

N8 Cashel Bypass & N74 Link Road

Phase 2 Archaeological Investigations

Licence Number: 03E0756

Site Name: Site 25v

Townland: Rathordan / *Ráth Ordán*

Barony: Middlethird

Parish: St. Patricks Rock

County: Tipperary

NGR: 209110 / 140080 (centre of site)

OD Level: Not recorded on site

Excavation Area: c. 1,800 m²

Fieldwork Date: June 2003

Site Director: Neil Fairburn

Report Author: Richard O'Brien

Client: South Tipperary County Council

Report Status: Final Report

Report Date: May 2014



CONTENTS	PAGE
Executive Summary	3–4
Introduction	5–12
Table i: Excavations undertaken on the N8 Cashel Bypass mainline	
Table ii: Excavations undertaken on the N74 Link Road	
Table iii: Excavations which produced non-archaeological sites	
Table iv: Excavations where archaeology was preserved <i>in situ</i> within the CPO	
Geology & Soils	13
Archaeology of the Cashel Area	14–26
Appendix i: Catalogue of objects from Cashel in the National Museum of Ireland	
Historical Sources	27–42
Figure i: Down Survey Map of the Barony of Middlethird	
Table v: Extracts from the Book of Survey and Distribution for 1640	
Figure ii: Taylor Skinner Road Map 1778	
Figure iii: Municipal Corporation Boundaries 1831	
Table vi: Census Returns for 1841 & 1851	
Figure iv: 1st Edition OS six-inch map of Rathordan, 1840	
Table vii: Extract Griffith's Valuation, 1850	
Figure v: Griffith's Valuation, 1850	
Figure vi: 1st Edition OS 25-inch map of Rathordan 1901–05	
Figure vii: 2nd Edition OS six-inch map of Rathordan 1906	
Figure viii: 3rd Edition OS six-inch map of Rathordan 1953–54	
Plate 1: Vertical aerial image from 1994 of Rathordan townland	
Plate 2: Vertical aerial image from 2000 of Rathordan townland	
Excavation	42–53
Figure ix: Archaeological investigations in 2003, Sites 25i–25v	
Plate 3: Pre-excavation of structure arcs facing north, scale 2 m	
Plate 4: Pre-excavation of inner arc of structure facing east, scale 2 m	
Plate 5: Pre-excavation of [300] facing north, scale 1 m	
Plate 6: Mid-excavation of [300] facing east, scales 0.5 & 1 m	
Plate 7: Pre-excavation of [301] facing south, scale 1 m	
Plate 8: Pre-excavation of [02] facing north-west, scale 1 m	
Plate 9: Pre-excavation of [03] & [04] facing north, scale 1 m	
Plate 10: Pre-excavation of [07] facing north, scales 0.2 m & 1 m	
Plate 11: Pre-excavation of [01] facing north scale 0.2 m	
Plate 12: Pre-excavation of [06] facing north, scales 0.2 m & 1 m	
Plate 13: Pre-excavation of [10] facing north, scale 1 m	
Plate 14: Burnt stones (305) facing south-east, scale 2 m	
Plate 15: Burnt stones (305) facing south, scale 2 m	
Plate 16: Pre-excavation of [49] facing south, scale 1 m	
Plate 17: Mid-excavation of [49] facing west, scales 0.2 m & 1 m	
Plate 18: Pre-excavation of [201] facing west, scales 1 m & 2 m	
Plate 19: Mid-excavation of [201] facing west, scales 1 m & 2 m	
Discussion	54–56
Conclusion	56
Recommendations	56
References	57–63

Burnt stone spread (305) represented a potential ploughed out *fulachta fia* and represents further evidence of this monument-type around Cashel. The sitting of the *fulachta fia* beside a former pond is paralleled on many of these sites excavated in Cashel (see Site 23 Final Report). Most of the pond was situated outside the road-take which would mean that on the higher ground within this adjacent field more occupation would be expected. Following the recording and limited excavation of some of the feature, the site was covered in terram and topsoil, and preserved within the road-take.

This report recommends that the field east of the site be subject to archaeological investigations prior to any proposed developments taking place. These fields should also be field-walked for research purposes should the land use ever revert to tillage. Should funding be found the carbonised hazelnut, ash or hazel from feature [49] should be submitted for radiocarbon dating, in order to realise further information about the archaeology here. The site is preserved *in situ* and would make an ideal research excavation project.

INTRODUCTION

This report contains the final results of an archaeological excavation carried out as part of the N8 Cashel Bypass & N74 Link Road. The scheme involved an 8 km bypass of the town and a 2 km link road to the N74 (Figure 1). South Tipperary County Council completed the bypass and the new roads opened in October 2004. The project was funded by the Irish Government under the National Development Plan, 2000–6. The total archaeological cost was administered by the National Roads Authority through South Tipperary County Council, as part of the Authority's commitment to protecting our cultural heritage.

Project Background

RPS Consultants Ltd carried out a desk-based archaeological survey of the N8 Cashel Bypass and N74 Link Road route in 1995, recommending an eastern bypass of the town so as to avoid direct negative impacts on the Rock of Cashel, a National Monument (Cronin 1995). There was no Environmental Impact Statement (EIS) prepared for the project. RPS Consultants Ltd compiled an archaeological impact assessment of the route in 1999 (Lane 1999). The report identified five sites of cultural significance that would be directly impacted upon by the construction of the N8 Bypass. In addition five sites of archaeological potential were discovered by the Project Archaeologist from the examination of aerial photographs and a walkover survey of the route in April 2001. Between April and May 2002, Phase 1 Pre-Construction Archaeological Testing of these ten cultural heritage sites was undertaken by Mary Henry Archaeological Services, under Excavation Licence Numbers 02E0286, 02E0287, 02E0288, 02E0374, 02E0375, 02E0376, 02E0377, 02E0378, 02E0379 & 02E0380 (Lennon 2002). Those townlands investigated were Gortmakellis, Ballyknock, Monadreela, Boscabell, George's-Land, Windmill and Farranamanagh. Archaeological features discovered during this work formed the basis of the Phase 2 investigations of the bypass in 2003.

In 2003 a joint venture company Judith Network Archaeology Ltd (JCNA) was contracted by South Tipperary County Council to undertake Phase 2 works. This involved further archaeological testing of areas of the bypass previously unavailable, carried out under Excavation Licence Number 03E0295. Phase 2 works also involved Fixed Price archaeological resolution of a number of sites discovered in the Phase 1 works. Thus both testing and resolution works often occurred within the same field. This work began in March and continued until August 2003, during which the main construction contractor Roadbridge Ltd began on-site works. The bypass officially opened in 2004. Initial post excavation works began in August 2003 but were suspended as JCNA Ltd went into

liquidation in January 2004. Over the succeeding years some preliminary reports were issued by the various licence holders on an individual basis, while some specialist works were undertaken. Between 2008–10 the bulk of report writing and specialist analysis was completed under the supervision of the NRA Project Archaeologist. Remaining work since 2011 was undertaken directly by the NRA Project Archaeologist.

Project Description

The N8 Cashel bypass began north-east of Cashel town, c. 3.5 km from the Rock of Cashel, in the townland of Gortmakellis. The bypass generally kept to the east side of Cashel for most of its length so as to minimise visual impacts on the Rock of Cashel. It continued south through flat, good agricultural land, before rising gradually and cutting through the eastern end of Ballyknock Hill, c. 166 m OD, at the western end of the Slieveardagh ridge. The bypass continued south through slightly undulating ground, skirting the eastern side of the Monadreela ridge, c. 151 m OD. The lower part of this ridge was low-lying, heavily water-logged ground. The bypass continued south-east through relatively flat land, before terminating 2 km south of Cashel in Owen's and Bigg's-Lot townland. The mainline of the bypass measured c. 70–80 m wide.

The N74 Link Road began in Windmill townland c. 400 m from the old N8 Cork road end of the bypass, heading west and then north-west for its length. The route skirts close to the hilltop enclosure at Windmill TI061-072, before descending through Windmill along flat, good agricultural land, before cutting through a low ridge in Deerpark townland. The route descended through Farranamanagh townland continuing north toward the N74 Tipperary road. The link road was 2 km in length, and c. 60 m wide.

The project was designed to avoid in as much as practical all known archaeological sites located close to the CPO such as Gortmakellis ringfort TI061-003, Gortmakellis tower house TI061-011, Ballyknock ringfort TI061-008, Boscabell moated site TI061-027, Rathordan ringfort TI061-074, Windmill ringfort TI061-072, Windmill Leper Hospital (*site of*) TI061-073, Windmill moated site TI061-167 and Farranamanagh ringfort TI060-084. The investigation of the *Rian Bo Phadriag* roadway (TI061-071) was the only example where the bypass directly impacted a known RMP site and this was unavoidable as the roadway had to be traversed by the bypass.

Excavation Methodology

The investigations began in Spring 2003 across the entire bypass although lands at Owen's and Bigg's-Lot were unavailable for investigation until July. All sites were investigated by

mechanical excavators under constant archaeological supervision. The topsoil was removed down to the natural glacial till, or to the top of archaeological features, depending on what was encountered first. In the main the natural consisted of compacted yellow-orange clay. In areas of water-logged conditions such as at Monadreela, George's-Land and Owen's and Bigg's-Lot the natural changed to grey-white malleable clay. In areas of higher ground in Ballyknock, Windmill and Deerpark bedrock limestone outcropped close to the base of the topsoil. In particular on the north-west-facing slope of Windmill Hill (Sites 31–35) and Windmill / Deerpark ridge the natural contained limestone bedrock outcropping overlaid by bands of gravel (Sites 38–39). A cave is shown on the 1st Edition OS Map at the extreme south-west corner of Hughes'-Lot East, near the Corporation Boundary junction with Waller's-Lot.

A total of 56 Excavation Licence Numbers were issued by the Department of Environment, Heritage and Local Government during the course of the bypass archaeological works. This total included the general archaeological testing licence 03E0295 which was used across the scheme, the specific testing of the *Rian Bo Phadriag* roadway (TI061-071) in Owen's and Bigg's-Lot 03E1211, and the archaeological monitoring of bypass outfall drains across various townlands, 03E1087. In most instances the licence issued for specific archaeological testing of a site was retained for the subsequent resolution of that site, as resolution followed on immediately once archaeology was definitively identified.

The following tables list those sites on the N8 Bypass mainline and N74 Link Road where excavations uncovered definitive archaeological remains (see below). What is clear from these tables is the multi-period nature of many of the sites investigated. Such discoveries have been mirrored on both NRA-funded projects north and south of Cashel, although it is clear the density of sites uncovered around Cashel is exceptional (McQuade 2009, xiii). Although it could be explained that this higher site density was due to Cashel's prominence as an ancient royal capital in the early historic era, the higher numbers of prehistoric sites appears to indicate intense settlement around Cashel from the beginnings of the Early Bronze Age. The good quality farming land, based on brown podzolic soils over limestone bedrock, was a main attraction for settlement. Coupled with this was Cashel's strategic location south of the bog lands around Littleton/Thurles, and north of the Galtee Mountains and River Suir plain. Although Cashel has no river many small streams (Arglo, Black, Halfmile & Maddock) fed by a widespread system of ponds served as convenient water sources: it was no coincidence that when excavations occurred beside

these ponds i.e. Monadreela, Boscabell and Owen's and Bigg's-Lot, multi-period sites were uncovered.

Rathordan

This townland is distinctive amongst Cashel townlands in possessing many RMP's, including a significant number of ringforts/enclosures. Perhaps the best known is upstanding fort TI061-074 which is located on a prominent hill. The nearest monument to the excavation is RMP TI061-075, a ringfort which, although now levelled, was upstanding as recently as the 1950s (see Figure viii below). This levelled fort is ploughed regularly and should be field-walked as part of local research.

This section of the mainline of the bypass stretched south from George's-Land as far as the Fethard Road, a distance of 1.2 km, between chainages 4520–5720. This section was not subject to Phase 1 testing and the first investigation here occurred in May 2003. Under excavation licence number 03E0295 a centreline test trench with off-sets at regular intervals was excavated between chainages 4520–5720, under constant archaeological supervision (Fairburn 2006; O'Brien 2006a). Portions of George's-Land, Hughes'-Lot East, Kilsobin and Rathordan townlands were investigated. The results of this work identified six areas of archaeological potential (Sites 25i-25vi)—each of which was cordoned off—and a separate archaeological licence applied for.

Site No	Licence No.	Townland	Mesolithic 7000-4000 BC	Neolithic 4000-2400 BC	Copper Age 2400-2200 BC	Early Bronze Age 2200-1600 BC	Middle Bronze Age 1600-1100 BC	Late Bronze Age 1100-800 BC	Iron Age 800 BC-400 AD	Early Medieval 400-1200 AD	Medieval 1200-1500 AD	Post Medieval 1500-1900 AD
1i	03E0673	Ballyknock										
1ii	03E0740	Ballyknock										
1iii	03E0727	Clonmore										
5	03E0299	Monadreela										
7	03E0300	Monadreela										
8	03E0379	Monadreela										
9	03E0345	Monadreela										
10	03E0392	Monadreela										
11	03E0346	Monadreela										
12	03E0393	Monadreela										
13	03E0378	Monadreela										
14	03E0395	Monadreela										
15	03E0394	Monadreela										
16	03E0427	Boscabell										
17	03E0413	Boscabell										
18	03E0425	Boscabell										
19	03E0426	Boscabell										
20	03E0470	Boscabell										
21	03E0480	Boscabell										
22	03E0503	George's-Land										
23	03E0508	George's-Land										
24	03E0507	George's-Land										
25i	03E0731	Kilscobin & Hughes'-Lot East										
25ii	03E0730	Kilscobin & Hughes'-Lot East										
25iii	03E0746	Hughes'-Lot East										
25iv	03E0807	Hughes'-Lot East										
25v	03E0756	Rathordan										
27	03E0289	Waller's-Lot & Rathordan										

Table iii lists those sites where licences were issued and investigations proved to be non-archaeological:

Site No.	Licence No.	Methodology	Townland
1iii	03E0727	Resolution	Clonmore
2	03E0297	Testing	Ballyknock
3	03E0296	Testing	Ballyknock
4	03E0298	Resolution	Monadreela
6	03E0349	Testing	Monadreela
25vi	03E0747	Resolution	Rathordan
25a	03E0294	Resolution	Waller's-Lot
26	03E0347	Resolution	Rathordan
28	03E0292	Resolution	Waller's-Lot
43	03E1087	Monitoring	various
1, 1a, 25, 30, 36, 38	03E0295	Testing	various

Table iii: Excavations which produced non-archaeological sites

No further works were undertaken on these sites. As the bypass was a design-and-build-type project design changes were made during the construction period in 2003. Such changes only involved works within the Compulsory Purchase Order lands (CPO), and were subject to the prior approval of South Tipperary County Council. These changes meant that some areas which had been archaeologically tested were not impacted further and therefore archaeological remains were preserved *in situ*. Such areas have been identified in each relevant final report and notified to the Archaeological Survey of Ireland:

Site	Licence	Townland	NGR	Description
Site 22	03E0503	George's-Land	209522 / 141100	ploughed-out <i>fulacht fia</i> dated to the Early Bronze Age
Site 24	03E0507	George's-Land	209520 / 140985	undated pits & ditches
Site 25ii	03E0730	Hughes'-Lot East	209380 / 140607	western portion of an Early Medieval ringfort
Site 25iv	03E0807	Hughes'-Lot East	209317 / 140363	eastern portion of an Early Medieval ringfort
Site 25v	03E0756	Rathordan	209140 / 140070	pits & ditches, one date from the Late Bronze Age

Table iv: Excavations where portions of the archaeology was preserved *in situ* within the CPO

Local Information

The route of the bypass traversed a number of upstanding townland boundaries generally consisting of high clay and/or stone banks topped with hedging, occasionally with a ditch either on one side or both. In some cases these ditches were active streams (Boscabell / George's-Land boundary; George's-Land / Hughes'-Lot East boundary). The townlands of Gortmakellis, Ballyknock, Monadreela, Boscabell, George's-Land, Kilsobin and Rathordan were located within St. Patricks Rock parish. At the George's-Land / Hughes'-

Lot East boundary (Site 25i) the route entered St. John Baptist parish, formerly the Cashel Corporation Municipal Boundary too, and included the townlands of Hughes'-Lot East, Waller's-Lot, Cooper's-Lot and Owen's and Bigg's-Lot. On the link road Windmill was located within Part of St. Patricks Rock parish. At the junction of Windmill / Deerpark (Site 38) the route entered Farranamanagh in the parish of Hore Abbey. The profiles of townland boundaries were recorded during excavation and incorporated into the relevant final report. Changes to these boundaries over time can be traced in the Historical Background section below.

There are many interesting place names around Cashel recorded cartographically and / or in historical sources, such as *Poulmawkeorish* in Castlelake; *Poulagower* in Attykit; *Foresdin* in Hill's-Lot; *Carrigeenedeen* and *Fawnsuir* in Carron; *Parknapeast*, *Turreen Spring* and *Mullenavivva Pool* in Ballinamona; *Knockananulla* in Hore Abbey; *Grantias Well* in Deerpark; *Loughroentaggart*, *Lough Nahinch* and *Doon Fort* in Farranamanagh; *Ogaunoch and Coun* [Rathcoun?] and *the hill of Tubbiradoon...a well called Tubbiradoon near Doon Fort* (Davis White 1866, 47); *Goul's Pool* in Waller's-Lot; *Corralough Well* in Corralough; *Gallows Hill* in Hughes'-Lot East; *the Fahy and the common lands of the town alias Cottayne* (Fiants 1994, 485); '*Brockroghtie and a meadow near Gallows hill called Monyarnycrohy*' (IMC 1966, 281).

