

**N18 Ennis Bypass
and N85 Western Relief Road**

**Site M27,
Carrowdotia, Co. Clare**

**Final Archaeological Excavation Report
for Clare County Council**

Licence No: 03E1426

(NGR 136920 183090)

Kate Taylor

J03/15

1st July 2006

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Summary

Site name: N18 Ennis Bypass and N85 Western Relief Road, Site M27, Carrowdotia, Co. Clare

Townland: Carrowdotia

Parish: Kilraghtis

Barony: Bunratty Upper

County: Clare

SMR/RMP Number: N/A

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: 136920 183090 (OSI Discovery Series 1:50,000, Sheet 58. OS 6" Clare Sheet 26)

Naturally occurring geology: Mixed glacial deposits: pink and orange clays, sands and gravels.

TVAS Ireland Job No: J03/15

Licence No: 03E1426

Licence Holder: Kate Taylor

Report author: Kate Taylor

Site activity: Excavation

Site area: 2880m²

Sample percentage: 100%

Date of fieldwork: 8th September to 21st October 2003

Date of report: 1st July 2006

Summary of results: An area adjacent to a probable Early Christian cashel was excavated. Two small pits, one with evidence of metalworking, were possibly related to the fort. One of these pits was radiocarbon dated to between the 8th and 9th centuries AD. A gravel-surfaced roadway and flanking ditches were also examined. Pottery found in association with the roadway suggests that it was in use by the 17th century and that the route fell out of use in the late 19th or early 20th century.

Monuments identified: Pit associated with ironworking dated to the 7th to 9th centuries AD. Undated charcoal filled pit; post-medieval roadway with ditches backfilled in 19th/20th century

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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by Kate Taylor

Report J03/15d

Introduction

This report documents the final results of an archaeological excavation of features associated with a cashel (Site M27) on the route of the N18 Ennis Bypass and N85 Western Relief Road at Carrowdotia, Co. Clare (NGR 136920 183090) (Fig. 1). The excavation forms part of the Ennis Bypass Archaeological Contract 5.

A preliminary archaeological report for this site was produced in December 2003 (Taylor 2003).

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 Ennis Bypass and a Western Relief Road. The proposed scheme has an overall length of 21km and involves the construction of a 13.8km eastern bypass of Ennis from Latoon, north of Newmarket-on-Fergus, to Cragard, north of Barefield. The Western Relief Road is 7.1km long and is to link Killow and Claireen (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 (03E1291 Hull 2003 and 03E1293 Roger 2004). As preservation *in situ* was not a reasonable option, the resolution strategy for these new sites was also preservation by record.

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 site is located in the townland of Carrowdotia, in the parish of Kilraghtis, Bunratty Upper barony, north of Barefield village (NGR 136920 183090) (Figs 1 and 2). The current N18 Limerick to Galway road is 60m to the west and part of the site lies behind two houses that face onto that road. The Ennis

to Galway railway line is 325m to the east. The surrounding landscape is characterised by drumlins, outcrops of limestone bedrock and low boggy areas.

The underlying geological deposits are mixed glacial clays, sands and gravels, largely pink or orange in colour. The site lies on a steep north-west-facing incline, part way up the side of a large drumlin, and slopes from approximately 25.4m above Ordnance Datum (OD) in the north to 34.5m OD in the south.

The excavation area encompassed parts of three fields used for grazing and silage production. Two field boundaries were included within the site and both were formed by stone walls with mature hedges incorporating substantial, although not ancient, trees.

Archaeological and historical background

As part of the environmental assessment process for the road scheme, Clare County Council commissioned desk-based and walkover surveys that formed part of an Environmental Statement (Babtie Pettit 2000) and an archaeological study for the Environmental Impact Statement (Doyle 1999). 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 above ground 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 stone spreads, enclosures and brick clamps were found (03E1291 Hull 2003 and 03E1293 Roger 2004). Monuments dating from the Bronze Age to the modern period were found.

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 (99E0350 Hull and Tarbett-Buckley 2001).

Recent 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 stone spreads and burnt mounds were excavated near the route of the new road in the summer of 2002 (MGL 2002).

Site M27 lies immediately adjacent to a probable cashel that was first identified by the initial walkover survey. A field wall divides the fort and, although several mature ash trees are growing in the bank, the centre is relatively clear of vegetation. The southern half of the circuit is fairly well defined as a heaped bank of small stones, however the remainder of the enclosure is not particularly clear as a number of wall elements are present in the undergrowth. A field wall corner that extends into the excavation area may possibly be part of the enclosure, however it is more likely to be related to a track that is shown on the 1840 map. The monument itself lies to the west of the development area, however the possibility of associated features within the road line was thought to be high. Testing in fields close to site M27 did not, however, reveal any archaeological deposits.

A number of other enclosures are known in the townland and surrounding area and, in the absence of any definitive evidence, these are considered likely to be examples of Early Christian ringforts or cashels. Two other possible examples, Sites AR25 and AR27, have been investigated within Carrowdotia as part of this road project (Taylor 2006a and 2006b). The monument at Site AR25

proved to be a substantial stone-walled cashel, however the example at AR27 was demonstrated to be field clearance cairns and was not archaeological.

Also of note in the immediate vicinity is a standing stone located 100m to the east of the site towards the top of the hill (SMR CL026:035).

Earlier test excavations

Three test trenches were mechanically excavated on this site in the winter of 2002 (licence 02E1494, Collins and Coyne 2002, 34-38). The test trenching investigated the wall corner that extends slightly into the site area at the west. The wall was shown to range between 1.5m and 3m in width and was built of limestone boulders capped with smaller limestone pieces. No indication of a ditch or other associated features was observed during the testing.

The south-eastern corner of the site was included in the linear testing programme (Roger 2004). No archaeological features or deposits were revealed.

Excavation aims and methodology

A licence to excavate was granted to Kate Taylor by the National Monuments Section of the Department of the Environment, Heritage and Local Government, in consultation with the National Museum of Ireland, on behalf of the Minister for the Environment, Heritage and Local Government. The licence number is 03E1426.

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 8th September and 21st October 2003 and was directed by Kate Taylor, supervised by Sean Wallis and assisted by Tim Dean, Roy Krakowicz, Mike Parks, Edel Ruttle and Tom Varley.

The site encompassed a rectangular area measuring approximately 80m by 36m (2880m²) (Fig. 2). Topsoil and overburden were removed by two 15-20 tonne tracked machines fitted with toothless grading buckets and operated under direct and continuous archaeological supervision. The spoil was visually scanned for artefacts. The two field boundaries were removed mechanically.

Several large areas of the site were cleaned using hand tools in order to define potential archaeological features fully. Slots were dug to investigate all potential features and those that proved to be of archaeological interest were fully excavated.

A full written, drawn and photographic record was made, largely according to the TVAS Ireland Field Recording Manual (First Edition 2003). The site was planned using a Global Positioning System (GPS) unit, tied into the N18 surveying base station in order to provide millimetre accurate readings.

