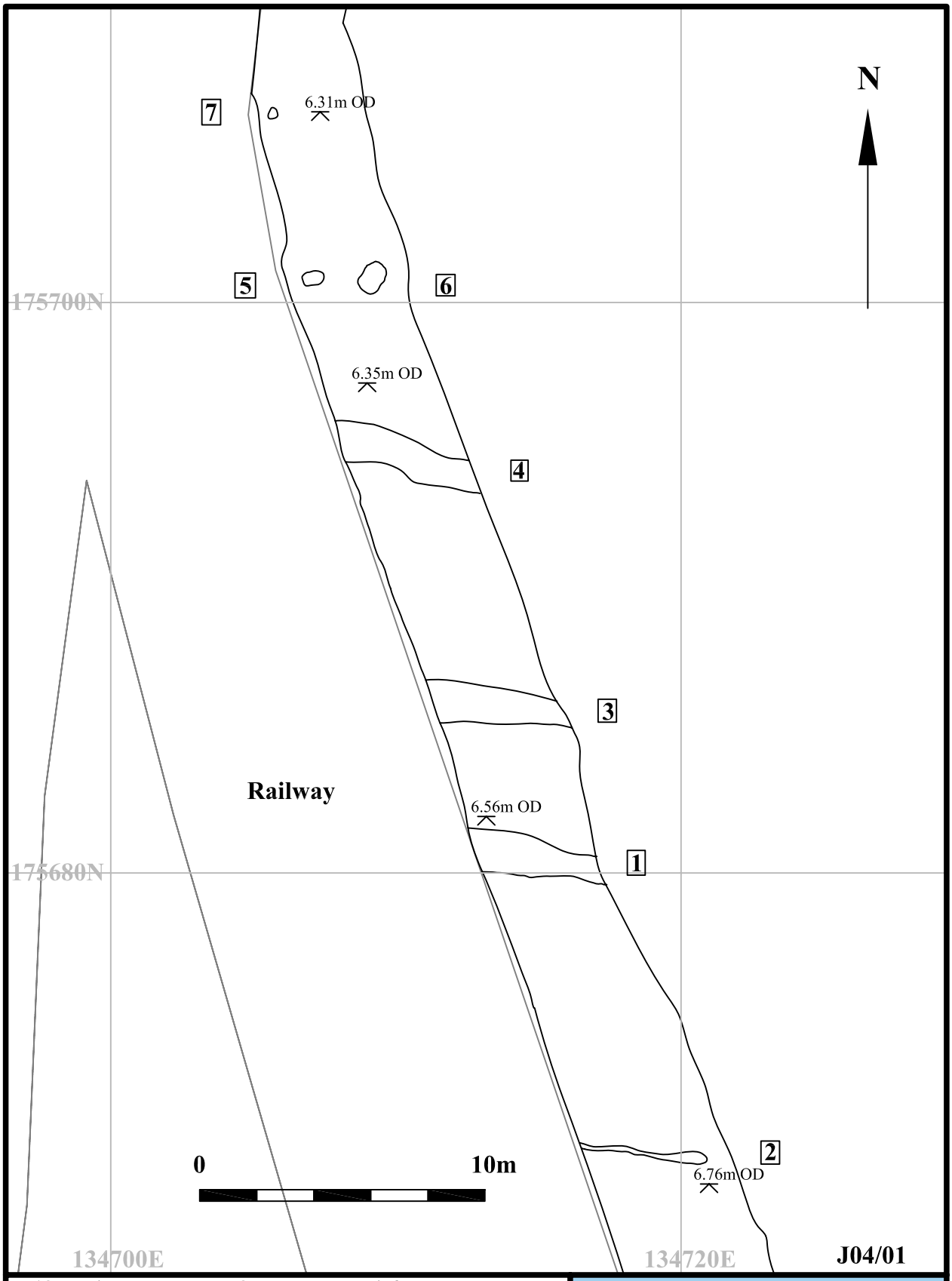

N18 Ennis Bypass and N85 Western Relief Road
A025/001, Clare Abbey, Co. Clare, E2022