GEOLOGY & SOILS

The Cashel environs are situated on the eastern edge of the Golden Vale, and the southern edge of the central limestone plains of Ireland. The landscape has been formed by glacial melt water and moraine deposition. The bypass route traversed the low-lying, fertile, well-drained and easily worked soils with underlying calcareous tills, which sweep away from the Knockmealdown and Galtee Mountains and Slievenamon to the south.

Ballyknock, in the north of the main route, and Windmill, in the southern part of the link road, are high prominent landmarks. The undulating land is made up of gently sloping rounded ridges oriented east-west. The streams create a cross-drainage system running between the ridges and along the bottom of the slopes, eventually flowing to the west, towards the River Suir drainage basin. The rock type of the area is composed of limestone from the Carboniferous period. On the west and south-west are the Hore Abbey Limestone and Lagganstown formations. To the south-east is the Ballyadams formation, with the Killeshin Siltstone and Clogrenan formations to the north-east and north respectively. The Hore Abbey formation consists of pale grey bedded limestone with chert, with the Lagganstown formation made up of dark thin cherty limestone. The Ballyadams formation is a Burren-type limestone with thick ledges. The Clogrenan formation is bluish-grey limestone with irregular nodules of black or blue chert, wackestones and packstone limestone. The Killeshin Siltstone formation is composed of muddy siltstone and silky mudstone (Archer, Sleeman & Smith 1996).

Geological features such as swallow holes are recorded in Cooper's-Lot and Owen's and Bigg's-Lot. There is a cave marked on the 1st Edition OS six-inch map at the south-western edge of Hughes'-Lot East near its junction with Waller's-Lot: the site is not recorded on later mapping. Locations of stepping stones and fords are first recorded on the 2nd Edition OS six-inch map in Hughes'-Lot East, possibly associated with the Cashel Reservoir on the Dualla Road. On the same map disused limekilns are shown in many townlands such as Farranamanagh, Rathcoun, Rathordan, Spafield and Windmill. The dominant soil type is the grey-brown podzolic which are fertile, well-drained soils ranging in depth from 0.20–0.60 m. It is an excellent soil type for agriculture, in particular horse breeding, for which this area of south Tipperary is renowned for.

ARCHAEOLOGY OF THE CASHEL AREA

Prior to the bypass archaeological excavations little was recorded of Cashel's prehistory, with a few uncontexted finds from around Cashel including a stone axe head, and various artefacts of bronze (axes, javelins / spearheads) and curiously, 262 bronze rings (see Appendix i). No prehistoric settlement sites were recorded – a situation that was to change with the bypass investigations. To the east of Cashel a Bronze Age burial had been discovered in Fussough townland, Dualla in 1933: a stone-lined cist burial containing an urn and human bones was dug up from a sandpit at the western base of the Kill Hills TI053-096 (Waddell 1990, 134; O'Brien 2007, 93–4).

The prehistory of Cashel has emerged slowly from beneath the citadel of the Rock of Cashel, whose mix of ecclesiastical and secular architecture generally dominates all discussion and research. The discovery from the middle of the 19th century onwards of metal artefacts from around Cashel, mainly bronzes such as axes, hinted at prehistoric activity in the area (Shearman 1852, 203). The recovery of artefacts from the Rock of Cashel summit is recorded from as early as 1849, with a bronze bell being found (Wyse Jackson 1956, 18). Perhaps the first archaeological excavation in Cashel occurred in the 1850's with investigations inside the Round Tower on the Rock (Fitzgerald 1857, 292). This may have been spurred by the establishment of the Cashel Chapter House Museum on John Street by Mr. Newport B. White in 1855. Two publications by his brother Rev. John Davis White listed a range of objects housed in the Museum, many of which were described as being found from around Cashel (Woodworth 1989, 149).

John Davis White included amongst the museum collection a large helmet [and human bones] found in Farranavarra, north-east of Cashel, possibly associated with the 1170's battle between the Irish and Anglo-Normans (Davis White 1892, 12). In his history of Ireland Giraldus Cambrensis described earthworks being thrown up near Cashel during a battle between the Anglo-Normans and Irish – *As [Raymond le Gros] was advancing towards Cashel...he heard that the men of Thomand had...come to block his path in the pass of Cashel. By laying down broken branches of trees and digging trenches they had greatly broken up a terrain already naturally difficult, and had also built a very strong palisade right across the path...the stockade was completely broken down and destroyed, not without great loss of life among the defenders, and they opened up a path with their swords, and then enlarged it* (Scott and Martin 1978, 161–3). The location of this ancient pass of Cashel is still unknown. Davis White also reported on the discovery of human skulls and bones in Doon Fort, Farranamanagh [TI060-082], possibly associated with the Desmond Rebellion of 1581 (Davis White 1866, 46–7).

Following in the footsteps of Davis White a later cleric, Rev. Robert Wyse Jackson began recording antiquities around Cashel's hinterland in the 1950's, and some of the objects he discovered are listed in Appendix i (Wyse Jackson 1956a, 21). Cashel's Anglo-Norman moated sites were included in Barry's seminal study of this monument type in the 1970's, including the Boscabell moated site TI061-027 (Barry 1977). These and the other rural sites around Cashel were visited and listed as part of Reynolds's 1975 survey of Tipperary South Riding, followed by Cahill's 1982 study of the barony of Middlethird, as part of an unpublished Master's thesis for UCC. Local historians such as A. Finn, P. J. Davern, J. Knightly, M. 'Bob' O'Dwyer and E. Dalton have over the years lectured and occasionally published about Cashel (see Moloney 1994).

Prior to the bypass excavations in 2003 no discoveries of Mesolithic sites had been made in the Cashel area – the nearest such activity was represented by the uncontexted flints found at Ballybrado House, near Cahir (Woodman & Finlay 2001, 189); a Mesolithic date from the Bronze Age site of Curraghatoor, Co. Tipperary is considered unreliable (Cleary 2007, 39); a single Mesolithic macro flint was found in a medieval context in Toureen Peakaun near Cahir (Ó Carragáin 2011, 341–2) while a possible Mesolithic object, a single retouched jasper point from Chancellorsland, Co. Tipperary is paralleled with objects from the later Mesolithic site at Ferriter's Cove, Co. Kerry (Doody 2008, 329).

Cashel did not feature as a place of recorded Neolithic activity with no megalithic monuments nor house sites known. Only three flints were retrieved from the Rock of Cashel excavations in the 1990's – no further details are known on these objects at present (www.homepage.eircom.net/~dunamase/Dunamase.html) There are a number of undated megalithic structures around Clonoulty and Hollyford north-west of Cashel, recorded by the Archaeological Survey of Ireland. The nearest megalithic tomb is the portal tomb at Lissava TI075-045 near Cahir, c. 18 km south of Cashel. In Rathcoun townland south-west of Cashel four undated barrows TI060-107007–TI060-107010 and one unclassified cairn TI060-107011 are recorded clustered together.

A number of the metal artefacts now in the National Museum of Ireland have been assigned in the Early Bronze Age period (Grogan 2005, Fig. 3.1–3.4, 24–29) – see Appendix i below. Recently three standing stones have been identified north-east of Cashel and are now RMP sites: Palmer's Hill TI061-052, Corralough TI061-053 and Ballyknock TI061-054 – these may date to sometime in the Bronze Age and significantly are located along the prominent Ballyknock ridge, as is a newly discovered ploughed-out *fulacht fia*, overlooking many of the N8 Bypass prehistoric sites (O'Brien 2003 17–26; O'Brien 2006, 15–23; O'Brien 2007, 87–96; O'Brien 2009a, 72–4). Other recent discoveries around

Cashel have been made from field walking including further ploughed-out *fulacht fia* in Ballinamona (two sites), Ballinree (one site), Carron (two sites), Gortmakellis (one site), Kilsobin (one site) and Newtown (eight sites) (O'Brien 2008, 73–82), and artefacts such as a thumbnail scraper from Ballinamona, worked flint from Boscabell and Kilsobin, slag from Ballyknock, stone spindle whorls from Ballykelly, George's-Land and Ballinamona respectively, and a hammer stone from Ballinree and George's-Land (O'Brien 2003a, 48–52; www.facebook.com/rathnadrinna). These discoveries have been incorporated into the relevant final reports.

In later prehistory high status activity in the wider area is well represented; the discovery of two Late Bronze Age gold rings at Ardmayle, beside the River Suir and dated to the late 13th – early 12th centuries BC (Cahill 1989, 146), a Late Bronze Age Class IV sword from Aughnagomaun dated c. 700 BC (O'Brien 2007, 89–90), and a gold reel containing small gold balls (NMI W306) recorded as being found from Cashel (Cahill 1995, 66). The discovery of the Aughnagomaun sword is significant as earlier Middle / Late Bronze Age evidence was found in the same townland at (E2361) on the M8 North Project (Moore *et al* 2009, i). The lack of Bronze Age settlement sites was highlighted by Doody (1997, 94).

Iron Age Cashel was best represented in heroic literature and with very occasional archaeological discoveries: the Clonura leather shield, from c. 20 km north-east of Cashel. However recent excavation in advance of development has identified both potential and definitive Iron Age sites: the discovery of a blue glass bead in Deerpark (Sherlock 2008, 350) may point to Iron Age activity and in the wider Cashel area a possible ritual site in Knockgraffon. The latter site consisted of an arc of eight postholes dated to 380–50 cal. BC (SUERC–25889) while an internal posthole to the arc was contemporary, dated to 380–90 cal. BC (SUERC–25890). Artefacts recovered included unidentified prehistoric pottery, a polished stone axe, three highly polished stones, two copper-alloy fragments and cremated bone (MacLeod 2012, 200–1).

Although Cashel was located on the south-eastern periphery of the Discovery Programme's North Munster Project nevertheless its inclusion saw a number of sites traditionally and locally classified as ringforts re-classified as prehistoric. Upstanding monuments such as Camus TI060-028 [classified as a ringfort on www.archaeology.ie], Carron / Rathnadov TI069-002001 [also classified as a henge], Knocksaintlour TI060-179, Lalor's-Lot / Rathnadrinna TI061-089001 and Windmill TI061-072 were classified as hilltop enclosures (Grogan 2005, Fig. 7.6, 116). A number of other monuments perhaps could be added to this list; Ballyknock TI061-008 due to its very prominent location at over

180 m OD, Hughes'-Lot East enclosure 05E0671 (143 m OD), Rathordan TI061-074 (140 m OD), and the multi-ramparted Ballinree TI060-110 are worthy of future study. Based on current evidence the nearest hillfort to Cashel is Kedrah TI075-040, located on the eastern side of the River Suir near Cahir, c. 16 km south of Cashel. The only definitive crannog in south Tipperary is recorded from Marhill TI069-072 just south of Rockwell College.

Significantly this site is located in the same townland as a Middle Bronze Age site (E2269) and Medieval sites (E2124 & E2268) discovered on the M8 Cashel to Mitchelstown Road Project (see below).

The *Dhuvclo* earthwork TI061-022 (road / hollow-way) in Charterschool Land TI061-022 has recently been associated with kingship processional rites (Gleeson 2012). In the extents of the *Lands of Monecurialy* of 1688 the highway from Cashel to Deansgrove was mentioned as the *blacke ditch* commonly called the *Dooocly* (Davis White 1863, 5). Another road TI060-025 which serves as the townland boundary between Farranamanagh and Rathcoun is now classified as a redundant record

(www.archaeology.ie/NationalMonuments/Flex/Viewer/). However on the 1st Edition OS six-inch map the boundary is shown as *Boheragaddy* and a much earlier reference and description of *Bothar Gadie*, 'a double-ditched road (*a biffosario lapideo*)' is found in an Inquisition taken at Clonmel in 1553 (Curtis 1941, 15). In the same source another road called *Botherewolyngyhy* has been equated with Windmill (www.logainm.ie).

Exotic material is represented by the Roman-period occultist's stamp from Spital-Land in Golden, c. 7 km west of Cashel (Bateson 1973, 74), and the Roman-type fibula—a dolphin brooch (Type H)—the earliest datable find from the Rock of Cashel (Cahill 1982a, 101). The evidence of international trade is further represented by Romano-British pottery sherds and Bii amphorae sherds from the Rock of Cashel; the Bii amphorae were also found at Derrynaflan c. 15 km north-east of Cashel (Kelly 2010, 59–60). Other well-known objects from Cashel include bronze bells, a silver brooch (decorated with Scandinavian thistle design from the late Norse period), a gilded copper crozier-head (set with turquoise and sapphire), the Kennedy-Crux Crozier, the silver-gilt Cashel Pyx, and various chalices and seals (Wyse Jackson 1956, 18–20; see Appendix i). A rare zoomorphic pennanular brooch dated to c. 600 AD was found in *Loughnafina*, west of Cashel town (Henry 2000, 200–1).

Early medieval Cashel is well attested in historical sources with the dominance of kings on the Rock under *Éoganachta*, *Ui Briain* and *Meic Carthaig* dynasties (see Historical Background below; Hodkinson 1994; Collins 1997; Gleeson 2012; Gleeson 2014). In Rathcoun a complex of ecclesiastical sites include a church TI060-107002,

recorded as (*site of*) *Templemobe* [Mobhi], the unclassified religious house TI060-107003 (*site of*) *Monastery*—the only monastic site marked around Cashel—and holy well TI060-107004. Rathcoun and Temploe are two townlands south-west of Cashel that preserve the word ‘temple’ in their name.

The plethora of ringforts and possible *Óenach* sites in the region point to a vibrant early medieval hinterland. Some of the forts around Cashel are recorded in historical sources. In the *Life of Saint Declan of Ardmore* a stone fort called *Rath na nIrlann* is specifically identified as being on the western side of Cashel (Power 1914, 28) – this fort may equate with Ballinree TI060-110. *Lis na nUrlann* (location unknown) is recorded in the Yellow Book of Lecan as being associated with the twelfth-century inauguration of the kings of Munster (Fitzpatrick 2004, 178–9). King Brian Uí Briain is recorded as fortifying Cashel c. 995 (AI) - this annalistic reference may not be restricted to fortification of the acropolis itself. King Muirheartach Uí Briain had a house at Cashel c. 1091 (AFM) and within 10 years had handed over the Rock to the church in 1101 (Bracken & Ó Riain-Raedel 2006). Cormac’s Chapel, with its renowned Romanesque architecture was consecrated in 1134 (Ó Carragáin 2010). Although the OPW-funded excavations of the early 1990’s on the Rock still remain unpublished, two of the burials excavated in Area 1 have been dated by the *Mapping Death Project* to cal. AD 1029–1155 and cal. AD 1033–1155 (Gleeson 2013, 22). These burials are contemporary with activity at two of the bypass sites: oats from the lower fill of a cereal-drying kiln in Boscabell (Site 19, 03E0426), and a single adult femur displaying trauma, from the upper levels of the Hughes’-Lot East bivallate fort (Site 25ii, 03E0730); see respective final reports.

In the Fiants of the Tudor Sovereigns, under Elizabeth I 1576 the ‘*high rathe to the north*’ [Ballyknock?] and Lepers Hospital [Windmill] are listed amongst local names around Cashel (Fiants 1994, 485). In a description of the lands of James Boiton recorded in the Calendar of the Patent and Close Rolls Elizabeth I 1594–6 local names such as ‘*High Rathe on the east*’ and ‘*the lands of Asmon, otherwise Boiton Rath*’ [Boytonrath] are recorded (Morris 1862, 392). Could the ‘*High Rathe on the east*’ either be referring to one of the Ballyknock forts TI061-008 or else to the Hughes’-Lot East enclosure [05E0671], (see below)? In the Patent Rolls of James I, Pat. 7 c. 1610 the following entry for the Windmill area is very informative – ‘*the stone house, towns and lands of the Windmill, Fleming’s Rath, and Parkinigrogory in the southern part of Cashell*’ (IMC 1966, 146). Could *Fleming’s Rath* be Windmill hilltop enclosure TI061-072?

The archaeological inventory for South Tipperary has been updated and new data added to RMP sites around Cashel, see www.archaeology.ie. A recent rural excavation

unearthed evidence of a ploughed-out ringfort / enclosure at Hughes'-Lot East (Hurley 2005, 348). Significantly, this site was located on a hillock to the south-east of the town, and its discovery suggested every such elevated location around Cashel was utilised as some form of defended settlement.

The last 20 years witnessed profound development changes in and around Cashel town itself, with a corresponding increase in the number of licenced archaeological excavations taking place (Hughes & Ó Droma 2011; Moloney 2013). Despite the large number of investigations little in the way of pre-13th/14th century AD material has come to light, equally compounded by a lack of publication. One of the more significant medieval excavations was that in Friar Street in 1998 (O'Donovan 2004). New discoveries are still being made in Cashel town: a medieval carved head in the Dominican Friary (O'Brien 2010) and, a carved capital, probably from the Franciscan Friary was found built into a wall on the Dualla Road in Hughes'-Lot East (Hughes 2011). The medieval town itself continues to be a focus of research (Slattery 2007; Hughes & Farrelly 2009; Hughes 2011a; O'Doherty 2012 & O'Brien, N. 2013). The most recently published excavations in the town—numbering three—revealed no archaeological features and, remarkably, no artefacts of any nature (see accounts in Bennett 2010).