Excavation Results (Figs 3 to 6 and Plates 1 to 4)

The excavation revealed thirteen features or groups of features, comprising four ditches, four pits, three sets of furrows, a single wall and a road (Fig. 3, Plate 1). Also recorded were a topsoil layer and two ploughsoil deposits. All features and contexts are listed in Appendix 1. Most of the activity can be

dated to the 17th to 20th centuries; however two of the pits are likely to relate to the possible early medieval cashel to the immediate west of the CPO.

Early medieval features (Figs 4 and 5)

Two small pits, features 1 and 2, were located at the western side of the excavated area, fairly close to the possible cashel site. Although only one of the pits can be definitively dated to the early medieval period it is likely that the two features were related.

Pit 1 was oval in plan, measured 0.82m by 0.65m and was 0.20m deep with a steep sided concave profile. The upper of the two pit fills (52) was fairly rich in charcoal, whilst the lower (53) was fairly sterile.

Pit 2 was sub-circular in plan, measured 0.60m by 0.57m and was 0.20m deep with steeply concave sides and a slightly rounded base (Plate 2). The sides of the pit were oxidised in part, demonstrating *in situ* burning and the lower of the three fills (57) was almost entirely composed of charcoal. The middle fill of the pit (56) contained a moderate amount of iron slag whilst the upper fill (55) was similar to the overlying topsoil. A radiocarbon date of AD 700-900 was obtained from the pit fill (see below).

Late post-medieval / modern features (Figs 3 and 6)

The majority of the activity on site can be assigned to this period, although there is some stratigraphy within the deposits.

Road and ditches

The largest feature was a road (5) that ran for 74m across the entire site from south-west to north-east and was 2m to 4.5m wide. This road presented as an irregular linear gravel surface that, for the majority of its length, was positioned on a slight ridge on the hillside. Two slots were excavated across the road to examine the construction technique and this was seen to be varied along the length of the feature, with a number of overlying surfaces or repairs visible (Plate 3). The road deposits (54, 58-62 and 73) were generally composed of small pebbles and limestone pieces in a lime mortar matrix, although some of the earliest layers consisted of small stones pressed into the surface of the natural geological deposits. Where the slots were excavated the road thickness varied between 0.04m and 0.10m.

At the southern end of the site it appeared that the road bifurcated or that the route had been altered at some stage. Two small patches of road surface (66 and 70) were recorded, however the area was quite badly disturbed and the sequence of layers could not be definitively ascertained.

No artefactual material was recovered from within or beneath the gravel layers and the road can only be dated by association with its flanking ditches. The four ditches were all aligned parallel with the road and are likely to be associated, although whether the road predates their excavation is unknown.

Ditch 20 lay immediately to the west of the two small patches of road surface that may represent a western branch of the road (Plate 4). The ditch was 14.5m long, 0.9-1.3m wide and 0.20-0.30m deep with a concave profile. Three slots across the ditch were recorded (7, 8 and 9) and the feature was fully excavated following this recording

Ditch 21 lay immediately to the east of the main road surface and was recorded for a length of 45m. The ditch was 1.0-1.5m wide and 0.20-0.26m deep with a concave profile. Two slots (10 and 12) across the ditch were recorded.

Ditches 22 and 23 were located to the west of the main roadway but at a distance of 0.90m. These two parallel ditches appeared to intercut but the relationship between them could not be determined. Ditch 22 was 11m long, 2.5m wide and 0.28m deep with two excavated slots (13 and 15). Ditch 23 was 15m long, 1.0-1.5m wide and 0.14-0.25m deep with three excavated slots (4, 14 and 16). Both ditches had concave profiles.

Finds from the ditches comprise seven sherds of pottery and one sherd of bottle glass. The pottery is 17th-19th century in date.

Pits

Two pits were stratigraphically later than the road and ditches.

Pit 11, that cut through the road surface, was a large feature filled with rocks that appeared to predate the building of the east-west wall across the site. The pit was oval in plan, measured 6.15m by 2.60m and was 0.65m deep with a concave profile.

Pit 3, that cut through ditch 23, was seen to be cut from high within the topsoil and was clearly a modern feature. The pit was sub-rectangular in plan, measured 3.5m by 1.8m and was over 0.20m deep with steep sides. The pit fill contained modern refuse including plastic.

Walls

Wall 79 (the field boundary between the south-western and north-eastern ends of the site) is known from the cartographic sources to have been built between 1840 and 1914. The wall was mechanically removed and was seen to be a fairly crude structure composed of unworked limestone rocks.

The wall corner that had been examined during testing barely lay within the excavation area and had collapsed either side of the test trench slot. It appeared that this wall also overlay at least some of the ploughsoil and therefore, whilst a definitive date could not be obtained for the structure, it is unlikely to be of any great antiquity.

Agricultural evidence

Three sets of furrows were recorded on the site. Set 18 consisted of just two clear plough scars, or possibly lazy bed furrows, aligned north-east/south-west, parallel to the roadway. A single sherd of 17th or 18th century pottery was recovered from these features. Sets 17 and 19 were aligned north-west/south-east on both sides of, and parallel to, the late field boundary wall. It is likely that the latter furrows post-date those parallel to the road and demonstrate a change in ploughing pattern following the construction of the dividing wall. No artefacts were recovered from the slots excavated across these features.

The ploughsoil (51 and 82) was noticeably thicker at the lower western end of the site and the deposit can probably be partly attributed to colluvial action. Several artefacts of a late date were observed within this material, of which a representative selection, two pieces of 17th or 18th century pottery and a piece of clay tobacco pipe, were collected. The deposit was particularly thick beneath wall 79 at the closest point to the probable cashel and this may be a result of ploughsoil collecting against the base of the enclosure wall.

Finds

A small assemblage of artefacts was recovered from the site comprising iron slag, 17th to 19th century pottery and glass sherds and a clay tobacco pipe fragment. The finds are catalogued in Appendix 2.

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

Iron slag and related debris by Lynne Keys

Introduction and methodology

A very small quantity of iron slag (540g) was recovered from two fills of a pit (2). This feature has been radiocarbon dated to the 8th to 9th centuries AD (see below).

The slag assemblage was examined by eye and categorised on the basis of morphology. A magnet was used to detect hammerscale in the soil adhering to slags. Details are given in Table 1 below.

Table 1: Catalogue of iron slag

Find No.	Deposit	Cut	Sample	Identification	Wt (g)	Comment
03E1426:1	56	2	3	Microslags	130	
03E1426:1	56	2	3	Hammerscale	0	some flake
03E1426:1	56	2	3	Undiagnostic	188	
03E1426:1	56	2		Undiagnostic	166	broken up
03E1426:1	56	2		Charcoal	0	
03E1426:14	57	2	2	Undiagnostic	56	microslags
03E1426:14	57	2	2	Hammerscale	0	very occasional flake
				Slag total weight	540	

Discussion of the assemblage

No diagnostic smelting slag was present; some secondary smithing activity is implied by the tiny amount of flake hammerscale recovered from samples. This micro-slag is the product of the ordinary hot working and hammering of a piece of iron where fragments of the oxide/silicate skin flake off from the iron and fall to the ground.