Figure 5: Archaeological features

Scale 1:200
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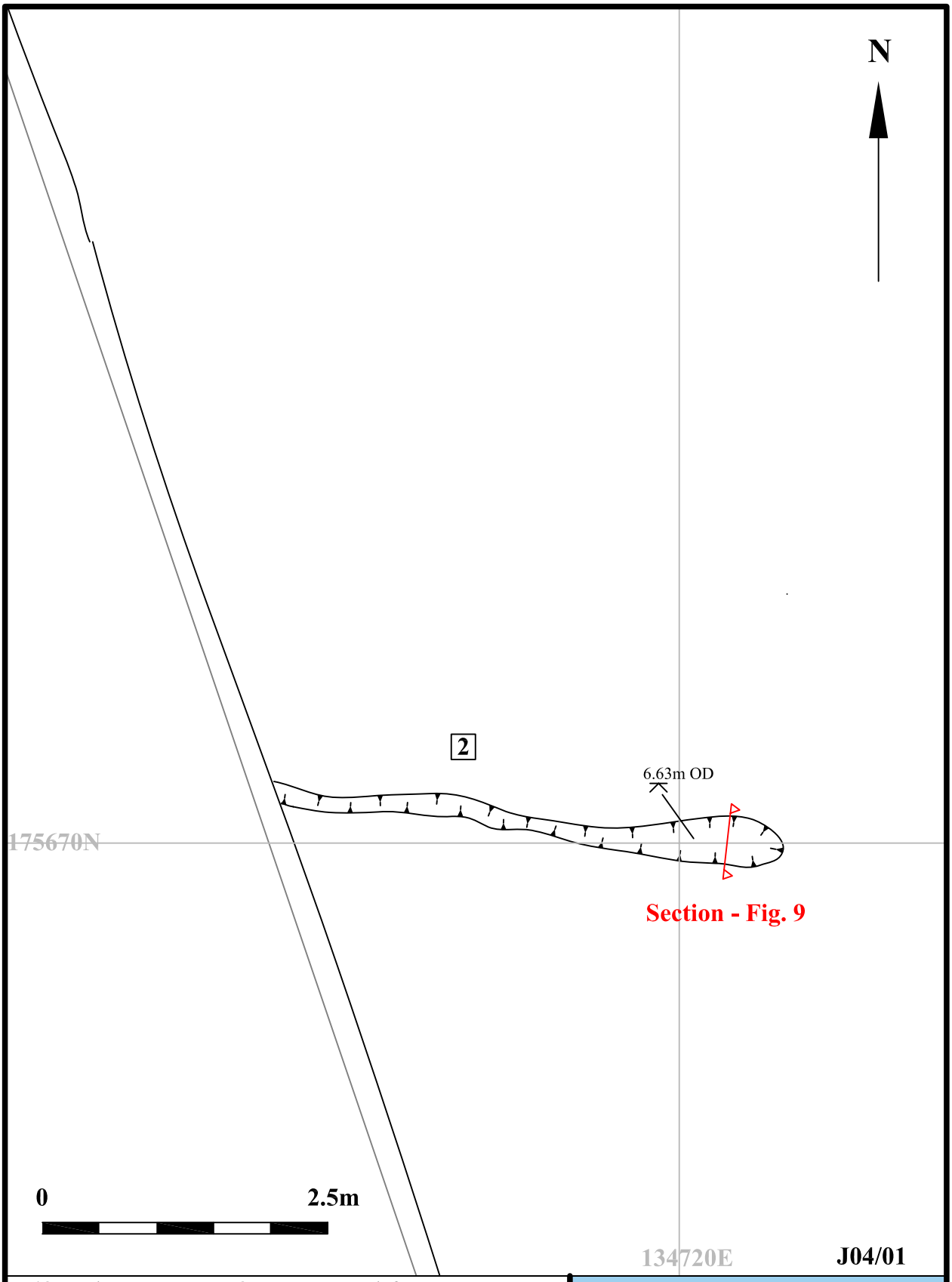

N18 Ennis Bypass and N85 Western Relief Road
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Figure 6: Feature 2