A number of Anglo-Norman moated sites are recorded around Cashel (Barry 1977), including an elevated example at Windmill TI061-167 and one at Boscabell TI061-027, the archaeological zone of potential of which was investigated (Sites 18–20). Gortmakellis tower house TI061-011 is a fine example of a five-storey late medieval structure, and the bypass was designed to avoid all impacts on this castle and its' environs.

Recent NRA Excavations Around Cashel

From 2005–7 archaeological discoveries around rural Cashel greatly increased - south of Cashel as far as the county boundary with Limerick on the M8 Cashel to Mitchelstown road and north of Cashel as far as the county (and provincial) boundary with Kilkenny on the M8 Cullahill to Cashel road. These excavations revealed sites containing multi-period activity similar to that found on most of the Cashel excavations too.

The following list summarises the archaeological excavations made south of Cashel on the M8 Cashel to Mitchelstown Road Project, final reports for which were produced in 2007 (all townlands are in Co. Tipperary unless otherwise stated).

Neolithic sites - Suttonrath (E2128), Caherabbey Lower (E2266), Loughfeedora (E2292) & Caherabbey Upper (E2298)

Early Bronze Age sites - Ballylegan (E2265), Ballydrehid (E2267), Cloghabreedy (E2273), Dogstown (E2288), Dogstown (E2289), Templenoe (E2290), Racecourse Demesne (E2297), Caherabbey Upper (E2298), Caherabbey Upper (E2299), Carrigane (E2303 Co. Cork) & Brackbaun (E2338 Co. Limerick)

Middle Bronze Age sites - Killemlly (E2126), Suttonrath (E2128), Ballydrehid (E2267), Marlhill (E2269), Knockgraffon (E2270), Knockgraffon (E2271), Cloghabreedy (E2273), Cloghabreedy (E2274), Shanballyduff (E2275), Dogstown (E2289), Clonmore North (E2294), Raheen (E2295), Lissava (E2296), Caherabbey Upper (E2299), Carrigane (E2303 Co. Cork), Brackbaun (E2306 Co. Limerick) & Brackbaun (E2339 Co. Limerick)

Late Bronze Age sites - Killemlly (E2126), Suttonrath (E2128), Ballylegan (E2265), Ballydrehid (E2267), Knockgraffon (E2270), Cloghabreedy (E2274), Loughfeedora (E2292) & Caherabbey Upper (E2299),

Iron Age sites - Killemlly (E2126), Ballylegan (E2265), Caherabbey Lower (E2266), Ballydrehid (E2267), Knockgraffon (E2270) & Knockgraffon (E2272),

Medieval sites - Marlhill (E2124), Marlhill (E2268), Suttonrath (E2127), Ballylegan (E2265), Knockgraffon (E2271), Tincurry (E2293) & Brackbaun (E2339 Co. Limerick)

Post Medieval sites - Loughfeedora (E2291) & Cloheenafishogue (E2302).

The following list summarises the archaeological excavations made north of Cashel on the M8 Cullahill to Cashel Road Project, final reports for which were produced in 2010 (all townlands are in Co. Tipperary unless otherwise stated):

Neolithic sites - Borris (E2491), Fennor (E2384) & Islands (E2388, Co. Kilkenny)

Late Neolithic sites - Gortmakellis (E2816)

Early Bronze Age sites - Borris (E2378), Borris (E2491), Inchirourke (E2383), Fennor (E2384), Fennor (E2385), Islands (E2386, Co. Kilkenny), Islands (E2388, Co. Kilkenny) & Warrenstown (E2390, Co. Kilkenny)

Middle Bronze Age sites - Parkstown (2368), Rathcunikeen (E2372), Borris & Blackcastle (E2374), Borris (E2375), Borris (E2376), Borris (E2378), Borris (E2379), Inchirourke (E2383), Islands (E2386, Co. Kilkenny), Islands (E2387, Co. Kilkenny), Islands (E2389, Co. Kilkenny) & Foulks court (E2391, Co. Kilkenny)

Late Bronze Age sites - Aughnagomaun/Ashhill (E2361), Ballydavid (E2370), Coolcroo (E2818), Borris (E2376), Inchirourke (E2382), Islands (E2386, Co. Kilkenny),

Islands (E2388, Co. Kilkenny), Islands (E2389, Co. Kilkenny), Foulkscourt (E2391, Co. Kilkenny) & Glashare (E2394, Co. Kilkenny)
Iron Age sites - Coolkip (E2362), Coolkip (E2363), Ballydavid (E2370), Borris (E2376), Inchirourke (E2382) & Glashare (E2394, Co. Kilkenny)
Early Medieval sites - Parkstown (2368), Ballydavid (E2370), Borris (E2376) & Borris (E2491)
Late Medieval sites - Moycarky (E2365), Moycarky (E2366), Moycarky (E2367), Parkstown (E2368), Borris & Blackcastle (E2374), Borris (E2376) & Inchirourke (E2382)
Post Medieval sites - Borris & Blackcastle (E2374)

The results of some of these excavations are incorporated into various Cashel final reports, can be viewed at www.nra.ie/archaeology and see McQuade (2009, 2, Table 1.1). The apparent lack of Mesolithic discoveries on either of these major road projects was mirrored on earlier infrastructure projects in south Tipperary: the Gas Pipeline of 1981–2 (Cleary 1987, vii), the Gas Pipeline of 1986 (Gowen 1988, vii), the Lisheen Mine Project 1996–8 (Gowen 2005, 61), and more recently again from the research excavation at Curraghatoor (Cleary 2007, 39). Clearly then, the hinterland of Cashel, where four townlands spread across the bypass produced Mesolithic material and/or radiocarbon dates, featured significantly in the movement of both people and materials during the Mesolithic. This movement was in no small part facilitated by Cashel's closeness to the River Suir.

Recent Geophysical Investigations around Cashel

Between 2009–12 a number of research-led geophysical surveys were conducted on a number of sites in and around Cashel. In 2009 and 2010 Earthsound Archaeological Geophysics Ltd undertook geophysical surveys at Rathnadrinna fort TI061-089001 and TI061-089002 in Lalor's-Lot. This work revealed a complex multi-period site, with evidence of large-scale earthworks predating the known fort (O'Brien *et al* 2011, 26). In 2011 Earthsound undertook a geophysical survey at Hughes'-Lot East (Site 25ii, 03E0730) in order to identify the full extent of the Early Medieval ringfort beyond the CPO (Bonsall 2012). The western edge of the ringfort was identified and the results have been incorporated into the final report for that site (see 03E0730). A survey was conducted in the fields north of the Rock of Cashel in St Patricks Rock townland in 2011 (Gleeson 2014) and in the grounds of Cashel Palace Hotel in 2012 (Gimson & Regan 2012). Further research work in 2011 and 2012 centred on Windmill Hill sites TI061-072, TI061-073 and

TI061-167 by Earthsound Archaeological Geophysics, UCC and the University of Bradford / NRA—identifying archaeological features—some of which may be associated with the activity discovered on Sites 31–36i (Gimson 2012). These results are incorporated into the various Cashel final reports.

Recent Research Excavations in Rathnadrinna Fort (TI061-089001), Lalor's-Lot, Cashel

Recent excavation funded by the Royal Irish Academy since 2012 has revealed multi-period activity at this site. The fort was classified as a hilltop enclosure (Grogan 2005, Fig. 7.6, 116), and evidence of prehistoric occupation on the hillside has been dated to the Early Bronze Age by the recovery of a chert arrowhead of the period. A large linear ditch predating the fort ramparts was in use in the Late Bronze Age period; willow charcoal from deposits within the ditch were dated 748–405 cal. BC (UBA-24977), and 771–485 cal. BC (UBA-24975) respectively. The Early Medieval period is also represented on site. Found from topsoil within the fort was a copper alloy/lead stud mount from a house-shaped shrine, inlaid in gold in a design of four entwined snakes surrounding the centre, stylistically of 8th century AD date, or perhaps earlier. Carbonised oat from the basal fill of a cereal-drying kiln discovered outside the southern fort bank was dated cal. AD 777–980 (UBA-24976). A lens of charcoal-rich clay found in the central fort ditch was dated cal. AD 890–991 (UBA-24974). The preliminary findings from Rathnadrinna have been incorporated into the Cashel Bypass final reports where applicable.

Appendix i: Catalogue of objects from Cashel in the National Museum of Ireland

Object: Copper alloy harness mount
 NMI No: 2004:178
 Find-spot: Ballytarsna
 Description: Copper alloy harness mount found by Mr. Alfie Coyle in a potato field on the southern side of the old N8 road, near the junction with Killock Quarry.

Object: Medieval pot sherd
 NMI No: 2004:146
 Find-spot: Rock of Cashel, surface find at exterior base of Cathedral south wall
 Description: Curved pot sherd probably belonging to a medieval vessel. The outer surface of the sherd is glazed. This glazing is green in colour with random dark green and brown dots. On one area of the outer surface of the sherd, there are traces of five incised lines. Max L 5.25; max W 3.28; T 6.90

Object: Socketed iron axehead
 NMI No: 2002:88
 Find-spot: St. Patrick's Rock, garden of Mr. Dinny O'Brien
 Description: Iron axehead with modern iron spike thru the shaft hole. The axehead has a widely splayed blade the sides of which curve inwards towards the shaft hole. This is triangular in shape and folds back to form the perforation to take the handle. In poor condition. Max L of axehead 13.15; W of blade 10.00; max T of blade, max 2.1

Object: Copper alloy ferrule
 NMI No: 1992:29
 Find-spot: Garden in Dogstown, New Inn
 Description: Copper alloy ferrule, decorated bronze mount

Object: Wood
 NMI No: 1984:107
 Find-spot: Curraghtarsna, Cashel
 Description: Trough of *fulacht*, reused from a dug-out canoe. Excavated timber C14 dated to 3120_35 BP (GrN 12618)

Object: Bronze spearhead or javelin head
 NMI No: 1968:285
 Find-spot: Cashel
 Description: Rounded blade with ornamental deep grooves close to the ridge of the socket, broad ribbon loops on the large squat socket. l. 6.4cm, l of loop 1.5cm, w of loop 2.1cm, diameter of socket mouth 2cm

Object: Bronze spearhead or javelin head
 NMI No: 1968:282
 Find-spot: St John Baptist Cashel
 Description: Bronze spearhead, socketed, looped, with bevelled edges on the blade and decorative ribbing. Conical socket. Loops are lozenge-shaped and placed midway between blade and mouth of socket. l. 11.3cm, l of blade 6cm, w of blade 3.5cm, l of loop 1.8cm, diameter of mouth 1.9cm

Object: Iron spike
 NMI No: 1953:9
 Find-spot: Hummocky' field near Ballysheehan Motte-and-Bailey
 Description: Iron spike

- Object: Fragment of an iron horseshoe
NMI No: 1953:10
Find-spot: Hummocky' field near Ballysheehan Motte-and-Bailey,
Description: Fragment of an iron horseshoe
- Object: Five medieval pottery sherds
NMI No: 1953:11-5
Find-spot: Hummocky' field near Ballysheehan Motte-and-Bailey
Description: Five medieval pottery sherds
- Object: Bronze spearhead
NMI No: 1938:8589
Find-spot: Cashel vicinity
Description: Bronze spearhead
- Object: Socketed bronze axehead
NMI No: 1937:3678
Find-spot: Cashel vicinity
Description: Socketed bronze axehead
- Object: Silver seal matrix
NMI No: 1912:59
Find-spot: Co. Tipperary
Description: Matrix of seal silver with a green stone set inside. The device on the stone is a sea horse. The legend reads S.IOKIS-CASELL-ARCHID. The matrix was formerly in the possession of Sir William Betham. It has been in the RIA collection for many years. The seal measures 1 1/6inch x 15/16inch.
- Object: Stone adze
NMI No: 1909:33
Find-spot: Near Cashel
Description: Of very unusual form, of close grained hard black stone. It measures 9 & 1/8 in length and 2 1/2 in breadth. It has a label gummed on which reads "ancient Irish stone adze found at Cashel Co. Tipperary."
- Object: Casts of Cormac's Chapel north doorway
NMI No: 1911:5
Find-spot: Rock of Cashel
Description: Casts of Cormac's chapel north doorway also arcading from interior and side of ornamented stone coffin.
- Object: Bronze axehead
NMI No: 1892:49
Find-spot: Near Cashel
Description: Socketed celt. Bronze looped cutting edge curved socket fractured filleted near mouth. Extreme length 2 1/4in. greatest width 1 7/8in. external diameter at mouth of socket 1 1/4in.
- Object: Copper axehead
NMI No: 1881:133
Find-spot: Dundrum, found in 1842
Description: Copper, broad and flat, surface rough, narrow and straight large gaps in one end of cutting edge, workmanship very rude. Extreme length 6 1/2inches thickness at centre 1/4inch, greatest width 4 inches, width at narrow end 1 3/4inches

- Object: Bronze axehead
NMI No: 1880:15
Find-spot: From Cashel
Description: Socketed celt, bronze, brownish, patinated, looped, cutting edge curved, mouth of socket nearly round portion battered by hammering, length 2 7/8in. width at cutting edge 2 1/4in. greatest external diam. Of socket 1 1/2inch
- Object: Silver paten
NMI No: 1880:98
Find-spot: Found when digging a grave in burial ground adjoining Cormac's Chapel, Rock of Cashel
Description: Silver circular and thin rim broad and flat centre portion slightly concave cracked in several places part of rim detached diameter 4 1/2in width 5/8ths inch length detached portion 3 11/16ths inches wt. 1oz. 9dwt. 11gr.
- Object: Silver coin Edward II
NMI No: 1875:122
Find-spot: North-east part of Cathedral, Rock of Cashel
Description: Edward II, found with Bronze pin No. 121
- Object: Bronze pin
NMI No: 1875:121
Find-spot: North-east part of Cathedral, Rock of Cashel
Description: Pin bronze, stem tapering to a fine point and slightly diminishing towards head, on upper half of its length ornamented with diagonal hatchings, head formed by two horse's faces turned outwards, length 3 5/8inches, and greatest thickness of stem more than 1/8inch
- Object: Copper and silver coins
NMI No: 1877:16
Find-spot: Cashel
Description: Copper square Youghal Token 9/16 inch square.
Silver Mecklenburg shilling
- Object: Iron key
NMI No: 1877:12
Find-spot: Cashel
Description: Iron brown much rusted, pipe in shank, bow semi-oval and attached to shank by two scrolls. Extreme length 3 3/8inches, greatest width of bow 1 15/16inch. Measurement across shank and bit 1 inch
- Object: Stained glass
NMI No: 1877:11
Find-spot: Cormac's Chapel, Rock of Cashel
Description: Fragment of stained glass. Greenish with reddish-brown stripes. Portion of latter forming lozenge shaped ornamentation with central circlet of same colour. Pattern similar to that of fresco painting on walls of Cormac's Chapel, in which structure it was found. Greatest length 1 3/4inch, extreme width 1 1/2inch
- Object: Bell metal portions
NMI No: 1877:10
Find-spot: Cormac's Chapel, Rock of Cashel
Description: Portions of bell metal (2) brownish green, respective measurements 1 1/2inch x 7/16inch, and 3/4 inch x 1/2inch

Object: Copper alloy Lion
NMI No: 1877:1
Find-spot: Found in open space between Cormac's Chapel & Cathedral, Rock of Cashel
Description: Brass lion, greenish in sitting posture, rectangular socketed projection in rear of hind legs, base oblong and irregularly rounded in front, height 2 ft 20inches length of base 7/16th inch width 5/8th inch

Object: Glass fragment
NMI No: 1877:14
Find-spot: Cashel
Description: Greenish grey remains of 'bull's eye' on one of the faces. Extreme length 3 1/8inches greatest width 1 1/4inch greatest thickness 5/8inch

Object: Wooden bow
NMI No: R:2470
Find-spot: Near Dundrum
Description: Wooden bow, found in the moat of a square rath near Dundrum

Object: Gold bracelet
NMI No: W307-309
Find-spot: Cashel
Description: Three individual gold bracelets

Object: Gold ball & reel
NMI No: W306
Find-spot: Cashel
Description: Gold ball & reel

Object: Copper alloy bell
NMI No: W2 WK209
Find-spot: Cashel
Description: Copper alloy bell

Object: Bronze rings (262)
NMI No: W232-493
Find-spot: Cashel
Description: Bronze patinated and tarnished. Apparently solid. Annular but one is cut through showing it to be solid. Some are circular in cross-section. Some are regular on the inside and some seem to be rough or unfinished casting. The sizes range from 1.50 external diam with 1.40 internal diam to 2.90cm

HISTORICAL SOURCES

For the historical background to Cashel town and its environs see White (1863: 1866 & 1892), Gleeson (1927), Finn (1930), Bradley (1985), Fogarty (2000), MacShamhráin (2004), Marnane (2007), and more recently Marnane & Darmody (2011). Some key dates in the history of Cashel include:

- AD 370 Traditional date of Kings of Munster ruling from Cashel.
- 448 Traditional date for Saint Patrick's visit to Cashel, and baptism of King Aengus.
- 580 Cairpre, King of Cashel died.
- 593 Feidlimid, King of Cashel died.
- 662 Maenach, King of Cashel died.
- 666 Cú-cen-Máthair, King of Cashel [& Munster] died.
- 713 The battle of Carn Feradaig, in which Cormac King of Cashel, died.
- 742 Cathal, King of Cashel died.
- 820 Feidlimid, son of Crimthann, took the kingship of Cashel.
- 821 Artrí, King of Cashel died.
- 847 The first recorded king-bishop of Munster died in Cashel.
- 976 Brian Boru was crowned King of Munster.
- 995 The fortifying [building] of Cashel, Inis Locha Gair, and Inis Locha Sainglenn, and many buildings besides, by King Brian Boru.
- 1093 Diarmait, son of Tairdelbach Ua Briain, submitted to Muirchertach, i.e. his brother, and they made peace and a covenant in Cashel and in Les Mór, with the relics of Ireland, including the Staff of Jesus, as pledges, and in the presence of Bishop Ua hÉnna of Cashel and the nobles of Mumu.
- 1095 Cashel [the Rock] was burned [cause of burning unknown].
- 1101 Muirchertach O'Brien, King of Munster bequeathed the Rock to the church.
- 1102 Cashel was attacked and burned by the *Éili* of north Tipperary.
- 1107 Cashel [the Rock] was burned by lightning.
- 1115 Cellachán Ua Cellacháin of Cashel was slain.
- 1118 Mael Sechnaill Ua Faeláin was treacherously slain in Cashel.
- 1127–34 Traditional date for the building of Cormac's Chapel on the Rock.
- 1130's Benedictine monks settle on the Rock of Cashel.
- 1141 The bishopric of Cashel was made Metropolitan.
- 1172 King Henry II of England presided over a synod in Cashel.
- 1178 Cashel was plundered by the Normans.
- 1179 Cashel [the Rock] was burned [cause unknown].
- 1194 Tadc, son of Mathgamain Ua Briain, was put to death by the foreigners in Cashel, despite the protection of the legate Archbishop Ua hÉnne of Cashel and Patrick.
- 1216 Cashel was designated as a borough town.
- 1220's References to the old and new *vill* (town) of Cashel survive.
- 1224–37 Sir David Latimer founded a Leper Hospital of St. Nicholas in Cashel.
- 1228 King Henry III returned the town to the ownership of the Archbishop, and a Fair was granted.
- 1243 Foundation of the Dominican Friary of Cashel, north of the town wall.
- 1265 Foundation of the Franciscan Friary of Cashel, east of the town wall.
- 1272 Foundation of the Cistercian monastery of Hore Abbey, south of the Rock.
- 1279 Letters of protection for two years for Adam Stripling, merchant of Cashel, about by the King's licence to go to parts beyond the sea.
- 1317 Edward Bruce of Scotland visits Cashel during his invasion of the country.

- 1320 Grant to the bailiffs and worthy men of Cashel, in aid of enclosing the town with a stone wall, that they may take the following customs in the accustomed form for five years from every crannock of wheat, peas, beans and every kind of corn, 1d.
- 1346 Commission to Adam Preston of custody of the castle of Cashel, during the King's pleasure, with the accustomed fee.
- 1378 King Richard II confirmed all the privileges of Cashel' Corporation; in Cashel Royal Service was proclaimed.
- 1378 King Richard II learned that there was no law, justice or good governance in any parts around the town of Cashel, but rather rebellion, extortion, murder, killing, robbery and open war made by the King's Irish enemies and rebels upon that town, so that the provost and commons of that town can scarcely be kept without great relief by the King in this part.
- 1381 The town of Cashel was situated in the march and was so devastated by invasions of the King's enemies that it cannot support the household of the King's Lieutenant and other officers except in the houses of the Friars Preachers and Friars Minor of that town; and because of the destruction of the surrounding parts where the said friars are wont to receive alms for sustenance, they have scarcely enough on which to live. Order to pay the Friars Preachers 5m as an aid for repairing their church and houses.
- 1494 The Earl of Kildare, Gerald Mór burned St. Patrick's Cathedral, believing the bishop to be hiding inside!
- 1540 The religious institutions of Cashel were seized by the English Crown.
- 1581 During the Desmond Rebellion cattle raids in Cashel result in the deaths of 60 townsmen.
- 1637 King Charles II of England granted a Charter to the town: it was to be known as '*City of Cashel*'.
- 1622 Archbishop Miler Magrath of Cashel died.
- 1641 The town of Cashel was invaded by the O'Dwyer Clan and many English settlers killed.
- 1647 The Rock of Cashel was conquered by forces loyal to the English Parliament, led by Irish man Lord Inchiquin.
- 1687 King James II of England granted Cashel a Charter.
- 1749 The roof of St. Patrick's Cathedral was removed.
- 1869 Following a Parliamentary inquiry the Corporation of Cashel was dissolved.

Townland History

Site 25v was situated in the townland of Rathordan, and the parish of St. Patricks Rock. In the Place Names Database of Ireland the following dates are listed under Rathordan townland; 1625–49 '*Rathordin / Shanordin*', 1654 '*Rathordane / Rathordan / Shanordane*', 1659 '*Rathardin*', 1665 '*Rathordan*' 1666 '*Rathordane*' and 1840 '*Rathordan*' (www.logainm.ie).

Civil Survey for County Tipperary 1654–6

In the Civil Survey it is listed under the Parish of Patricks Rock in lands belonging to the Hierarchy in the Parish. Rathordan is listed along with Shanordan, Rathclouan, Ratheyley

& Glanmore comprising 'fiftne colpe Acres called Bishopp's land'. The townlands are together described as comprising 528 Plantation Acres; 300 acres arable, 228 acres pasture, valued at £40, none unprofitable. The Proprietors names in 1640 were 'The sd Lord Archbishopp of Cashell, John Sall of Moeldrom Esqr. Richard Haly of Cashell Esqr. Wm. Younge of Cashell Gent. The sd lands are bounded on the North wth. the commons of Cashell on the East with Ballyduagh in the Parish of Raylshtowne & Ballyfowlow in this parish on the South with the lands of Brickine & Kilstafford & on the west with Kilscombine & the Corporation of Cashell all in this Parish. The sd. Archbishopp pprietor of the sd. lands. The sd. John Sall, Richard Haly & Wm. Younge Lessees. The sayd lands are at present wast without any impvement.' (Simington 1934, 377).



Figure i: Down Survey Map of the Barony of Middlethird by W. Petty, 1654-6.

Rathordan was called 'Glanmore' and itemised amongst the lands of the Archbishop of Cashel. John Sall from Moeldrom {Meldrum} was a member of the influential Sall family, many of whom also lived in Cashel (MacCotter 1999). For instance, under the Charter granted to the City of Cashel by James II, 1638 John Sall was named Mayor of Cashel, both Robert and Francis Sall free burgesses, Geoffrey Sall merchant and both John Sall Fitz-Geoffrey and John Sall Fitz-Walter apothecaries (Finn 1930, 6–7).

Books of Survey and Distribution for County Tipperary

In the Books of Survey and Distribution the following proprietors are listed in 1640 for the townlands in the parish of St. Patricks Rock that were investigated on the bypass:

Proprietor	Townland
Edmond Stapleton, Gortmakellis	Gortmakellis
Walter Sall, Garrane	Bandrilly & Clonmore
John Hanly, Cashel	Kilscobin
Derby Ryan, Cashel	Windmill

Table v: Extracts from the Books of Survey and Distribution for St. Patricks Rock, 1640 (Marnane 2001)

Other 17th Century Sources

In Petty's Census of Ireland for 1659 can be found the following information for those townlands where excavations took place on the bypass:

Parishes	Places	No. of People	Tituladoes Name	English	Irish
St Patrickes rocke Parish	Georg island	7	Oliver Lathom gent Anne Salli Widdow gent		7
	Killstobine	3	as above		3
	Rathardin	22	Thomas Perkins	2	20
	Gort McEllice	29	Mathew Pennyfether gent	2	27
The additional upon review					
St Patricks rock P'ish	Rathardin	2	?		2
The Number of People in ye Barony of Middlethird Eng, 134 Irish, 3,778, Total Eng & Irish, 3,912					

Table vi: Census of Ireland c. 1659 (Pender 1939, 306–9)

Twenty-two persons are listed for Rathardin including 20 Irish and two English, with Mr. Thomas Perkins listed as owners-one of these may have been the Mr. Willian Younge {Young} referred to in 1640, and also Mr. Hugh Sterman and Mr. James Woodlocke referred to in the 1660's (see next).

In the Tipperary Hearth Money Records can be found the following information for those townlands where excavations took place on the bypass:

[Year] 1665 Baronia de Middle Third. Parochia De St. Patrick's Roche		
[Name]	Hths.	s.
John Kearney, de Kyllscobyne	1	2
James Hyad	1	2
Math. Pennyfeather, Gortmcellis	2	4
Hugh Sterman, Rathordan	1	2
Thomas Kealy	1	2
Teige Kealy	1	2
William Dwegin	1	2
Edmond Rushell, Windymill	1	2

Table vii: Tipperary Hearth Money Records for 1665 (Laffan 1911, 13)

[Year] 1666-7 Barony of Middlethird. Parishes of St. Pates, Rock...					
[Name]	Hths.	s.		Hths.	s.
			Rathdangin		
*Ballyfarsny			Morrish Hackett	1	2
Edmund Leary	2	4	Richard Brittine	1	2
Richard McJames	1	2	Donnogh Carny	1	2
Connor Harrell	1	2	James Head	1	2
Teige O'Kelly	1	2	Richard Carny	1	2
Daniel Scully	1	2	Windmill		
John Boyton	1	2	Edmund Russell	1	2
Teige Rian	1	2	Rathordane	Hths.	s.
Gortmaceill	Hths.	s.	Thomas Kelly	1	2
Mathew Pennyfather	2	4	James Woodlocke	1	2
William Hackett	1	2	Teige Kelly	1	2
Edmond Lahy	1	2	Thomas Hickey	1	2
Gerald Listune	1	2	John Kent	1	2
David Nolane	1	2	John Carny	1	2
Killscobin	Hths.	s.			
Mr. Richey	1	2			

*Most likely this is Farnamanagh as it is in the Parish of St. Patrick's Rock and next to Hoar Abbey.

Table viii: Tipperary Hearth Money Records for 1666-7 (Laffan 1911, 97-8)

Under *Rathordane* it is recorded that four houses paid the Hearth Tax for 1665 and six houses for 1666-7. Of the named individuals only Thomas and Teige Kealy/Kelly appear in both records; John Carny [Kearney] recorded in 1666-7 was likely associated with that well-known Cashel family.

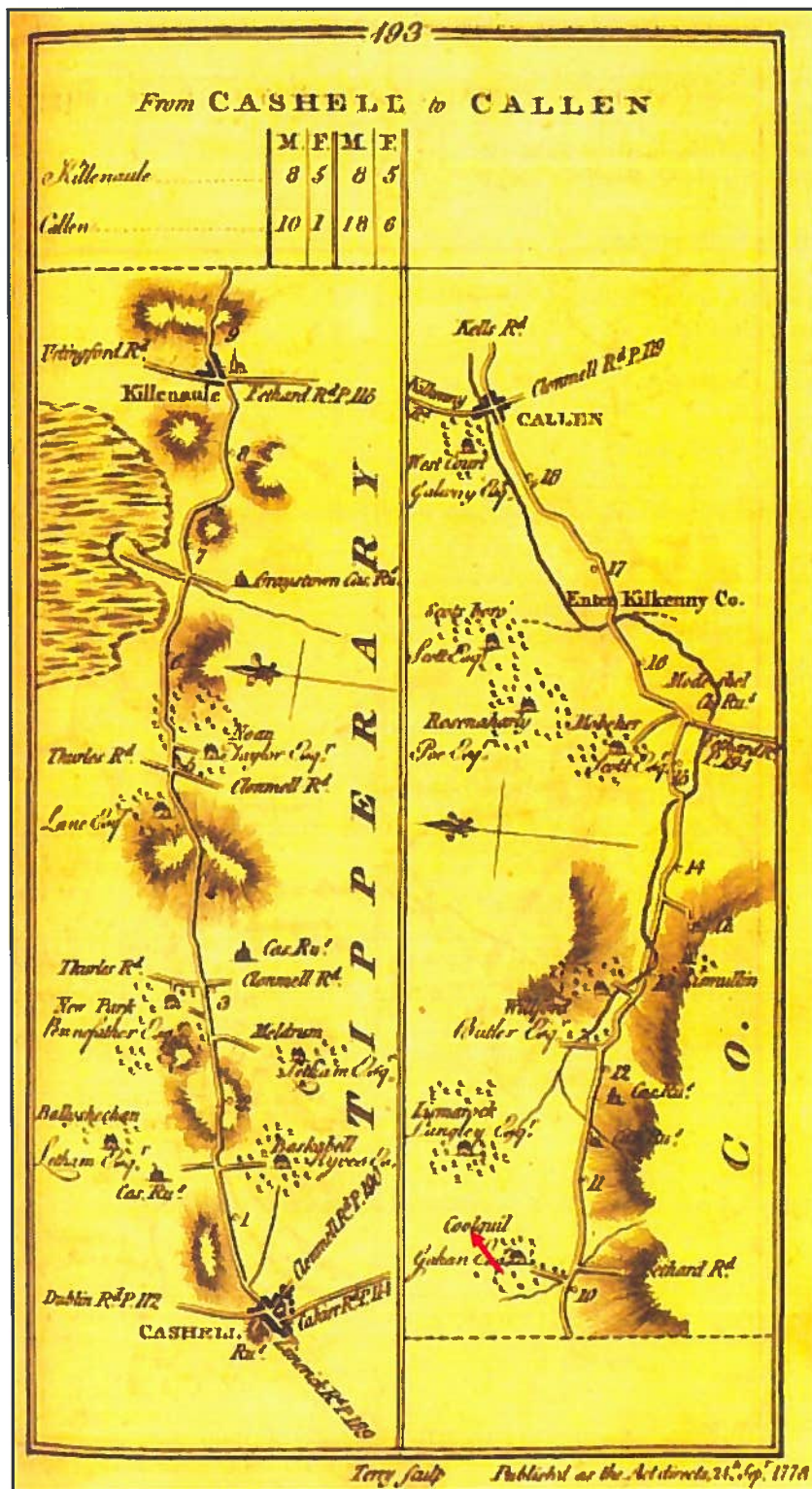


Figure ii: Taylor Skinner Road Map 1778.

Tithe Applotment Books for Cashel

In the Tithe Applotment Books for Cashel dating from 1827

(www.titheapplotmentbooks.nationalarchives.ie) there were 65 entries listed under Rathordan; one, a Thomas Morrissy listed under 'Rathoron' and two, Thos. Morrissy—the same person as listed under Rathoron—and John Bayley listed under 'Ratheowen'. The

local spelling of Ratheowen for Rathordan is significant, as it would translate as 'Eoghan's Fort', a direct association with the ancient Éoganachta of Cashel. This could suggest the very prominent ringfort TI061-074 to the south of the site was known as Ratheoghan originally?

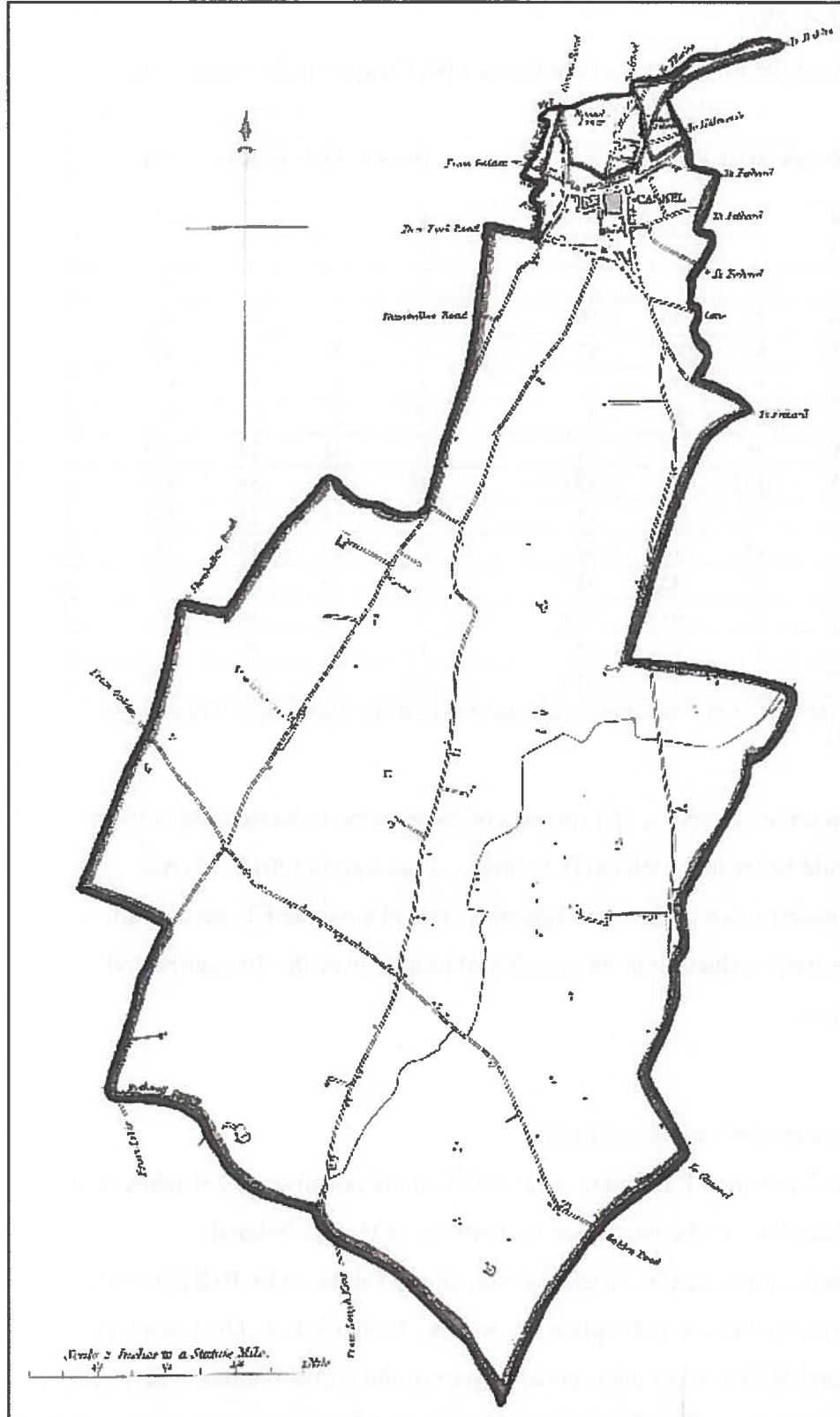


Figure iii: Municipal Corporation Boundaries (Ireland) Proposed Municipal Boundary of the Borough of Cashel, December 1831.