The small assemblage implies that ironworking took place as a one-off activity between the 8th and 9th centuries AD.

Post-medieval pottery by Graham Hull

Ten pieces of pottery spanning a date range of the 17th to 19th centuries was examined (Table 2). The assemblage is domestic in character.

Table 2: Catalogue of post-medieval pottery

Find No.	Cut	Deposit	Identification	Description	Date
03E1426:2	8	67	?Slip Ware. Pancheon	Rim. ?Burnt	17th / 18th
03E1426:3	8	67	Shell-edged ware. Plate	Tiny sherd	18/19th
03E1426:4	10	69	Creamware Plate	Base?	18/19th
03E1426:6	12	72	Shell-edged ware. Plate	Rim	18/19th
03E1426:7	12	72	Brownware	Body. Internal glaze: green/yellow	17th / 18th
03E1426:8	13	74	TGEware?	Body. Very thin fabric	18/19th
03E1426:9	13	74	Shell-edged ware. Plate	Rim	18/19th
03E1426:10	18	80	Brownware	Body	17th / 18th
03E1426:12	-	51	Slipware? Pancheon	Base/body. Very thick fabric	17th
03E1426:13	-	51	GREware	Body	17th / 18th

Glass by Kate Taylor

A single piece of glass was recovered from one of the slots excavated through ditch 22 (03E1426: 5). The piece is a sherd of dark green bottle glass. It would appear that the sherd is from the neck of a bottle.

Clay tobacco pipe by Kate Taylor

A single fragment of clay tobacco pipe was retrieved from the ploughsoil at the site (03E1426:11). The object is a piece of pipe stem with a small neat bore and a seam visible along the length. The piece cannot be tightly dated.

Samples

Three samples were taken from sealed and well-stratified deposits across the site (Appendix 3). The bulk soil samples have been floated and then wet sieved through 300micron and then 2mm sieves in order to recover charred plant remains and small finds. Pieces of charcoal and slag were recovered.

Charcoal by Simon Gannon

Introduction

Three samples of charcoal fragments were retrieved from three contexts from the site, consisting of pit fills. Identification of taxa of the retrieved charcoal may assist in the reconstruction of the local, contemporary woodland-environment and the use of the woodland resources by the people responsible for the archaeological features.

Methodology

In sorting fragments suitable for identification a guide size of at least 2mm in radial cross-section was used. In this sort some samples were found to contain an unusually large number of fragments and sub-samples were taken, as detailed in Analysis Results.

Initially the grain direction of the fragments was identified before fracturing across their transverse plains. Identifications were made under microscopic examination, in most cases. Further fractures were made to reveal radial and/or tangential plains in cases where identification was more difficult. Magnification of between x10 (hand lens) to x400 was used. Structural elements of the fragments were examined to allow for identification of roundwood, heartwood, and sapwood features.

Reference material comprised a reference collection of charred samples of taxa and reference publications, *Microscopic Wood Anatomy* (Schweingruber 1990) and *The Identification of the Northern European Woods* (Hather 2000).

Analysis Results

The results are summarized in Table 3. Classification follows that of *Flora Europae* (Tutin *et al* 1964-1980). Certain related taxa cannot be securely differentiated on the basis of their anatomical characteristics and are assigned to their respective family groups as with the genera *Salix* and *Populus*, and the genera *Craetaegus*, *Malus* and *Sorbus*. Provisional identifications have been given in cases where the condition of the charcoal was degraded.

The various identifications of wood taxa were consistent with taxa from the following groups:

Broadleaf taxa

Betulaceae. *Alnus* sp., alder.

Corylaceae. *Corylus* sp., hazel.

Fagaceae. *Quercus* sp., oak.

Oleaceae. *Fraxinus* sp., ash.

Salicaceae. *Salix* sp., willow; *Populus* sp. poplar.

Table 3: Number of identified fragments per sample

Sample	Cut	Deposit	Context type	<i>Alnus</i>	<i>Betula</i>	<i>Corylus</i>	<i>Corylus /Alnus</i>	<i>Fraxinus</i>	<i>Pomoideae</i>	<i>Prunus</i>	<i>Quercus</i>	<i>Salicaceae</i>	<i>Taxus</i>	<i>Ulmus</i>
1	1	52	Pit	-	-	-	-	-	-	-	-	-	-	-
2	2	57	Pit	1	-	6	-	33	-	-	68	3	-	-
3	2	56	Pit	-	-	-	1	-	-	-	90	3	-	-

Discussion

Anatomical characteristics from charcoal fragments do not allow for identification of individual species in every case. Several species belong to groups of species, species of genera, of sub-families and of families that cannot be separated anatomically (Schweingruber 1990, Hather. 2000). It is possible that a narrow range of species and, occasionally, one or two species can be indicated with a degree of confidence due to established factors, principally their native status and history of introduction by people (Huntley and Birks 1983, Peterken. 1996 and Scannell. and Synott 1987). The following section places the given charcoal based taxa identifications in the context of defined tree species allowing for implications related to their environmental characteristics and possible use by ancient peoples to be drawn. Consulted reference works pertaining to environmental factors included Goldstein *et al* 1984, Hather 2000, Huntley and Birks 1983, Mitchell 1978, Scannell and Synott 1987 and Tutin *et al* 1964-1980. Kelly 1998, O'Sullivan 1996, Rackham 1976-1990 and Raftery 1996, were consulted in relation to the uses different tree species may have served in antiquity.

Taxa descriptions

Alder

The sole native species is *Alnus glutinosa*, Common Alder, Irish fearnóg (family – Betulaceae).
 Environment indications. Tolerant of nearly all soil types including relatively infertile soils, such as ironpan and peaty soils. Particularly tolerant of water logged conditions and is often a streamside tree. Has the ability to 'pioneer' into previously disturbed land. Native distribution throughout Ireland.
 Uses in antiquity. A hardwood suitable for a variety of artefacts and smaller structural timber. Tends to harden when in contact with water and therefore suitable for making piles etcetera. It burns quickly when used for firewood but has been found suitable for charcoal production.

Hazel

There is a single native species, *Corylus avellana*, hazel, coll (family - Corylaceae).
 Environmental indications. Botanically a shrub, but does not flower and fruit without sunlight, so is really a canopy tree preferring woodland edges and clearings though it bears moderate shade and is also found as understorey, typically in oak woodlands. Fairly tolerant of poor soils but does not grow on acid soils and preferring chalky, fertile, deep soil. Growing throughout Ireland.
 Uses in antiquity. A tough and flexible wood, useful for small implements and small structural elements. Also grows easily in coppice-like form producing rods suitable for wattle and basketry type structures. Makes useful firewood.

Ash

There is a single native species, *Fraxinus excelsior*, ash, fuinseog (family - Oleaceae).
 Environmental indications. Requiring deep, fertile, moist but well drained, soils. Grows well in mixed stands when not shaded. Widespread throughout Ireland.
 Uses in antiquity. A strong but elastic wood suitable for many purposes including structural timber (not where in prolonged contact with water or soil). Coppices readily. Burns well even when green, partly due to low water content.