Scale 1:50
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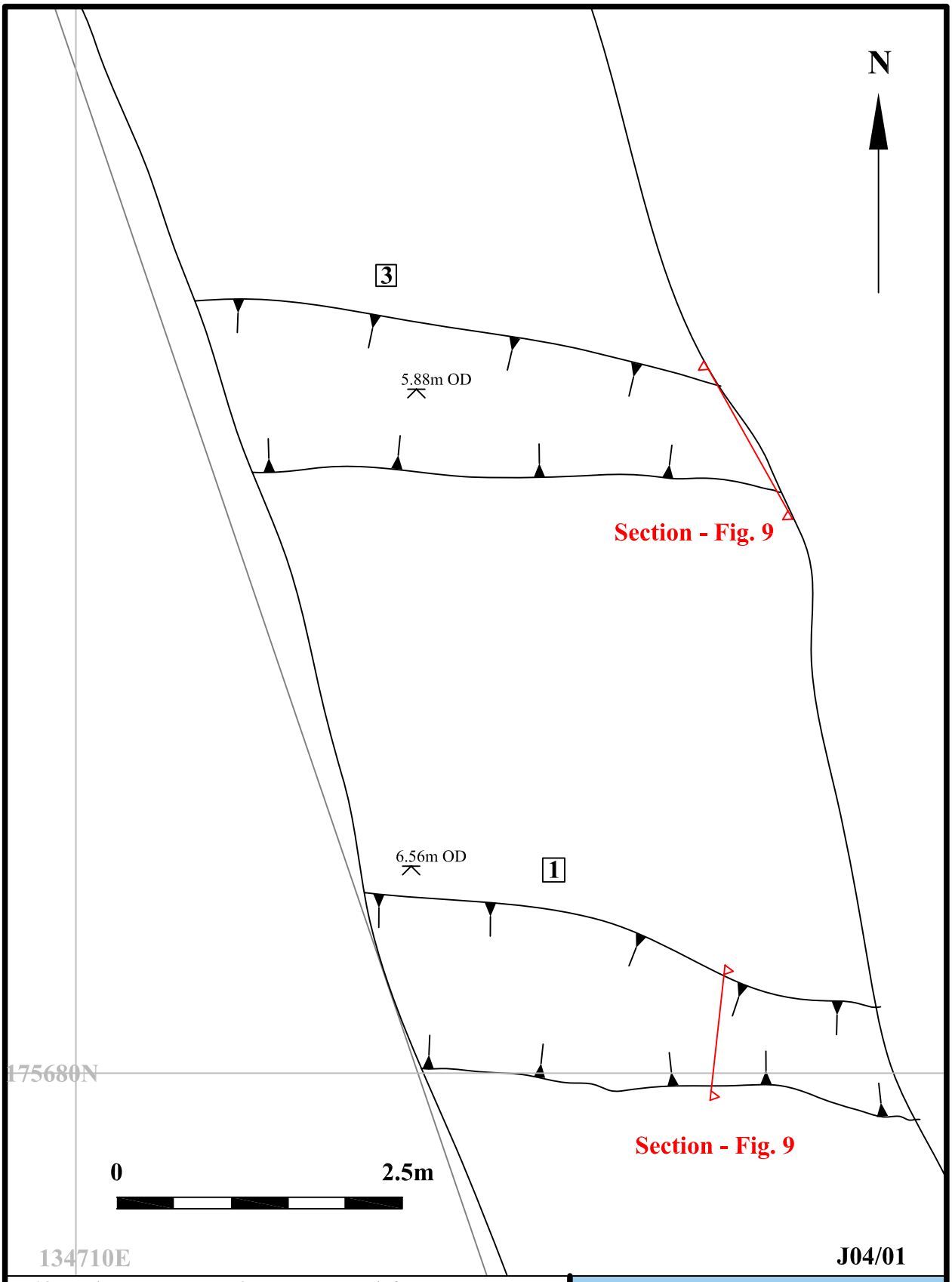

N18 Ennis Bypass and N85 Western Relief Road
A025/001, Clare Abbey, Co. Clare, E2022