Ordnance Survey Namebooks for Co. Tipperary 1840

In the Ordnance Survey Namebooks the townland name is translated as 'fort of the little sledges' (O'Flanagan, 1930, 114), perhaps a reference to ringfort TI061-074?

Census Returns for 1841 & 1851

These census returns reveal the full extents of the Great Irish Famine in the Cashel area.

Census Year Townland Persons	1841			1851				
	Houses	Male	Female	Tot. Persons	Houses	Male	Female	Tot.
Gortmakellis	14	-	-	95	8	-	-	43
Ballyknock	13	-	-	88	6	-	-	39
Clonmore	4	-	-	23	2	-	-	9
Monadreea	10	35	33	68	2	4	8	12
Boscabell	16	49	48	97	8	23	25	48
George's-Land	1	4	2	6	1	3	5	8
Kilscobin	2	3	5	8	2	2	3	5
Hughes'-Lot East	10	28	33	61	8	21	22	43*
Rathordan	27	102	92	194	18	58	58	116
Waller's-Lot	6	27	14	41	9	31	25	56*
Cooper's-Lot	7	14	18	32	5	15	18	33
Owen's & Bigg's-Lot	5	17	15	32	5	20	13	33
Windmill	20	57	61	118	8	26	16	42
Deerpark	2	6	8	14	1	4	4	8
Farranamanagh	47	160	159	319	34	92	83	175

Table vi: Census Returns for 1841 & 1851. *indicates part included in Cashel Urban District (Dalton 1994, 167-8; Meskell 1987, 254-6)

Such comparative information allows the full impacts of the Famine to be realised at local level. These figures should be treated with caution, however, as Smyth (2012, 13) has recently illustrated the inaccuracies in the 1841 statistics. Townlands like Clonmore and Windmill saw a 50 % or more reduction in the number of houses over the 10 year period represented in the censuses.

1st Edition OS six-inch map 1840 (surveyed 1839)

On the 1st Edition OS six-inch map Rathordan is bounded on the northwest by Hughes'-Lot East, on the north by Kilscobin, on the north-east by portions of George's-Land, Killistafford and Meldrum, on the east by Brickendown, on the southeast by Ballyfowloo, on the south and southwest by Price's-Lot and on the west by Waller's-Lot. The boundary with Hughes'-Lot East and Waller's-Lot also served as part of the parish boundary between St. John Baptist and St. Patricks Rock. The boundary with Killistafford, Meldrum and Brickendown served as part of the parish boundary between St. Patricks Rock and

Brickendown parishes. The boundary with Waller's-Lot and Price's-Lot also served as Cashel's Parliamentary Boundary. The boundary ran along part of the Fethard road which runs east west through the townland. The bypass only impacted a portion of the north-western corner of the townland.



Figure iv: 1st Edition OS six-inch map, Site 25v indicated. Source: www.osi.ie

Primary Valuation of Tenements in St. Patrick's Rock & St. John Baptist Parishes 1850

In the Primary Valuation of Tenements recorded in Griffith's Valuation for South Tipperary taken in August 1850 the following information is of relevance for those townlands investigated on the bypass.

Townland	Acres (roods & perches)	Land £	Buildings £	Total £
Gortmakellis	357 (1 r. 18 p.)	£302 16s	£15 8s	£318 4s
Ballyknock	250 & 27 perches	£200 3s	£10 7s	£210 10s
Clonmore	65 & 15 perches	£47 18s	£4 11s	£52 9s
Monadreela	120 & 38 perches	£68 13s	£2 3s	£70 16s
Boscabell	268 (1 r. 5 p.)	£165 3s	£10 1s	£175 4s
George's-Land	104 (2 r. 5 p.)	£70 8s	£1 2s	£71 10s
Kilscobin	117 (1 r. 16 p.)	£86 2s	£3 4s	£89 6s
Hughes'-Lot East	413 (9 p.)	£680 7s	£140 14s	£821 1s
Rathordan	842 (3 r. & 4 p.)	£848 11s	£37 5s	£885 16s
Waller's-Lot	153	£314 13s	£24 16s	£339 9s
Cooper's-Lot	199 (1 r. 20 p.)	£245 4s	£8 19s	£254 3s
Owen's & Bigg's-Lot	143 & 27 perches	£148 10s	£3 19s	£152 9s
Windmill	299 (2 r. & 31 p.)	£382 15s	£11 5s	£394
Deerpark	152 (3 r. 9 p.)	£276 7s	£35 17s	£312 4s
Farranamanagh	655 (3 r. 10 p.)	£565 16s	£51 5s	£617 1s

Table vii: Extract from the Primary Valuation of Tenements in St. Patrick's Rock & St. John Baptist parishes recorded in the Griffith's Valuation, August 1850, listed per total value of land and buildings.

The majority of tenants in this large townland were listed under Charles B. Lockwood Esq. and Major James Scargill. Only three vacant plots were listed where each house was valued at 18s, £1 10s and £2 8s respectively. Only one office and land was listed, owned by Thomas Luby with 18 acres and 14 perches, valued at £24 19s, buildings at £1 16s, with a cumulative value of £26 6s. A single house and garden owned by Jeremiah Carty (the Immediate Lessor being Mary and Thomas Roche) was of seven perches valued at 1s, with the house valued at 8s, with a cumulative value of only 9s. Single houses with no land varied in value from 6 s (Patrick Mullowney, Michael Cashen & Michael Godfrey), 7s (John Daly), 13s (Bridget Brennan), up to £1 2s for Martin Kennedy's house. The total acreage for Rathordan was 842 acres (3 r. & 4 p.), with land valued at £848 11s, buildings at £37 5s giving a total value of £885 16s.

The Griffith's Valuation map shows the field as part of the land-holding of Mary Roche comprising one of four fields marked '8' on the map, with a house and garden—as detailed above—fronting the Fethard to Cashel road (see Figure v). The landlord was Charles B. Lockwood Esq.

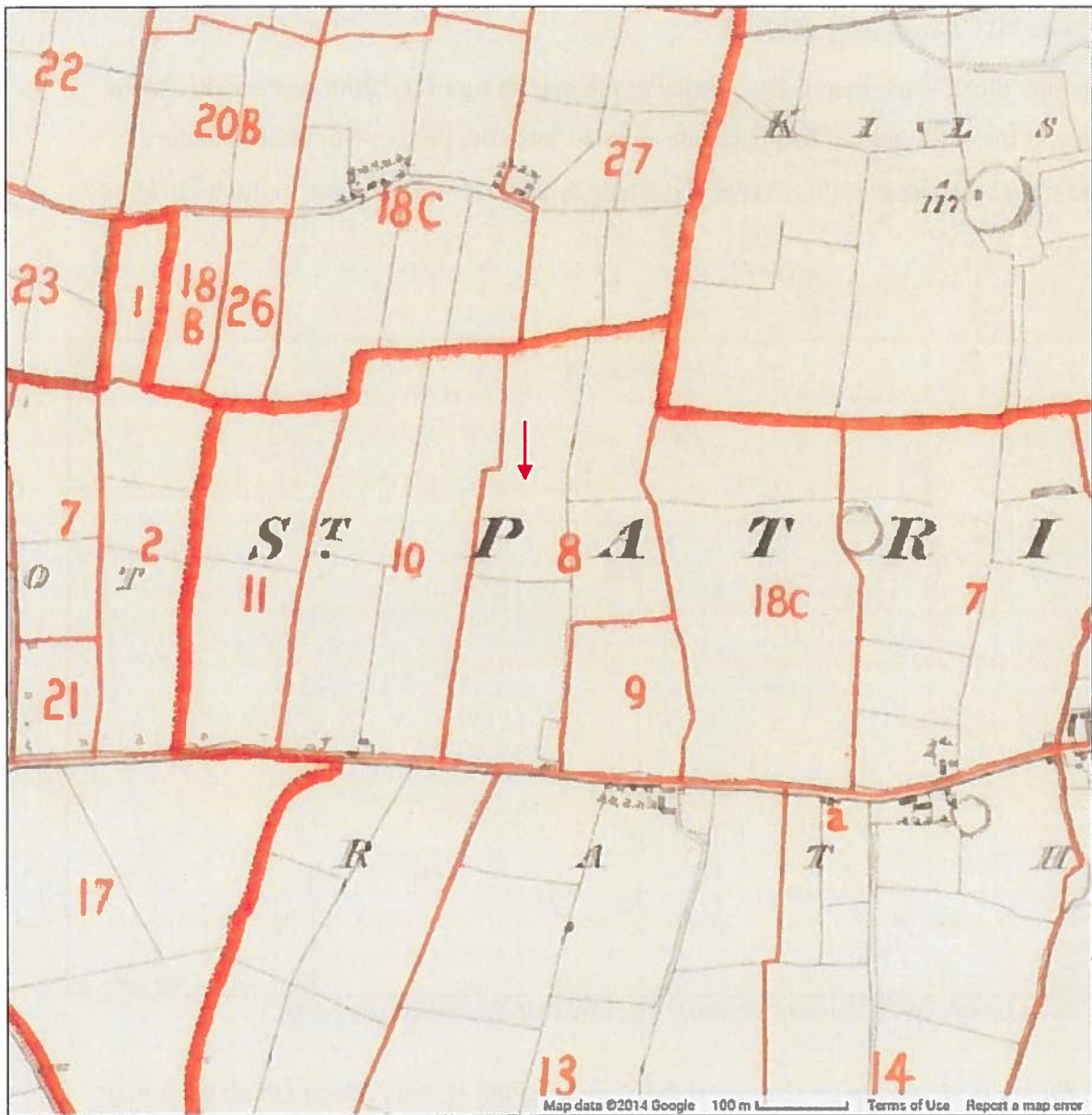


Figure v: Griffith's Valuation Map c. 1850, Site 25v indicated. Source: www.askaboutireland.ie

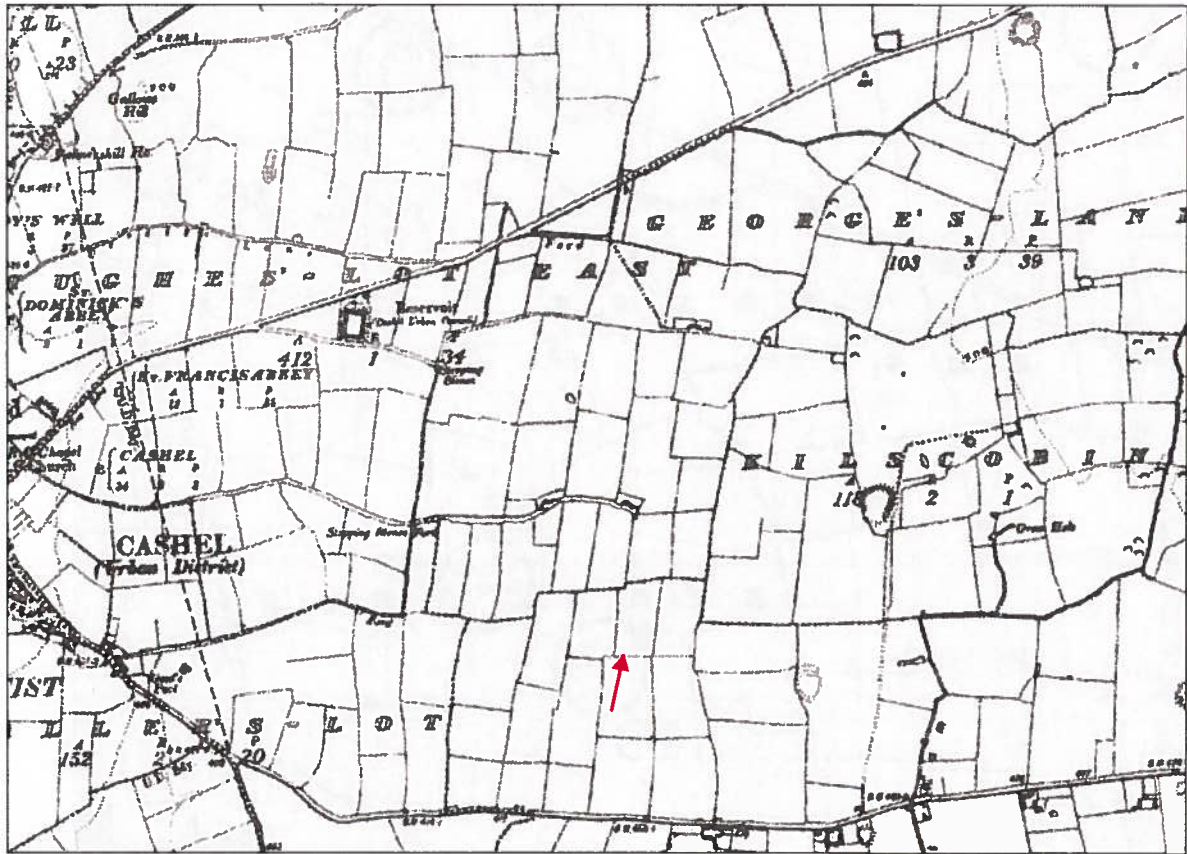


Figure vii: 2nd Edition OS six-inch map location of Site 25v, surveyed 1903, published 1906. Source: www.osi.ie

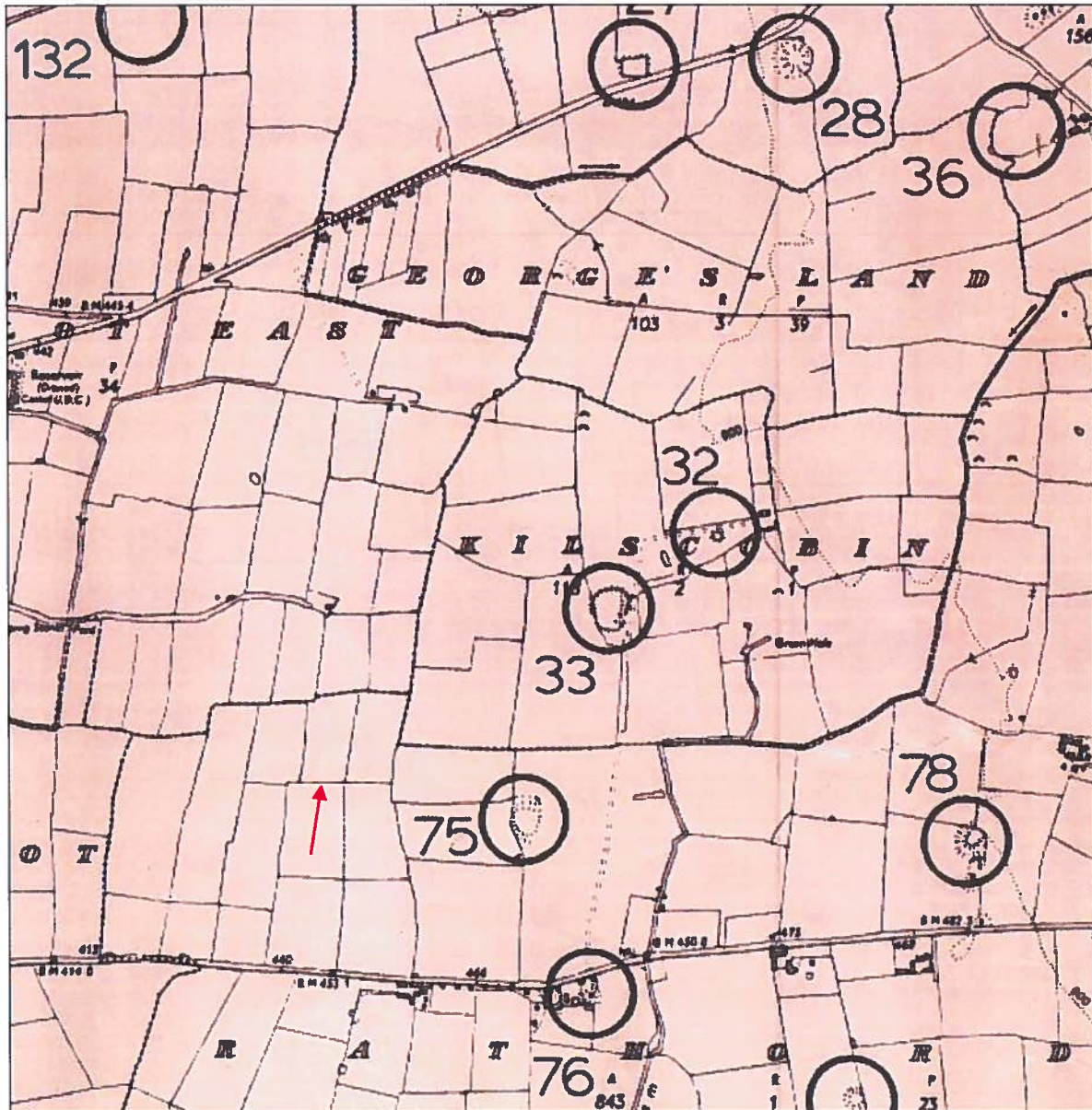


Figure viii: 3rd Edition OS six-inch map location of Site 25v, 1954 (revised 1952 & 1954) Source: www.osi.ie