Oak

There are two native species, pedunculate oak, *Quercus robur*, dair ghallda and sessile oak, *Quercus petraea*, dair ghaelach. (Family - Fagaceae).
 Environmental indications. Broadly soil tolerant. *Q. robur* preferring alkaline or neutral soils rich in minerals, particularly damp clay soils and usually found in mixed woodland. *Q. petraea* preferring acid and lighter well drained soils, often in pure stands. Both species are naturally distributed throughout Ireland.

Uses in antiquity. Both species produce a hard wood resistant to abrasion and water degradation, particularly useful for structural timber and implements, poles and fencing. Woodland trees can be coppiced to produce stakes, straight poles etcetera. The density of oak wood makes for an optimum long lasting fire fuel (Rossen and Olson 1985).

Willow /poplar

The Salicaceae family provides various possible individual species, native to Ireland, including ten or more from the genera of willows and one from the genera of poplars.

Willow

There are ten or more willow species native to Ireland, though some having restricted range. Examples of the more widespread species being eared willow (*Salix aurita*), crann sníofa; goat willow (*Salix caprea*), sailchearnach; and grey willow (*Salix cinerea*), saileach liath.

Environmental indications. Extremely hardy and tolerant of a wide range of soils and habitats, often growing in, though not restricted to, wet places. Not tolerant of drought. *S. cinerea* and *S. purpurea* are not particularly shade tolerant, *S. caprea* is reputedly more tolerant of shade. These are ‘pioneer’ species and can move into areas where the soil has been disturbed such as cleared woodland.

Uses in antiquity. Very tough and flexible wood useful for woven structures. Brittle branchwood not suitable as timber breaks violently when burnt. The stems are very flexible. Coppiceable, it can produce stout poles.

Poplar

Aspen, *Populus tremula*, crann creathach.

Environmental indications. Tolerant of poor soils growing on scrub, frequent on damp sites on hillsides, in rocky valley bottoms. A woodland tree where not under canopy. Moderately tolerant of drought as mature tree, not at all as a seedling. A short-lived pioneer tree. Native to Ireland.

Uses in antiquity. Wood is very soft with limited usefulness, of low flammability but making good charcoal.

The total range of taxa from M27, Carrowdotia, comprises alder (*Alnus*), hazel (*Corylus*), ash (*Fraxinus*), oak (*Quercus*) and willow/poplar (Salicaceae). The represented taxa belong to the groups of species represented in the native Irish flora.

Generally, there are various, largely unquantifiable, factors that effect the representation of species in charcoal samples including bias in contemporary collection, inclusive of social and economic factors, and various factors of taphonomy and conservation (Schweingruber 1990). On account of these considerations the identified taxa are not considered to be proportionately representative of the availability of wood resources in the environment in a definitive sense and are possibly reflective of particular choice of fire making fuel from those resources.

The most numerous of the identified taxa at this site is oak (*Quercus*), the most numerous charcoal from the Ennis Bypass sites. Ash (*Fraxinus*) is also well represented and is a similarly common charcoal from the Ennis Bypass sites. Oak (*Quercus*) and ash (*Fraxinus*) are, as noted above, particularly useful fire fuels as well as being a commonly used structural/artefactual wood that may have had subsequent use as fire fuel.

Conclusion

The identified taxa are broadly consistent with the picture of wood use from the other Ennis Bypass sites with alder (*Alnus*), hazel (*Corylus*), ash (*Fraxinus*), oak (*Quercus*) and willow/poplar (Salicaceae) represented. Oak (*Quercus*), is particularly numerous and as such may fit within the overall demonstrated preference for this taxon as a fire fuel from the Ennis Bypass sites.

Radiocarbon date

A radiocarbon determination from charcoal from the primary fill of pit 2 was made by Beta Analytic Inc, Miami, Florida (Table 4).

Table 4: Radiocarbon determination

Sample material	Cut	Deposit	Sample	Lab code	Radiometric age	Calendrical calibrations
Charcoal Corylus	2	57	2	Beta-211593	1210±40 BP	2 sigma (95%) Cal AD 700 to 900 1 sigma (68%) Cal AD 770 to 880

The charcoal sample was from a short-lived tree species. The radiocarbon determination may, then, be a relatively accurate indicator of the date of the backfilling of pit 2.

Discussion

Two small pits, including one that showed evidence of metal-working and that has been dated to between AD 700 and 900, may be associated with the stone enclosure or cashel that lies to the immediate west off the road CPO. These monuments typically date to the second half of the first millennium AD.

Apart from the two pits, the near absence of associated features or material suggests that the fort was fairly barren, a phenomenon that has been demonstrated elsewhere, for example by the almost complete lack of features or artefacts from the excavation of part of a stone enclosure at site AR25, just 250m to the south (Taylor 2006a). Although ringforts and cashels are among the most numerous archaeological monument types recorded in Ireland, our understanding of their function is based on the excavation of an extremely small percentage of the examples with a distinct geographical bias to the north of the island. The sites are generally considered to house individual farmsteads, with the expectation that evidence of domestic buildings and refuse will be found in their interiors. Few, if any, examples of the particular style of stone structure seen at site M27 have previously been investigated in Co. Clare and it is not known whether the stone enclosures observed in the fields of Carrowdotia and nearby townlands were ever intended for habitation.

The monument, lying as it does outside the land purchased for the road scheme, has not been surveyed and the extents of the cashel wall are not clear. No part of the monument itself was found within the excavation area and a wall that had previously been thought to possibly represent part of the circuit of the enclosure has been demonstrated to be of a later date.

The largest feature on the site was a roadway, evident as a series of gravel surfaces with flanking ditches that correlates with a routeway shown on the 1840 OS map (Fig. 7). The map also suggests that a northern branch of the road, not found during the excavation, could account for the position of the wall that was previously considered as a possible part of the cashel. The road is not marked on the 1914 OS map and the route appears to have fallen out of use in favour of the current N18. The ceramic assemblage from the ditches suggests that the roadway was in use during the 17th to 19th centuries.

Archaeological potential off the road CPO

The archaeological deposits were fully resolved within the road CPO, although the roadway very probably continues off the CPO to the north-east and to the south-west. The potential that the previously unrecorded stone enclosure is a cashel from the Early Christian period has been significantly increased by the discovery of two pits indicating that of metalworking was taking place nearby between the 7th and 9th centuries AD.

Publication plan

A summary of the findings of the excavation has been submitted to *Excavations* 2003.

Copies of this final excavation report will be deposited with the Clare County Museum and the Local Studies Library, Ennis, Co. Clare

A summary article, describing the findings of this road project has been published in the local journal *The Other Clare* (Hull and Taylor 2005).

An illustrated information brochure describing the findings of this road project has been published by Clare County Council.

The stated aim of the National Roads Authority with regard to archaeological publication is clear, (O'Sullivan 2003) and it is anticipated that the results of this excavation will be disseminated as a component of a monograph dedicated to the archaeology of the Ennis Bypass. Publication is expected to take place in 2006/7 at the latest.