Figure 7: Features 1 and 3

Scale 1:50
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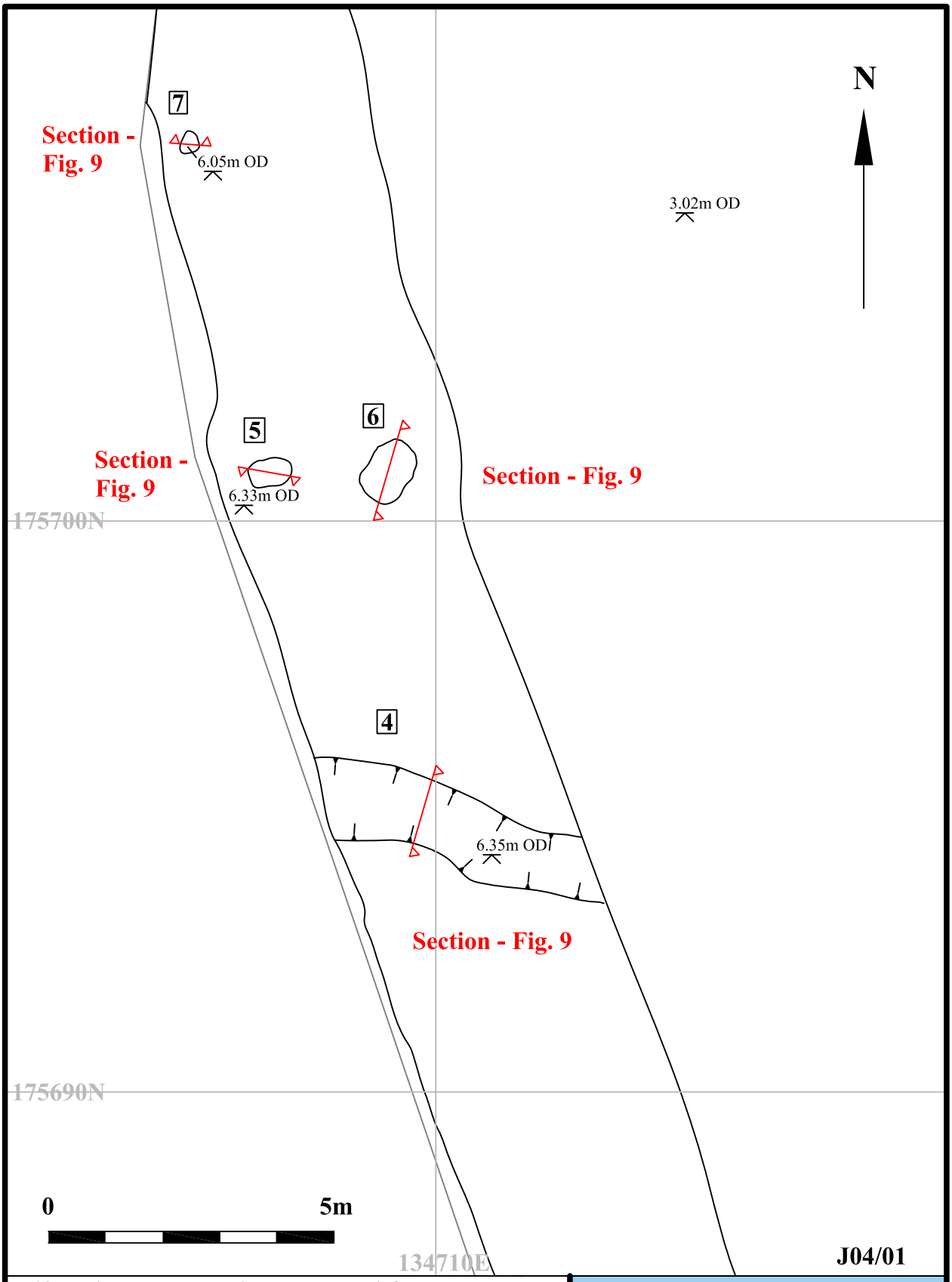

N18 Ennis Bypass and N85 Western Relief Road
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Figure 8: Features 4, 5, 6 and 7