Plate 1: Vertical aerial image of Site 25v taken in 1994; N at top (source: South Tipperary County Council)

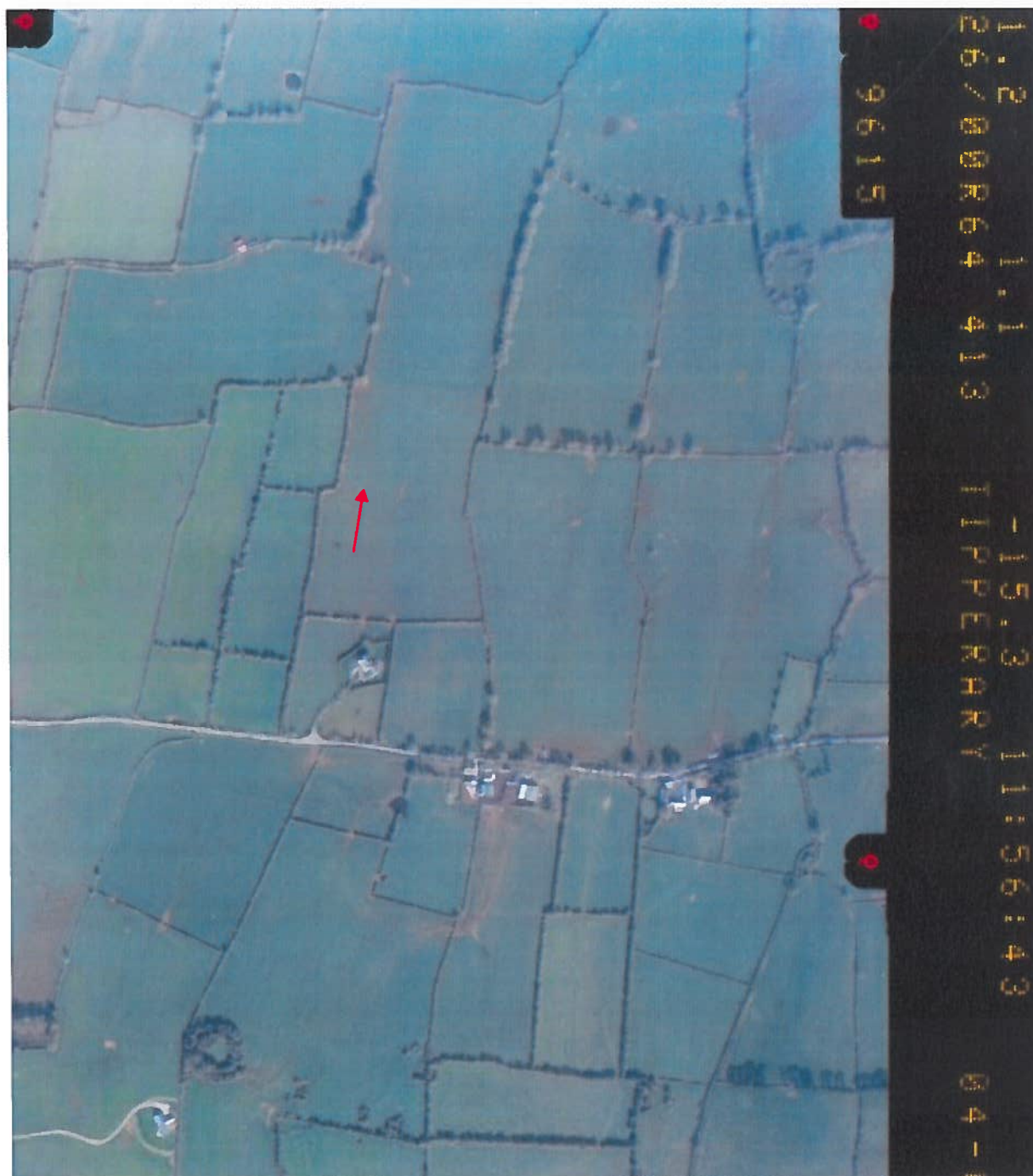


Plate 2: Vertical aerial image of Site 25v taken in 2000; N at top (source: Kilkenny County Council)

EXCAVATION (Figures ix, 4–8 & Plates 3–19)

Site 25v was located in Rathordan townland on the eastern side of an upstanding field boundary. The field was under pasture prior to excavation. Following topsoil stripping a burnt stone spread, with a cluster of postholes to the south was identified in area measuring 60 m north-south by 30 m east-west, between chainages 4840–4900, c. 1,800 m². Following consultation with South Tipperary County Council, Roadbridge—the Contractors—and the Department, it was agreed that the entire site would be preserved *in situ*, as the full extent of the road-take here was not required for construction purposes. Consequently, the site was

recorded and photographed, and samples taken from exposed features, before the site was covered with a geotextile membrane and back-filled with topsoil. All these works were undertaken by JCNA under constant archaeological supervision (Fairburn 2006c). During the topsoil stripping design changes in the road scheme meant that a larger area was removed in Site 25v than was necessary so only part of the site was excavated. Most of the significant archaeology was within the area outside of the road take and so none of this area could be excavated only recorded and the partial investigation of one feature to ascertain its archaeological nature. The area was then covered with terram and backfilled.

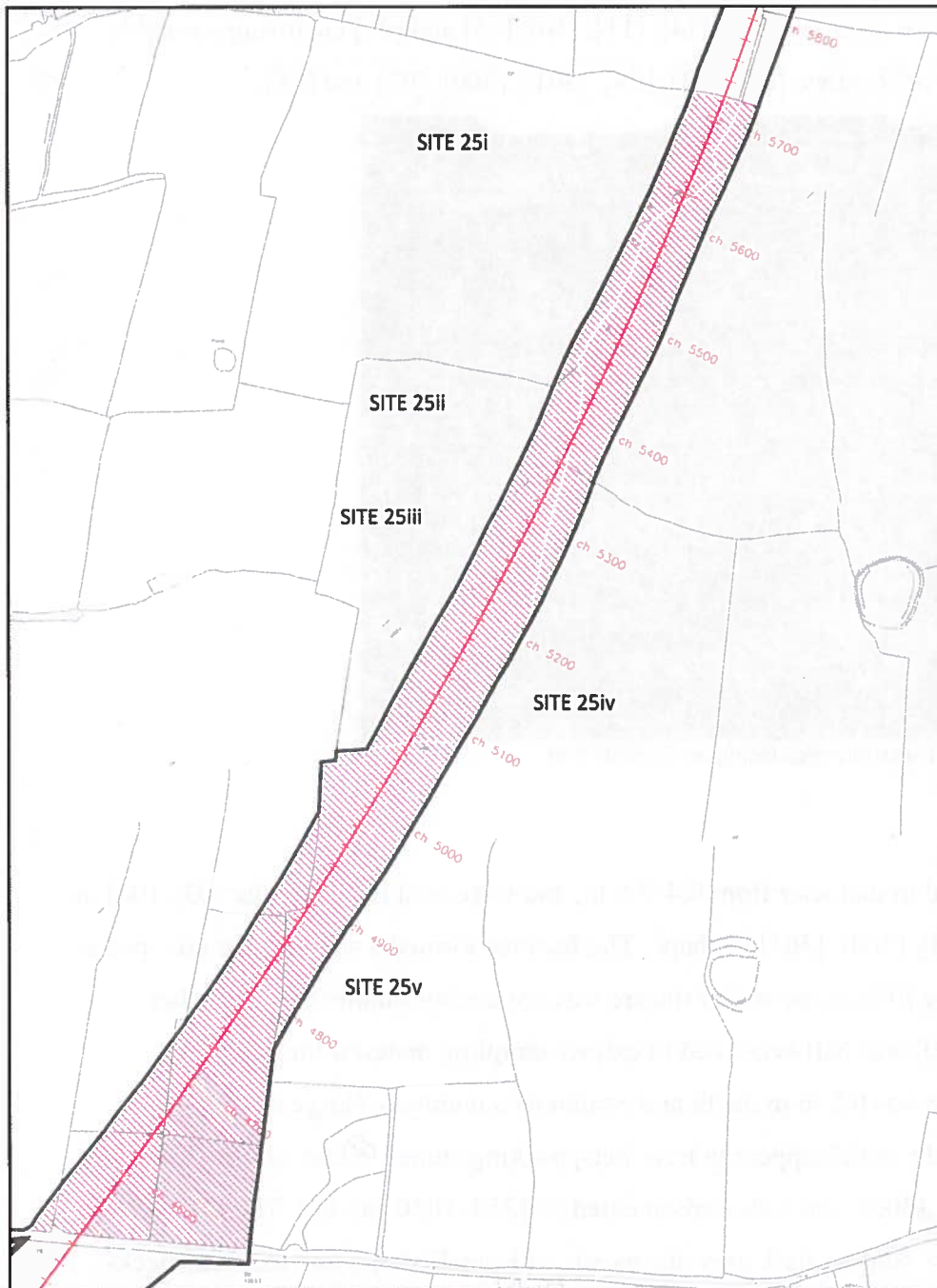


Figure ix: Archaeological investigations Sites 25i–25v.

Topsoil

The topsoil (46) was dark brown-black silty clay, measured between 0.12–0.32 m deep and was ubiquitous throughout the site.

Subsoil

The subsoil (47) was yellow-brown silty clay with frequent pebbles and small stones.

Possible Late Bronze Age Structure (Figures 4 & 7)

To the south on slightly higher ground two arcs of features may have represented a structure, formed by the outer arc [06], [14], [11], [10], [05] and [01] enclosing a roughly circular arrangement of features: [02], [03], [04], [301], [300], [07] and [08].



Plate 3: Pre-excavation of structure arcs facing north, scale 2 m

Inner arc of features

These features ranged in diameter from 0.4–1.8 m, and were oval [02], circular [03], [04] or sub-circular [07], [08], [300], [301] in shape. The features formed a sub-circular arc open at the south-east; feature [08] at one end of the arc was noticeably smaller than the other features. Feature [300] was half-sectioned to extract sampling material for dating the structure. The feature was 0.5 m in depth and contained a number of large stones, particularly at one side, which appear to have been packing stones. Alder (*Alnus glutinosa*) charcoal from its fill, (302), was radiocarbon dated to 1253–1030 cal. BC. The fills of all the features were very similar; dark grey clayey silt with small stones and charcoal flecks.



Plate 4: Pre-excavation of inner arc of structure facing east, scale 2 m



Plate 5: Pre-excavation of [300] facing north, scale 1 m



Plate 6: Mid-excavation of [300] facing east, scales 0.5 & 1 m



Plate 7: Pre-excavation of [301] facing south, scale 1 m



Plate 8: Pre-excavation of [02] facing north-west, scale 1 m



Plate 9: Pre-excavation of [03] & [04] facing north, scale 1 m



Plate 10: Pre-excavation of [07] facing north, scales 0.2 m & 1 m

Outer arc of features

These features ranged in diameter from 0.35–1.2 m, and were oval [01], [06], [11], sub-oval [10], circular [05], or sub-circular [14] in shape. Generally the features were less than 1 m in diameter; feature [05] was the smallest, being 0.2 m in diameter and may have been a stakehole or small posthole. The fills were similar to those noted in the inner arc, dark grey clayey silt with small stones and charcoal flecks. Field drain [101] truncated the northern side of the arc, undoubtedly removing any other features. Features [10] and [11] had a rim of burnt natural around the cut, and [10] was also much larger than the other features in the outer arc.



Plate 11: Pre-excavation of [01] facing north scale 0.2 m



Plate 12: Pre-excavation of [06] facing north, scales 0.2 m & 1 m



Plate 13: Pre-excavation of [10] facing north, scale 1 m

Spread of Burnt Stones (305) (Figures 4–7)

Most of this area was taken up within a sizeable spread of burnt stones (305), which was situated in a large, natural depression that extended into the adjoining field to the east. The burnt stones were noted in two separate spreads but both represented the same material. The furthest extent measured 27 m north-south and 12 m east-west, extending outside the road-take at the south-east. A colour variation was noted with the spread, given the context

number (203). The spread was truncated by field drain [101] and ditch [201] (see below). In the environs of the spread a number of features were noted, their location recorded, and these were preserved *in situ*. The area excavated was bounded on its western side by a field boundary which had a shallow ditch on its eastern side. There was also the continuation of a modern field ditch, [201], which ran east-west across the site.



Plate 14: Burnt stones (305) facing south-east, scale 2 m



Plate 15: Burnt stones (305) facing south, scale 2 m

Undated features, possibly prehistoric (Figures 4–8)

Most of the other features consisted of possible pits, postholes and stakeholes. Unlike the possible roundhouse the features elsewhere on site did not form any coherent pattern, although there was a dense cluster of small-sized features identified c. 25–30 m north-east from the roundhouse (Figure 4). This cluster clearly extended outside the road-take on the east. A rough arc of features was formed in an apparent gap between the burnt stones, represented by features [31], [33], [37], [39] and [40] with features [32] and [38] located inside the arc. Features [45], [46] and [85] formed a short arc 3 m long extending outside the road-take. Features [59], [60], [61] and [62] also formed a short arc 1.5 m long, while any number of patterns could be traced amongst features [41], [42], [43], [44], [48], [49], [50], [52], [56], [57] and [216] (Figure 8 Section Q-R). The stakeholes had diameters ranging from 0.18 m to 0.22 m and depths 0.14 m to 0.32 m. The postholes had average diameters of around 0.35 m and depths ranging from 0.3 m to 0.6 m. Their fills were mid / dark grey-brown sandy silts with occasional flecks of charcoal.

Feature [49] was also half-sectioned and analysis of its fill, (75) revealed a single fragment of carbonized nut tentatively identified as hazel (*Corylus avellana*) nutshell. In addition, wood charcoal of ash (*Fraxinus excelsior*) and hazel were also identified. The wood charcoal of alder, ash and hazel are species common to open woodland and likely represent the remains of firing debris associated with activities on the site. No cereal remains were recorded at the site but their absence is more a reflection of the preservation *in situ* of the features rather than any real lack of such remains. The presence of carbonized nutshell could represent the remains of gathered foodstuffs or fuel debris (Appendix 6).



Plate 16: Pre-excavation of [49] facing south, scale 1 m

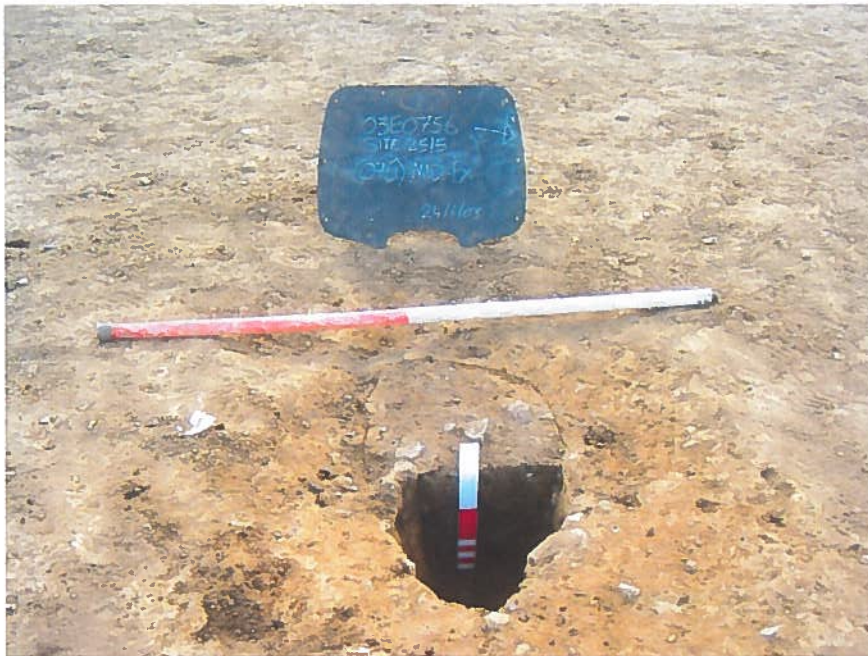


Plate 17: Mid-excavation of [49] facing west, scales 0.2 m & 1 m

More isolated groups of features were nearer the field boundary; some of these such as [70] and [74] may have been associated with a nearby pit-like features [106] and [218] (Figure 7 Section E-F; Figure 8 Section K-L); [80] and [81] (Figure 8 Sections G-H & I-J); [220] and a larger feature [213] (Figure 8 Sections O-P & T-S).