Kate Taylor MIAI MIFA
TVAS Ireland Ltd
1st July 2006

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Appendix 1: Catalogue of features and deposits

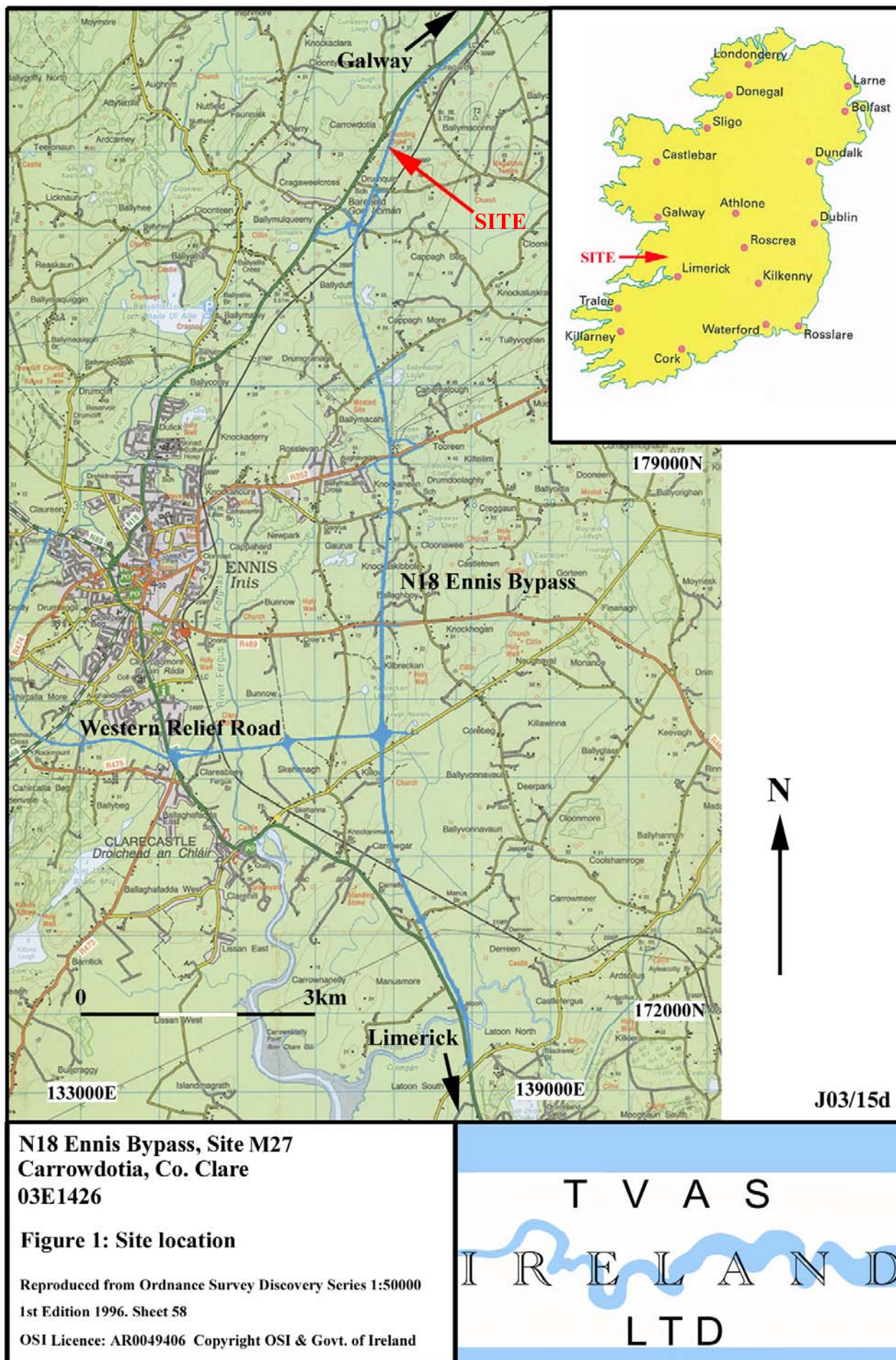
Cut	Deposit	Group Number	Description	Finds	Samples
1	53, 54	-	Pit	-	1
2	55, 56, 57	-	Pit	1, 14 = slag	2 & 3
3	63	-	Pit	-	-
4	64	23	Ditch slot	-	-
5	-	5	Group number for road	-	-
6	-	5	Possible wheel rut or drain beneath road surface	-	-
7	65	20	Ditch slot	-	-
8	67	20	Ditch slot	2, 3 = pottery	-
9	68	20	Ditch slot	-	-
10	69	21	Ditch slot	4, 5 = pottery & glass	-
11	71	-	Pit	-	-
12	72	21	Ditch slot	6, 7 = pottery	-
13	74	22	Ditch slot	8, 9 = pottery	-
14	75	23	Ditch slot	-	-
15	76	22	Ditch slot	-	-
16	77	23	Ditch slot	-	-
17	78	-	Furrows in southern field	-	-
18	80	-	Furrows in northern field NE-SW alignment	10 = pottery	-
19	81	-	Furrows in northern field NW-SE alignment	-	-
20	-	20	Group number for ditch	-	-
21	-	21	Group number for ditch	-	-
22	-	22	Group number for ditch	-	-
23	-	23	Group number for ditch	-	-
-	50	-	Topsoil	-	-
-	51	-	Ploughsoil in northern field	11-13 = clay pipe & pottery	-
-	54	5	Road surface	-	-
-	58	5	Road surface	-	-
-	59	5	Road surface	-	-
-	60	5	Road surface	-	-
-	61	5	Road surface	-	-
-	62	5	Road surface	-	-
-	66	-	Road surface	-	-
-	70	-	Road surface	-	-
-	73	5	Road surface	-	-
-	79	-	Wall	-	-
-	82	-	Ploughsoil in southern field	-	-
-	83	-	Sand layer – road make up	-	-