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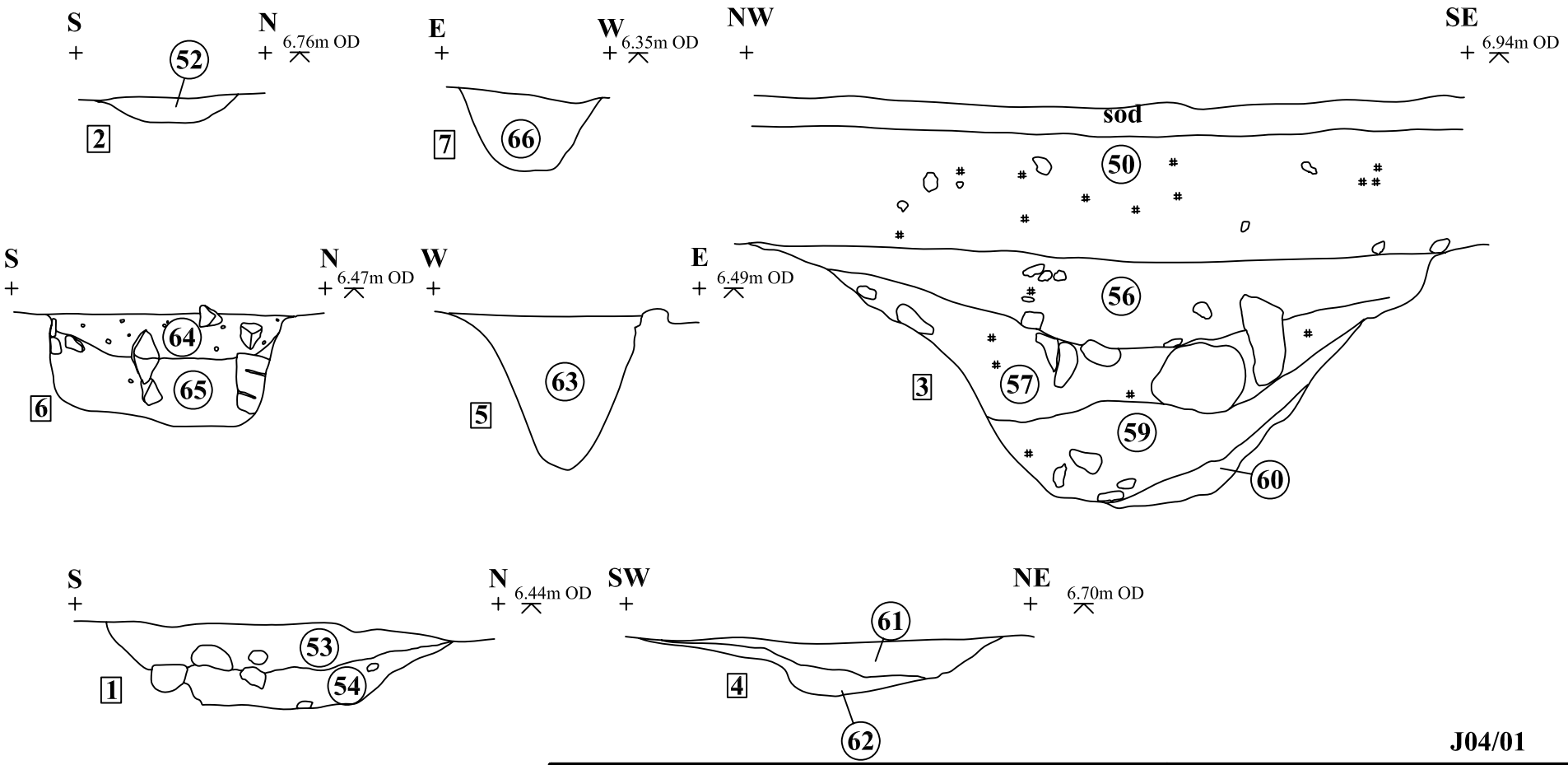

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N18 Ennis Bypass and N85 Western Relief Road
A025/001, Clare Abbey, Co. Clare, E2022