Field Ditch [201] (Figures 4 & 7)

Ditch [201] represented a field boundary not apparent on the 1st Edition OS six inch map 1840 but shown on the 1st Edition OS 25 inch map of 1901–05 (compare Figures iv-vi above). Thus ditch [201] is a rare archaeological example of late nineteenth century field contraction, perhaps a response to changes in agricultural practices—the Land League era—or a change in landowner. In comparison to the typical field boundaries around Cashel—a substantial clay and stone bank with one ditch at one/both sides—it was a simple shallow ditch onto which a bank of clay and stones, presumably, was erected. The field boundary survived until at least the 1950's as it is shown on the 3rd Edition OS six inch map of 1954 (Figure viii). As can be seen on Plate 1 it was removed from the Rathordan landscape between 1954 and 1994.



Plate 18: Pre-excavation of [201] facing west, scales 1 m & 2 m



Plate 19: Mid-excavation of [201] facing west, scales 1 m & 2 m

Field Drain [101]

This field drain was located in the southern portion of the excavation, south of field boundary ditch [201]. The drain contained gravel and small stones, common in drains dug in modern times, and continued outside the road-take.

DISCUSSION

The excavation of Site 25v (03E0756) produced evidence for a potential roundhouse, possibly dated to the Late Bronze Age period, ancillary features, a spread of burnt stones and additional cut features including undated possible stakeholes, postholes, pits. An undated field drain and a field ditch erected in the late 19th century made up the final features revealed on the excavation.

Potential Roundhouse

The potential roundhouse represented by features [02], [03], [04], [08], [09], [300] and [301] measured *c.* 5 m in diameter. The features formed a sub-circular arc; feature [08] at one end of the arc was noticeably smaller than the other features. The fills of all the features were very similar, dark grey clayey silt with small stones and charcoal flecks. The investigation of feature [300] revealed some large stones, particularly at one side, perhaps packing stones. A sample of alder charcoal from its fill was radiocarbon dated to 1253–1030 cal. BC (UBA-13781). No features were found at the south-eastern corner and perhaps this may have indicated a gap for the entranceway. In many Bronze Age houses the entrance was positioned in the south or the south-east; a location linked to sunlight and wind but may also have symbolic associations (Brück 2008, 644).

A possible outer arc of features was represented by [01], [05], [06], [10], [11] and [14], although the size and shape of these features was more disparate than the inner arc of features as it included a potential stakehole [05] and a potential post-pit [10]. The fills were similar to those noted in the inner arc, dark grey clayey silt with small stones and charcoal flecks. Features [10] and [11] had a rim of burnt natural around the cut, and [10] was also much larger than the other features in the outer arc. This may indicate these features were pits/hearths? Apart from this evidence there was no trace of *in situ* burning within the area of the house, although as the house was not excavated the presence of a hearth cannot be discounted. Field drain [101] truncated the northern side of the arc, undoubtedly removing any other features.

The external diameter of the inner arc would correspond with the average dimensions noted for Late Bronze Age houses, of 5.7 m (Doody 2007, 91). If the outer arc of features was included in the circuit of the roundhouse its maximum dimensions would be 15 m in diameter—this measurement including the furthest features [06] and [01]—comparable to some Bronze Age houses (*ibid* 88)

Contemporary sites around Cashel spanning the 13th to 11th centuries BC included Site 21 in George's-Land, Site 19 in Boscabell, Sites 5, 7 and 13 in Monadreela all to the

north, and Site 30ii in Owen's And Bigg's-Lot, Site 36i in Windmill, Site 38 in Windmill/Deerpark/Farranamanagh, all to the west (see relevant final reports). Such a high number of sites reflect the widespread and intensive Late Bronze Age settlement evidence around Cashel. South of Cashel near the River Suir of 21 locations that produced Bronze Age settlement evidence, contemporary Late Bronze Age-dated structures were identified at Ballydrehid, Knockgraffon, Cloghabreedy, Caherabbey Upper, Killemlly, Ballyegan and Suttonrath (McQuade *et al* 2009, 28–9). Closer to Cashel a roughly D-shaped structure at Loughfeedora comprising a dozen structural features enclosing a hearth and pits—excavated by Martin Doody—was also contemporary with Rathordan Site 25v (*ibid*, 74–5).

Burnt stone spread

Spread (305) represented a potential ploughed out *fulachta fia* and represents further evidence of this monument-type around Cashel. The sitting of the *fulachta fia* beside a former pond is paralleled on many of these sites excavated in Cashel (see Site 23 Final Report & Elder & O'Meartha 2010a). Most of the pond was situated outside the road-take which would mean that on the higher ground within this adjacent field more occupation would be expected. The association, albeit only spatially, of a round house and a *fulachta fia* can be paralleled at Clonmore North, Co Tipperary, although this site was dated to the Middle Bronze Age period (*ibid* 45–9).

Undated features, possibly prehistoric

Most of the other features consisted of possible pits, postholes and stakeholes. Unlike the possible roundhouse the features elsewhere on site did not form any coherent pattern, although there was a dense cluster of small-sized features identified *c.* 25–30 m north-east from the roundhouse (Figure 4). This cluster clearly extended outside the road-take on the east. A rough arc of features was formed in an apparent gap between the burnt stones, represented by features [31], [33], [37], [39] and [40] with features [32] and [38] located inside the arc. Features [45], [46] and [85] formed a short arc 3 m long extending outside the road-take. Features [59], [60], [61] and [62] also formed a short arc 1.5 m long, while any number of patterns could be traced amongst features [41], [42], [43], [44], [48], [49], [50], [52], [56], [57] and [216] (Figure 8 Section Q-R). The stakeholes had diameters ranging from 0.18 m to 0.22 m and depths 0.14 m to 0.32 m. The postholes had average diameters of around 0.35 m and depths ranging from 0.3 m to 0.6 m. Their fills were mid / dark grey-brown sandy silts with occasional flecks of charcoal.

Feature [49] was also half-sectioned and analysis of its fill, (75) revealed a single fragment of carbonized nutshell tentatively identified as hazelnut shell. In addition, wood charcoal of ash and hazel were also identified. The wood charcoal of alder, ash and hazel are species common to open woodland and likely represent the remains of firing debris associated with activities on the site. No cereal remains were recorded at the site but their absence is more a reflection of the preservation *in situ* of the features rather than any real lack of such remains. The presence of carbonized nutshell could represent the remains of gathered foodstuffs or fuel debris (Appendix 6).

Late 19th century field boundary

Ditch [201] has been shown by analysis of the cartographic data to have been erected between 1840 and 1901. It remained upstanding until the middle of the 20th century and was demolished before 1994, to make the field larger for easier agricultural usage. The removal of such boundaries was a common occurrence post the 1950s as a consequence of increased mechanisation of agriculture, favouring larger fields over small units (Feehan 2003, 375–77).

CONCLUSION

All excavation works have finished in association with the N8 Cashel Bypass & N74 Link Road. The excavation undertaken on Site 25v (03E0756) identified no further archaeological activity and following the recording and limited excavation of some of the feature, the site was covered in terram and topsoil, and preserved within the road-take. The spatial association of a round house of potential Late Bronze Age, and a *fulachta fia* was a significant.

RECOMMENDATIONS

It is a recommendation in this report that the field east of the site be subject to archaeological investigations prior to any proposed developments taking place. These fields should also be field-walked for research purposes should the land use ever revert to tillage. Should funding be found the carbonised hazelnut, ash or hazel from feature [49] should be submitted for radiocarbon dating, in order to realise further information about the archaeology here. The site is preserved *in situ* and would make an ideal research excavation project.

REFERENCES

- Archer, J.B., Sleeman, A.G. & Smith, D.C. 1996 *Geology of Tipperary. A geological description of Tipperary and adjoining parts of Laois, Kilkenny, Offaly, Clare and Limerick, to accompany the Bedrock Geology 1:100,000 Scale Map Series, Sheet 18, Tipperary, with contributions by K. Claringbold*. Geological Survey of Ireland. Dublin.
- Barry, T.B. 1977 *Medieval moated Sites of South East Ireland*. B.A.R. Oxford.
- Bateson, J.D. 1973 'Roman Material from Ireland: A Re-Consideration', *Proceedings of the Royal Irish Academy, C*, Vol. 73, 21–97
- Bennett, I. 2013 *Excavations 2010: summary accounts of archaeological excavations in Ireland*. Wordwell. Dublin.
- Bonsall, J. 2012 *Novel Methods Testing 2011: Land adjacent to M8, Hughes'-Lot East, Cashel, County Tipperary*. Unpublished Archaeological Geophysical Survey Report for National Roads Authority and University of Bradford.
- Bracken, D. & Ó Riain-Raedel, D. (eds) 2006 *Ireland and Europe in the Twelfth Century Reform and Renewal in the Twelfth Century*. Four Courts Press. Dublin.
- Bradley, J. 1985 'The medieval towns of Tipperary' in W Nolan & T McGrath (eds), *Tipperary History & Society*, 34–59. Geography Publications. Dublin.
- Brück, J. 2008 'A comparison of Chancellorsland Site A with contemporary settlements in southern England' in M Doody, *The Ballyhoura Hills Project*, Discovery Programme Monograph No. 7, 642–52. Wordwell. Dublin.
- Cahill, M. 1982 *The Archaeology of the Barony of Middlethird*. Unpublished Masters Thesis for University College Cork.
- Cahill, M. 1982a 'A Roman-type fibula from the Rock of Cashel (note)', *North Munster Antiquarian Journal*, XXIV 99–101
- Cahill, M. 1989 'Two gold rings from Ardmayle, Co Tipperary', *Tipperary Historical Journal*, 146–8
- Cahill, M. 1995 'Later Bronze Age Goldwork from Ireland – Form, Function and Formality' in J. Waddell & E. Shee Twohig (eds) *Ireland in the Bronze Age Proceedings of the Dublin Conference April 1995*, 63–72. The Stationery Office. Dublin.
- Cleary, K. 2007 'The prehistoric landscape' in M. Doody *Excavations at Curraghatoor, Co. Tipperary*. UCC Department of Archaeology Monograph. University College Cork.
- Cleary, R.M., Hurley, M.F. & Twohig, E.A. 1987 *Archaeological Excavations on the Cork - Dublin Gas Pipeline (1981–82)*. Cork Archaeological Studies No. 1 Department of Archaeology, University College Cork.

- Collins, T. 1997 'The Medieval Town Defences of Cashel', *Tipperary Historical Journal*, 124–30
- Cronin, J. 1995 *Archaeological Survey Route Option Analysis Cashel Bypass*. Unpublished Client Report by RPS Cairns Ltd for South Tipperary County Council.
- Curtis, E. 1941 *Calendar of Ormond Deeds*, Vol. V. 1547-1584 A.D. The Stationery Office. Dublin
- Dalton, E. 1994 'Tides of Change'. in B. Moloney (ed) *Times To Cherish Cashel and Rosegreen Parish History 1795–1995*, 164–71. Parish of Cashel and Rosegreen. Cashel.
- Doody, M. 1997 'Bronze Age Settlements in County Tipperary: 15 Years of Research', *Tipperary Historical Journal*, 94–106
- Doody, M. 2008 *The Ballyhoura Hills Project*. Discovery Programme Monograph No. 7. Wordwell. Bray.
- Elder, S. & O'Meartha, J. 2010a *Preliminary Archaeological Report Site 23, George's - Land 03E0508*. Unpublished Client Report by BPL Consulting Ltd for South Tipperary County Council.
- Fairburn, N. 2006 'N8 Cashel Bypass and N74 Link Road Testing [03E0295]' in I Bennett (ed) *Excavations 2003: summary accounts of archaeological excavations in Ireland*, 457–9. Wordwell. Dublin.
- Feehan, J. 2003 *Farming in Ireland History, Heritage and Environment*. Faculty of Agriculture University College Dublin. Dublin.
- Fiants 1994 *The Irish Fiants of the Tudor Sovereigns During the Reigns of Henry VIII, Edward VI, Philip & Mary, and Elizabeth I*, Volume 2, 1558-1586. Edmund Burke. Dublin.
- Finn, A. 1930 *Cashel And Its Ancient Corporation*. The Talbot Press. Dublin.
- Fitzgerald, E. 1857 'Jottings in Archaeology, No. II', *Journal of the Royal Society of Antiquaries of Ireland*, IV, 292
- FitzPatrick, E. 2004 *Royal Inauguration in Gaelic Ireland c.1100–1600 A Cultural Landscape Study*. The Boydell Press. Woodbridge.
- Fogarty, C. 2000 *The disfranchisement of the boroughs of Cashel and Sligo*. Unpublished MA in History for NUI Maynooth.
- Gimson, H. 2012 *Windmill Hill, Windmill Townland, Cashel, County Tipperary. Archaeological Geophysical Survey Detection Licence No. 11R0067*. Unpublished Client Report by Earthsound Archaeological Geophysics for Richard O'Brien.
- Gimson, H. & Regan, D. 2012 *The Grounds of Cashel Palace Hotel, Cashel Town, County Tipperary, No. EAG 226*. Unpublished Client Report by Earthsound Archaeological Geophysics for Cashel Heritage Day Road Show.

- Gleeson, J. 1927 *Cashel of the Kings A History of the Ancient Capital of Munster from the date of its foundation until the present day. Including historical notices of the Kings of Cashel from the 4th century to the 12th century. The succession of bishops and archbishops from St. Ailbe to the present day. Notices of the principal abbeys belonging to the territory around Cashel, together with items of local history down to the 19th century.* James Duffy & Co. Ltd. Dublin.
- Gleeson, P. 2012 'Constructing Kingship in Medieval Ireland: Power, Place and Ideology', *Medieval Archaeology* 56, 1–33
- Gleeson, P. 2013 'Kingship and Architecture at 11th and 12th century Cashel', *Journal of Church Archaeology* 17, 17–32
- Gleeson, P. 2014 (in press) 'Making Provincial Kingship in Early Medieval Ireland: Cashel and the Creation of Munster', in A Reynolds, B Yorke & J Carroll (eds.) *Power and Place in Late Roman and Early Medieval Europe: interdisciplinary perspectives in governance and civil organisation.* British Academy. London.
- Gowen, M. 1988 *Three Irish Gas Pipelines: New Archaeological Evidence in Munster.* Wordwell. Dublin.
- Gowen, M., Ó Néill, J. & Phillips, M. (eds, 2005 *The Lisheen Mine Archaeological Project 1996–8.* Wordwell. Bray.
- Grogan, E. 2005 *The North Munster Project Volume 2: The prehistoric landscape of North Munster.* Discovery Programme Monograph No. 6. Wordwell. Bray.
- Henry, M. 2000 'Loughnafina enclosure [98E0414]' in I Bennett (ed) *Excavations 1998: summary accounts of archaeological excavations in Ireland, 200–1.* Wordwell. Dublin.
- Hodkinson, B. 1994 'Excavations at Cormac's chapel, Cashel, 1992 and 1993: a preliminary statement', *Tipperary Historical Journal*, 167–74
- Hughes, J. 2011 'Fragments from the Franciscan Friary', *Cashel & Rosegreen Parish Journal*, 26–7
- Hughes, J. 2011a 'Bagpuss of Cashel - The Tale of a Musical Cat', *Tipperary Historical Journal*, 7–14
- Hughes, J. & Farrelly, J. 2009 'A Late Medieval to Early Modern Building at No. 1 Canopy Street and No. 9 Bank Place, Cashel', *Tipperary Historical Journal*, 7–17
- Hughes, J. & Ó'Droma, M. 2011 'Finding the plot: urban and rural settlement in 13th-century Cashel, Co. Tipperary' in S Conran, E Danaher & M Stanley (eds) *Past Times, Changing Fortunes*, 17–29. National Roads Authority Monograph Series No. 8. National Roads Authority. Dublin.
- Hurley, M. 2008 'Dualla Road Possible enclosure [05E0671]', in I Bennett (ed) *Excavations 2005: Summary accounts of archaeological excavations in Ireland*, 348. Wordwell. Dublin.