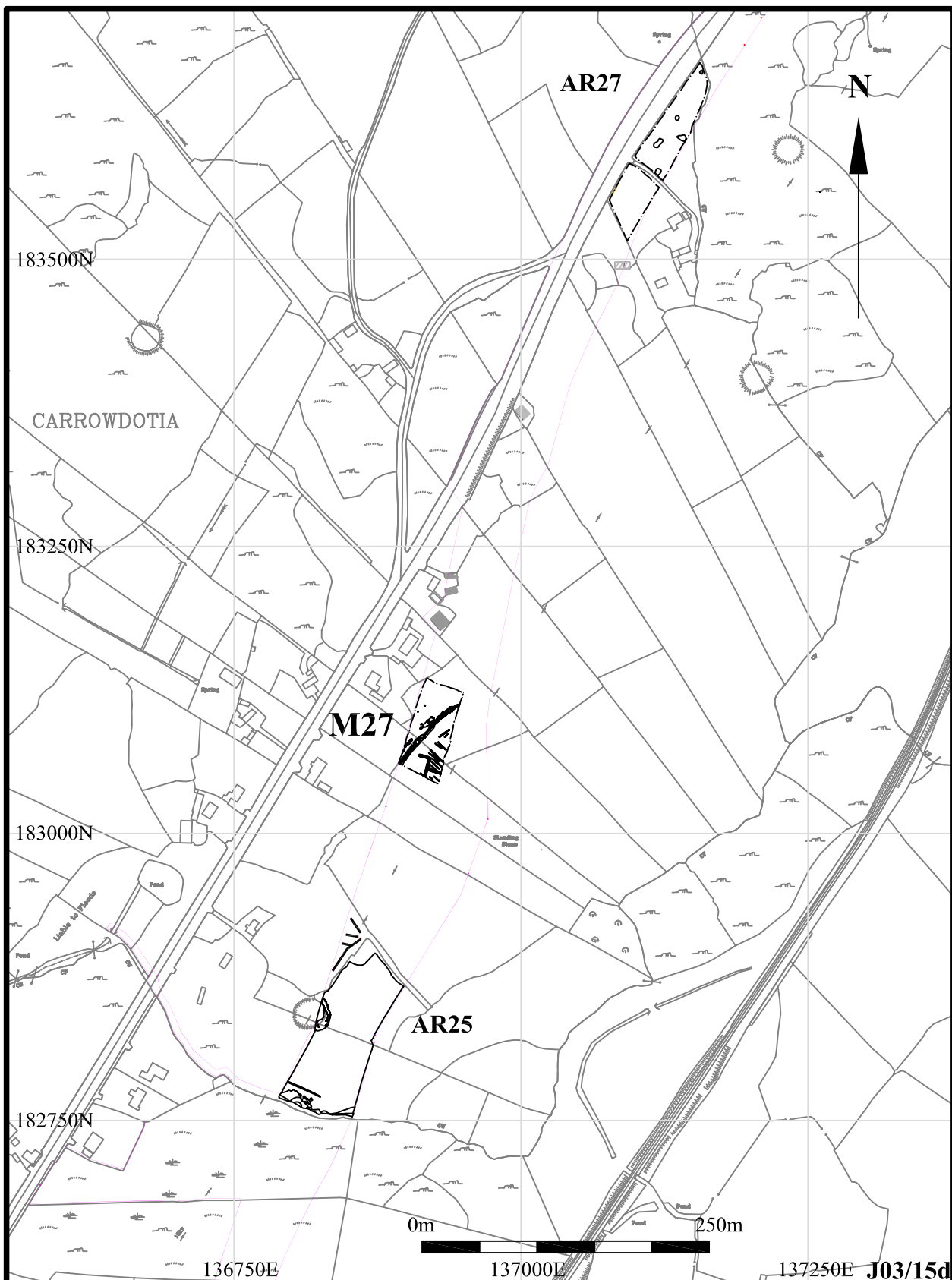
Appendix 2: Catalogue of artefacts

Find No.	Cut	Deposit	Sample No	Category	Description	No pieces	Weight
1	2	56	inc 3	Slag	Slag & microslag	Approx 100	474
2	8	67		Pottery	Post-medieval pottery sherd	1	19
3	8	67		Pottery	Post-medieval pottery sherd	1	<1
4	10	69		Pottery	Post-medieval pottery sherd	1	4
5	10	69		Glass	Bottle glass fragment	1	9
6	12	72		Pottery	Post-medieval pottery sherd	1	5
7	12	72		Pottery	Post-medieval pottery sherd	1	9
8	13	74		Pottery	Post-medieval pottery sherd	1	<1
9	13	74		Pottery	Post-medieval pottery sherd	1	2
10	18	80		Pottery	Post-medieval pottery sherd	1	3
11	-	51		Clay pipe	Clay tobacco pipe stem	1	2
12	-	51		Pottery	Post-medieval pottery sherd	1	59
13	-	51		Pottery	Post-medieval pottery sherd	1	3
14	2	57	2	Slag	Slag & microslag	Approx 90	56

Appendix 3: Catalogue of samples

Sample No	Cut	Deposit	Volume sieved (L)	Volume floated (L)	Finds?	Charred plant remains?
1	1	52	1	1	N	Y
2	2	57	10	10	Slag	Y
3	2	56	15	15	Slag	Y





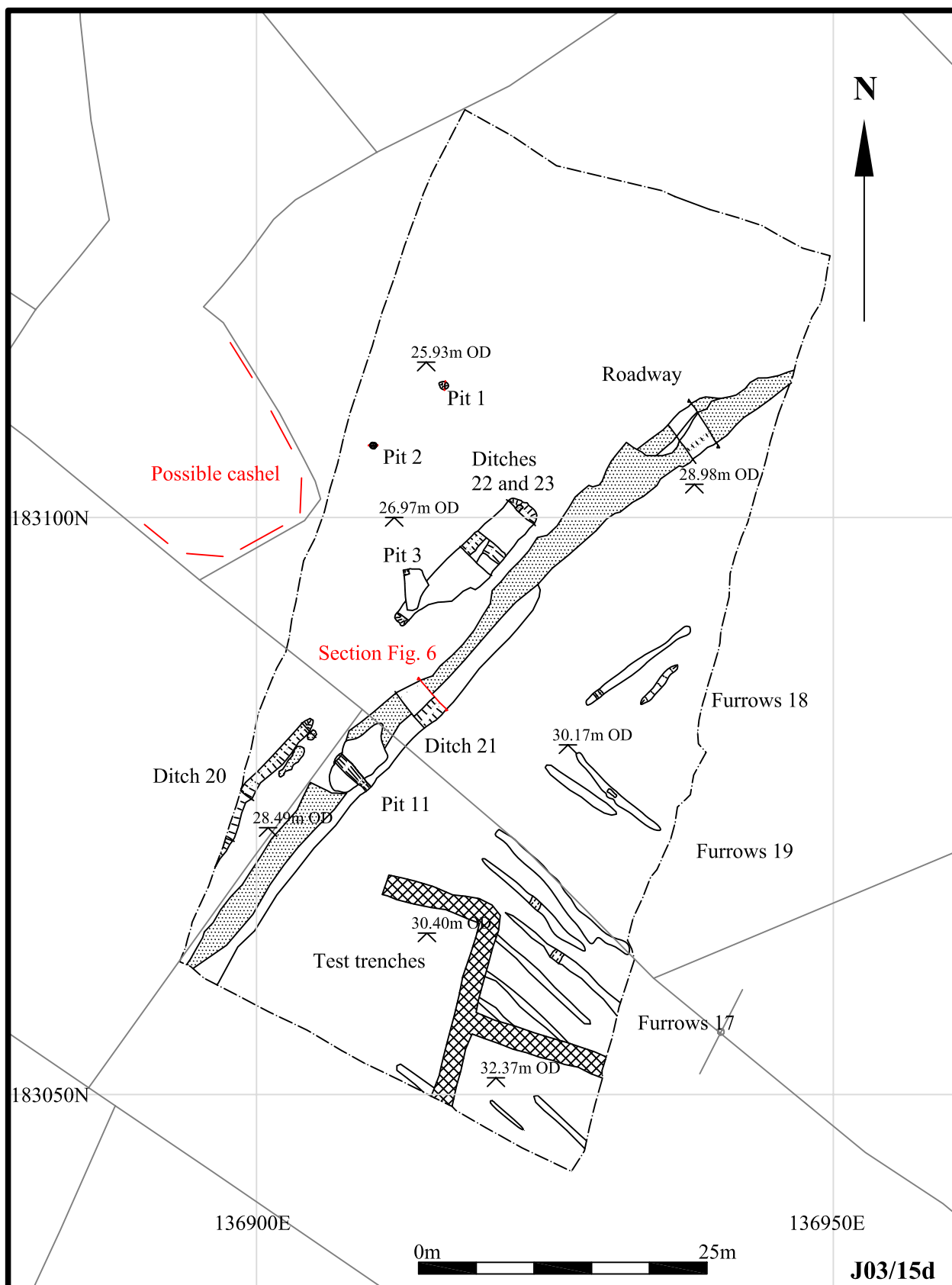
N18 Ennis Bypass M27, Carrowdotia, Co. Clare