Figure 9: Sections of features 1 to 7

Scale 1:20

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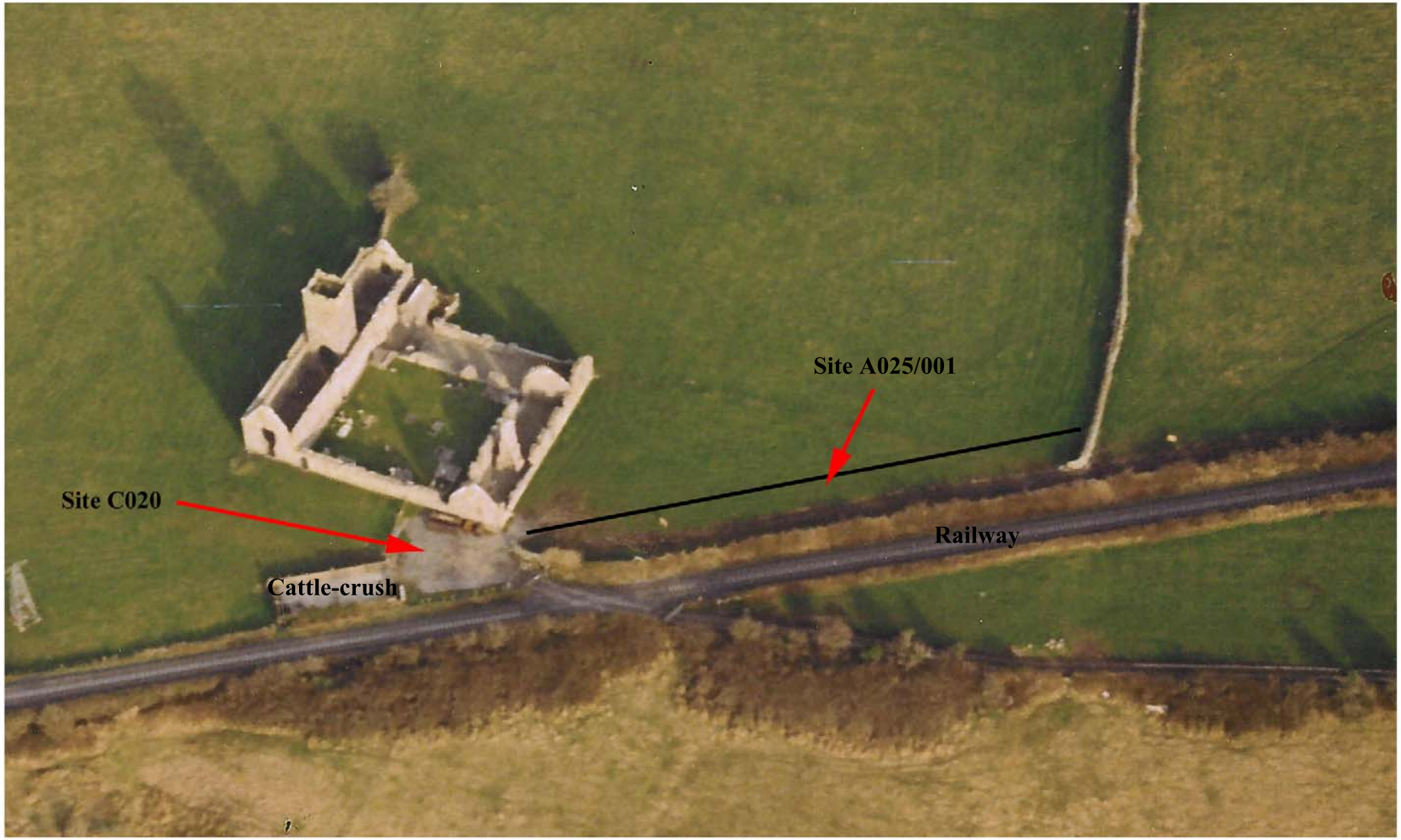

Plate 1: Clare Abbey from the air. Looking east

A025/001, E2022

Plate 2: Clare Abbey. Looking north-east

A025/001, E2022

Plate 3: Furrow 1. Looking west. Scales 0.3m and 1m

Plate 4: Furrow 1. Looking west. Scales 1m

Plate 5: Furrow 2. Looking south-west. Scale 2m

Plate 6: Ditch 3. Looking north. Scales 0.5m, 1m and 2m

Plate 7: Ditch 3. Looking north-east. Scales 0.2m and 1m

Plate 8: Furrow 4. Looking west. Scales 1m and 2m

Plate 9: Pit 7. Looking south. Scales 0.3m and 0.5m

Plate 10: Unglazed red earthenware - possibly from sugar cones E2022:50:7 (left) and E2022:68:5 (right)

Plate 11: Copper alloy belt hasp E2022:59:2

Plate 12: Iron awl E2022:55:2