03E1426

Figure 2: Location of site relative to nearby excavations

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T V A S
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N18 Ennis Bypass, Site M27, Carrowdotia, Co. Clare

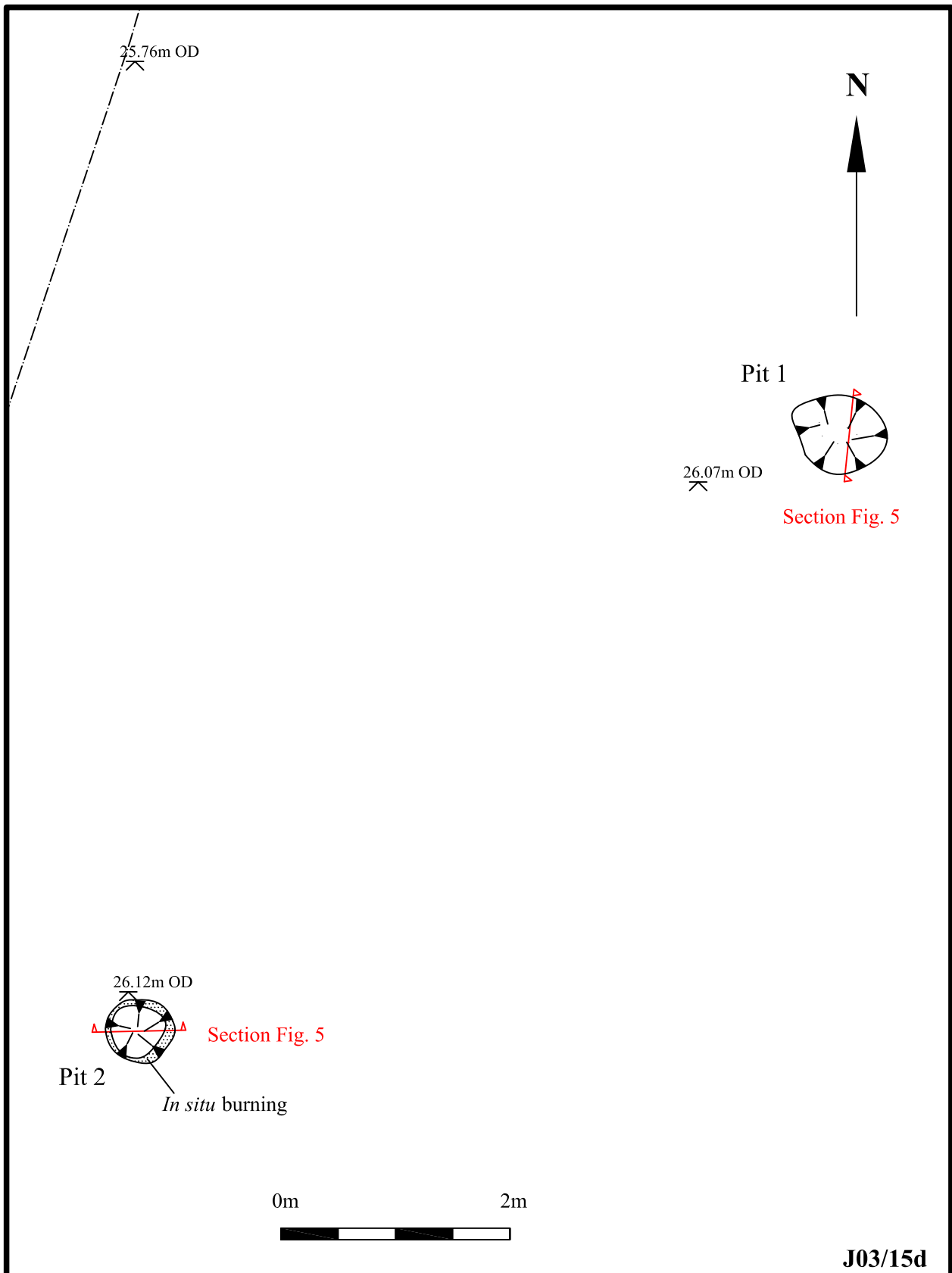
03E1426

Figure 3: Site plan

Scale 1:500

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T V A S
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J03/15d

N18 Ennis Bypass, Site M27, Carrowdotia, Co. Clare

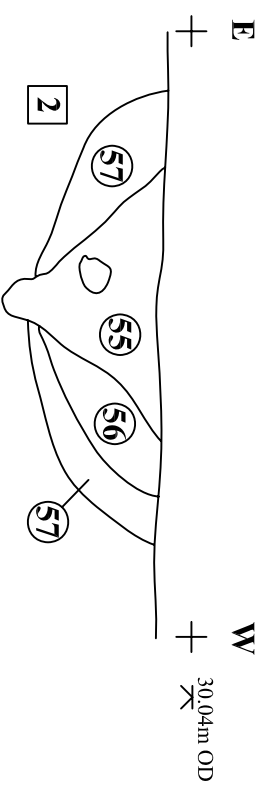
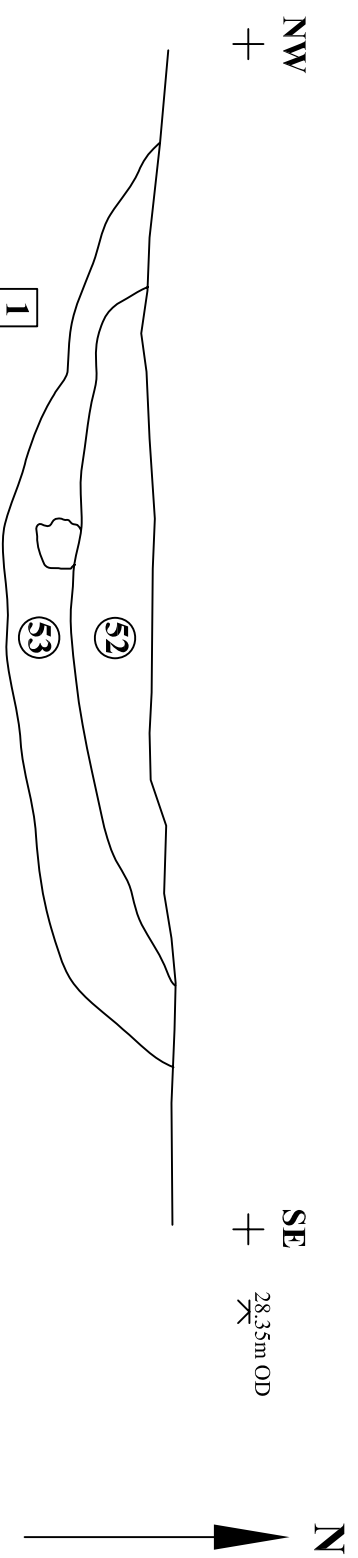
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Figure 3: Detailed plan of pits 1 and 2

Scale 1:50

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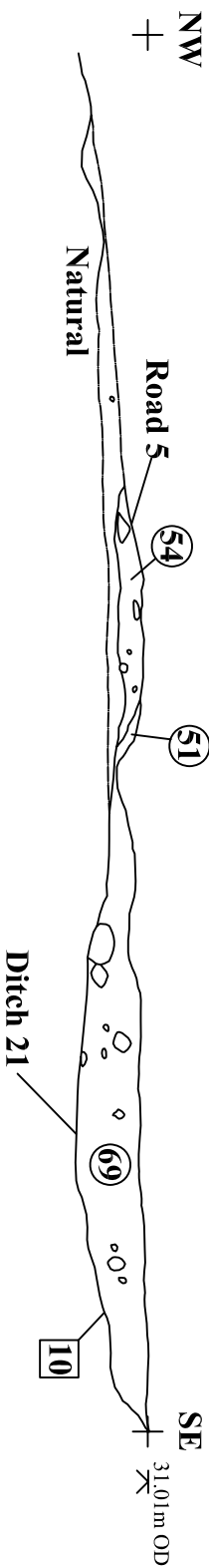
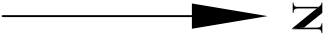
N18 Ennis Bypass, Site M27, Carrowdolia, Co. Clare

03E1426

Figure 5: Sections of pits 1 and 2

Scale 1:10

J03/15d



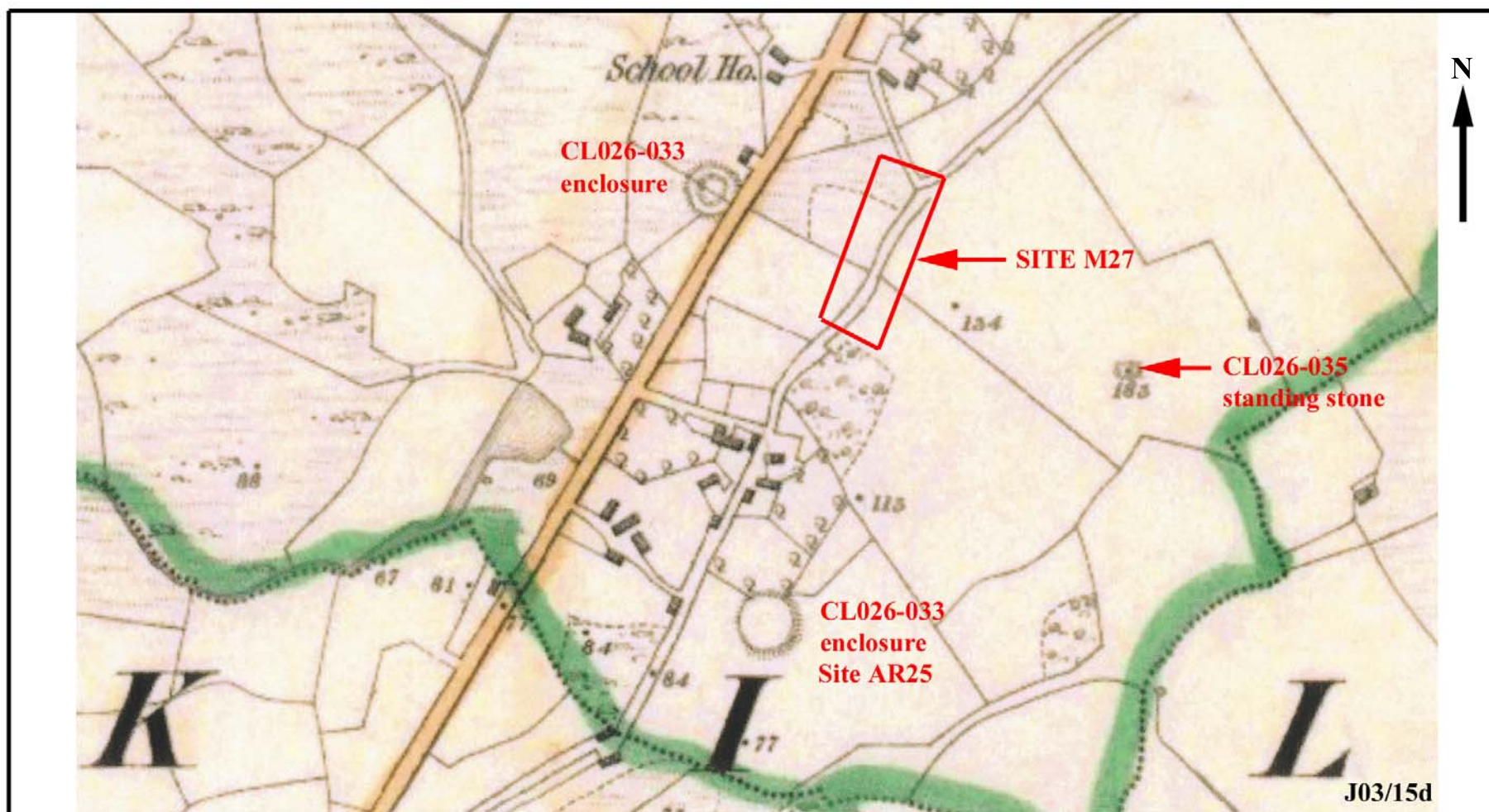
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N18 Ennis Bypass, Site M27, Carrowdolia, Co. Clare
03E1426

Figure 6: Section of road 5 and ditch 21

Scale 1:20



N18 Ennis Bypass, Site M27, Carrowdotia, Co. Clare, 03E1426

Figure 7: Ordnance Survey 1st Edition Map, 1840

Based on OS 1st Edition, 6" to mile, digital version from Clare County Library
Not to scale





Plate 1 Site from above. Possible cashel in trees left of centre. Looking north



Plate 2 Slag-filled pit 2, half-sectioned. Looking south. Scales 0.5m and 0.2m



Plate 3 Slot across roadway and ditch 21. Looking north-east. Scale 1m



**Plate 4 Slot across ditch 20 and small patch of roadway surface.
Looking south-west. Scales 1m and 0.2m**