- Irish Manuscripts Commission 1966 *Calendar of Irish Patent Rolls of James I.*
- Kavanagh, J. 2006b 'Site 23 George's Land Prehistoric [03E0508]' in I Bennett (ed) *Excavations 2003: summary accounts of archaeological excavations in Ireland*, 465. Wordwell. Dublin.
- Kelly, A. 2010 'The discovery of Phocaean Red Slip Ware (PRSW) Form 3 and Bii ware (LR1 amphorae) on sites in Ireland—an analysis within a broader framework', *Proceedings of the Royal Irish Academy, C*, Volume 110, 35–88
- Laffan, T. 1911 *Tipperary Families: Being The Hearth Money Records for 1665-1667*. James Duffy and Co. Ltd. Dublin.
- Lane, S. 1999 *Cashel Bypass; Archaeological Assessment Field Walking*. Unpublished Client Report by RPS Cairns Ltd for South Tipperary County Council.
- Lennon, A. 2002 *Pre-construction archaeological testing, N8 Cashel By-Pass & N74 Link Road – Phase 1. Parts I & II*. Unpublished Client Report by Mary Henry Archaeological Services Ltd for South Tipperary County Council.
- MacCotter, P. 1999 'A history of the Sall(e) family of Cashel', *Irish Genealogist* 10:2, 215–33
- MacLeod, R. 2012 'Knockgraffon Iron Age ritual structure and isolated gully [09E0123]', in I Bennett (ed) *Excavations 2009: Summary accounts of archaeological excavations in Ireland*, 200–1. Wordwell. Dublin.
- MacShamhráin, A. 2004 'Historical Background of Cashel, with Special Reference to the Town Area' in E. O'Donovan *Excavations at Friar Street, Cashel: a story of urban settlement AD 1200-1800. Tipperary Historical Journal*, 3–90
- Marnane, D. 2001 'A Valuable Property': the Smith Barry Cashel Estate', *Boherlahan-Dualla Historical Journal*, 96–106
- Marnane, D. 2007 *Cashel: History and Guide*. Nonsuch Publishing. Dublin.
- Marnane, D. & Darmody, M. G. 2011 *Finding Tipperary Cashel & District Aspects of its History and Heritage*. Tipperary Studies. Thurles.
- McKinstry, L. 2006b 'Site 22, George's Land Fulachta fiadh [03E0503]' in I Bennett (ed) *Excavations 2003: summary accounts of archaeological excavations in Ireland*, 464–5. Wordwell. Dublin.
- McKinstry, L. 2006c 'Site 24, George's Land Fulachta fiadh [03E0507]' in I Bennett (ed) *Excavations 2003: summary accounts of archaeological excavations in Ireland*, 465–6. Wordwell. Dublin.
- McQuade, M., Molloy, B. & Moriarty, C. 2009 *In the Shadow of the Galtees*. NRA Scheme
- Meskeel, P. 1987 *History of Boherlahan - Dualla*. Litho Press Co. Midelton.
- Moloney, B. 1994 (ed) *Times To Cherish Cashel and Rosegreen Parish History 1795–1995*. Parish of Cashel and Rosegreen. Cashel.

- Moloney, C. 2013 'New Evidence for the form and early development of the medieval town of Cashel from recent archaeological excavations', *Tipperary Historical Journal*, 5–24
- Moore, E., Green, B., Hardy, C. & Breen, T. 2009 *M8/N8 Cullahill to Cashel Road Improvement Scheme: Archaeological Resolution Final Report A027/000 E2361 Site AR 8, Aughnagomaun/Ashhill Townlands, Co. Tipperary*. Unpublished Client Report by Valerie J. Keeley Ltd for Kilkenny County Council.
- Morrin, J. 1862 *Calendar of the Patent and Close Rolls of Chancery in Ireland*. Dublin.
- O'Brien, N. 2013 'Royal Constables of Cashel Castle, Co. Tipperary', *Tipperary Historical Journal*, 58–64
- O'Brien, R. 2001 'Nenagh by-pass excavations, 1998 - 1999', *Tipperary Historical Journal*, 175–188
- O'Brien, R. 2003 'A Preliminary Report on the N8 Bypass, Archaeological Excavations in the Parish and its Environs', *Boherlahan-Dualla Historical Journal*, 17–26
- O'Brien, R. 2003a 'A Spindle Whorl from Ballykelly', *Boherlahan-Dualla Historical Journal*, 48–52
- O'Brien, R. 2006 'Cashel Antiquities Rediscovered – Standing Stones', *Tipperary Historical Journal*, 15–23
- O'Brien, R. 2006a 'Appendix AP4. N8 Cashel Bypass and N74 Link Road, Co. Tipperary, Summary Report' in I Bennett (ed) *Excavations 2003: summary accounts of archaeological excavations in Ireland*, 558–9. Wordwell. Dublin.
- O'Brien, R. 2007 'Artefacts from the parish of Boherlahan-Dualla in the National Museum of Ireland', *Boherlahan-Dualla Historical Journal*, 87–96
- O'Brien, R. 2008 'Fulachtaí Fia', *Boherlahan-Dualla Historical Journal*, 73–82
- O'Brien, R. 2009a 'A short update on some prehistoric sites in the parish', *Boherlahan-Dualla Historical Journal*, 72–4
- O'Brien, R. 2010 'The Dominican Lady New Figurative Sculpture from St. Dominic's Friary, Cashel', *Cashel & Rosegreen Parish Journal*, 20–2
- O'Brien, R., Bonsall, J. & Gimson, H. 2009 *Rathnadrinna Fort (RMP No. TI061-089001), Lalor's-Lot Townland, Cashel, County Tipperary, Report on Year 1 of Archaeological Geophysical Surveys*. Unpublished Report to the Heritage Council, Ref. 17108
- O'Brien, R., Bonsall, J. & Gimson, H. 2010 *Rathnadrinna Fort (RMP No. TI061-089001), Lalor's-Lot Townland, Cashel, County Tipperary, Report on Year 2 of Archaeological Geophysical Surveys*. Unpublished Report to the Heritage Council, Ref. 17108

- O'Brien, R., Gimson, H. & Bonsall, J. 2011 'Revealing royal Rathnadrinna', *Current Archaeology*, 26–33. Issue 259. Selkirk Publishing, London.
- Ó Carragáin, T. 2010 *Churches in Early Medieval Ireland*. Yale University Press. London.
- Ó Carragáin, T. 2011 'Early medieval monastery [05E0247]' in I Bennett (ed) *Excavations 2008: Summary accounts of archaeological excavations in Ireland*, 341–2 Wordwell. Dublin.
- O' Doherty, L. 2012 'Inchiquin's Sack of Cashel 1647', *Tipperary Historical Journal*, 19–29
- O'Donovan, E. 2004 'Excavations at Friar Street, Cashel: a study of urban settlement', *Tipperary Historical Journal*, 3–90
- O'Flanagan, M. (Ed) 1930 *Ordnance Survey Name Books, Co. Tipperary No. 126 from Relickmurry to Templemore*. Reproduced under the direction of Rev. Michael O'Flanagan. Bray
- O'Flanagan, M. (Ed) 1930a *Letters containing information relative to the Antiquities of the County of Tipperary collected during the progress of the Ordnance Survey in 1840*. Volume I. Reproduced under the direction of Rev. Michael O'Flanagan. Bray.
- Pender, S. 1939 *A Census of Ireland, Circa 1659 with supplementary material from the Poll Money Ordinances (1660–1661)*. The Stationery Office. Dublin.
- Power, P. 1914 *Life of St. Declan of Ardmore and Life of St. Mochuda of Lismore*. Irish Texts Society. London.
- Reynolds, M. 1975 'A Preliminary Report of Archaeological Interest in Tipperary South Riding, October 1975', *An Foras Forbartha Teoranta*. Dublin.
- Scott, A.B. & Martin, F.X. (eds) 1978 *Expugnatio Hibernica The Conquest of Ireland by Giraldus Cambrensis*. Royal Irish Academy. Dublin.
- Shearman, J.F. 1852 'Proceedings', *Journal of the Royal Society of Antiquaries of Ireland*, Vol. II Part 1, 203
- Sherlock, R. 2008 'Deerpark [05E1341]' in I Bennett (ed) *Excavations 2005: Summary accounts of archaeological excavations in Ireland*, 350. Wordwell. Dublin.
- Simington, R.C. 1931 *The Civil Survey A.D. 1654-1656, County of Tipperary, Eastern and Southern Baronies*, Vol. I. The Stationery Office. Dublin.
- Slattery, T. 2007 'The Anglo-Norman Town Wall in Contemporary Cashel', *Tipperary Historical Journal*, 13–31
- Smyth, W.J. 2012 'Mapping the people': The growth and distribution of the population' in J Crowley, M Murphy & W J Smyth (eds) *Atlas of the Great Irish Famine*. Cork University Press. Cork.
- Taylor, G. & Skinner, A. 1778 *Maps of the Roads of Ireland, surveyed 1777*. G. Terry. London.

- Waddell, J. 1990 *The Bronze Age Burials of Ireland*. Officina Typographica, Galway University Press. Galway.
- White, J.D. 1863 *Cashel of the Kings*. Part I. "Chronicle" Office. Clonmel.
- White, J.D. 1866 *Cashel of the Kings, being a history of the city of Cashel, compiled from scarce books and original documents*. Part II. "Gazette" Office. Cashel.
- White, J.D. 1892 *Anthologia Tipperariensis being some account of the abbeys, priories, churches, castles and other objects of interest in the county of Tipperary*. "Gazette" Office. Cashel.
- Woodman, P.C. & Finlay, N.J. 2001 'Trial Excavations at Ballybrado House, Cahir', *Tipperary Historical Journal*, 189–196
- Woodworth, D. 1989 'John Davis White and Cashel Library', *Tipperary Historical Journal*, 149–53
- Wyse Jackson, R. 1956 'Antiquities of Cashel', *North Munster Antiquarian Journal*, VII, 18–20
- Wyse Jackson, R. 1956a 'Mediaeval objects from Ballysheehan', *North Munster Antiquarian Journal*, VII, 21–22
- MS
- Book of Survey and Distribution, County Tipperary (Manuscript copy County Library, Thurles).
- Records of the Municipal and Parliamentary Boundaries Commission, being drafts of maps and plans, 1831-6. Public Record Office. London, T. 72: (Extracts).

Websites Consulted:

- <http://webgis.archaeology.ie/NationalMonuments/FlexViewer/> [accessed June 2013]
- <http://www.census.nationalarchives.ie/> [accessed June 2013]
- <http://www.chancery.tcd.iee> [accessed June 2013]
- <http://www.downsurvey.tcd.ie/landowners> [accessed May 2013]
- <http://griffiths.askaboutireland.ie> (Primary Valuation of Tenements, made under the Act 9 & 10 Vict., Cap. 110. Barony of Middlethird. Unions of Callan, Cashel and Tipperary) [accessed June 2013]
- <http://homepage.eircom.net/~dunamase/Dunamase.html> [accessed June 2013]
- <http://www.igp-web.com/IGPArchives/tipperary/> [accessed June 2013]
- <http://landedestates.nuigalway.ie/LandedEstates/jsp/family-show.jsp?id=2536> [accessed May 2013]
- <http://www.logainm.ie/> [accessed June 2013]
- <http://www.maps.osi.ie/publicviewer> [accessed June 2013]
- <http://www.nli.ie/LimerickPapers> (papers of the Pery family, later earls of Limerick, Accession No.: PC 875–9, compiled by A.P.W. Malcomson) [accessed June 2013]
- <http://titheapplotmentbooks.nationalarchives.ie> [accessed June 2013]
- <http://theoenachproject.wordpress.com/2012/03/28/117/> [accessed June 2013]
- <http://www.ucc.ie/celt/published/T100004/index.html> [Annals of Inisfallen, accessed June 2013]
- <http://www.ucc.ie/celt/published/T100005C/index.html> [Annals of the Four Masters, accessed June 2013]

Appendix 1 Context Register

Context No.	Type	Description
[01]	Cut	Oval feature measuring 0.6 m by 0.8 m. Filled by (18)
[02]	Cut	Large, oval feature measuring 1.08 m by 0.95 m. Filled by (19)
[03]	Cut	Circular feature 1 m in diameter. Filled by (20)
[04]	Cut	Circular feature 0.8 m in diameter. Filled by (21)
[05]	Cut	Small, circular feature 0.2 m in diameter. Filled by (22)
[06]	Cut	Large, oval feature measuring 0.6 m by 0.9 m. N of drain [309]. Filled by (23)
[07]	Cut	Sub-circular feature measuring 0.9 m by 1 m. Filled by (24)
[08]	Cut	Sub-circular feature measuring 0.4 m by 0.6 m. Filled by (25)
[09]	Cut	Oval feature measuring 0.3 m by 0.4 m. Filled by (26)
[10]	Cut	Large, sub-oval feature measuring 1.2 m long & 0.6–0.9 m wide. Filled by (27)
[11]	Cut	Oval feature measuring 0.55 m by 0.6 m. Filled by (28)
[12]	Cut	Small circular feature measuring 0.2 m in diameter. S end of site. Filled by (13)
(13)	Fill	Dark grey clayey silt with moderate inclusions of small stones & flecks of charcoal. Fill of [12]
[14]	Cut	Sub-circular feature measuring 0.35 m by 0.4 m. S of drain [309]. Filled by (15)
(15)	Fill	Fill of posthole [14]
[16]	Cut	Oval feature measuring 0.25 m by 0.4 m. S of drain [309]
(17)	Fill	Fill of posthole [16]
(18)	Fill	Dark grey clayey silt with small stones & charcoal flecks. Fill of [01]
(19)	Fill	Dark grey clayey silt with small stones & charcoal flecks. Fill of [02]
(20)	Fill	Dark grey clayey silt with small stones & charcoal flecks. Fill of [03]
(21)	Fill	Dark grey clayey silt with moderate inclusions of small stones & flecks of charcoal. Fill of [04]
(22)	Fill	Fill of [05]
(23)	Fill	Fill of [06]
(24)	Fill	Dark grey clayey silt with small stones & charcoal flecks. Fill of [07]
(25)	Fill	Dark grey clayey silt with small stones & charcoal flecks. Fill of [08]
(26)	Fill	Dark grey clayey silt with small stones & charcoal flecks. Fill of [09]
(27)	Fill	Dark grey clayey silt with burnt stones & charcoal flecks. Fill of [10]
(28)	Fill	Dark grey clayey silt with heavy. Inc. of stones & charcoal flecks. Fill of [11]
[29]	Cut	Oval feature measuring 0.25 m by 0.3 m. Filled by (30)
(30)	Fill	Dark grey clayey silt with burnt stones & flecks of charcoal. Fill of [29]
[31]	Cut	Circular feature. Diameter 0.49 m. Filled by (35)
[32]	Cut	Circular feature. Diameter 0.42 m. Filled by (36)
[33]	Cut	Circular feature. Diameter 0.48 m. Filled by (53)
[34]	Cut	Circular feature. Diameter 0.46 m. Filled by (54)
(35)	Fill	Fill of [31]
(36)	Fill	Fill of [32]
[37]	Cut	Small circular feature. Diameter 0.17 m. Filled by (58)
[38]	Cut	Small circular feature. Diameter 0.22 m. Filled by (64)
[39]	Cut	Small circular feature. Diameter 0.13 m. Filled by (65)
[40]	Cut	Oval shaped feature measuring 0.74 m by 0.44m. Filled by (66)
[41]	Cut	Small circular feature. Diameter 0.19 m. Filled by (67) Fill by (63)
[42]	Cut	Small circular feature. Diameter 0.15 m. Filled by (68)
[43]	Cut	Small circular feature. Diameter 0.22 m. Filled by (69)
[44]	Cut	Oval shaped feature measuring 0.74 m by 0.44 m. Filled by (98)
[45]	Cut	Oval shaped feature measuring 0.46 m by 0.33 m. Filled by (71)
(46)	Deposit	Topsoil. Dark brown-black silty clay, measured between 0.12–0.32 m deep
(47)	Deposit	Subsoil. Yellow-brown silty clay with frequent pebbles & small stones
[48]	Cut	Small circular feature. Diameter 0.16 m. Filled by (99)
[49]	Cut	Small circular feature. Diameter 0.17 m. Filled by (75)
[50]	Cut	Oval feature measuring 0.65 m by 0.59 m. Filled by (100)
51		Not used
[52]	Cut	Small circular feature. Diameter 0.22 m. Filled by (78)
(53)	Fill	Dark grey clayey silt with frequent burnt stones & flecks of charcoal. Fill of [33]

(54)	Fill	Dark grey clayey silt with frequent burnt stones & flecks of charcoal. Fill of [34]
(55)	Fill	Dark grey clayey silt with frequent burnt stones & flecks of charcoal. Fill of [35]
[56]	Cut	Circular feature. Diameter 0.25 m. Filled by (97)
[57]	Cut	Oblong feature measuring 0.2 m x 0.4 m. Filled by (79)
(58)	Fill	Grey-brown clayey silt with infrequent charcoal flecking. Fill of [37]
[59]	Cut	Sub-circular feature measuring 0.2 m x 0.25 m. Filled by (95)
[60]	Cut	Sub-circular feature measuring 0.2 m x 0.3 m. Filled by (96)
[61]	Cut	Small circular feature. Diameter 0.16 m. Filled by (82)
[62]	Cut	Small circular feature. Diameter 0.13 m. Filled by (83)
[63]	Cut	Small circular feature. Diameter 0.13 m. Filled by (84)
(64)	Fill	Grey-brown clayey silt with infrequent charcoal flecking. Fill of [38]
(65)	Fill	Grey-brown clayey silt with infrequent charcoal flecking. Fill of [39]
(66)	Fill	Pyrolytic material. Fill of [40]
(67)	Fill	Pyrolytic material. Fill of [41]
(68)	Fill	Grey-brown clayey silt with infrequent charcoal flecking. Fill of [42]
(69)	Fill	Grey-brown clayey silt with infrequent charcoal flecking. Fill of [43]
[70]	Cut	Circular feature. Diameter 0.2 m, 0.22 m deep. Filled by (90)
(71)	Fill	Grey sandy silt with infrequent charcoal flecking. Fill of [45]
72-73		Not used
[74]	Cut	Sub-circular feature measuring 0.4 m x 0.6 m. Filled by (91)
(75)	Fill	Grey-brown clayey silt with infrequent charcoal flecking. Fill of [49]
[76]	Fill	Sub-angular feature measuring 0.3 m x 0.45 m. Filled by (92)
77		Not used
(78)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [52]
(79)	Fill	Grey-brown clayey silt with infrequent charcoal flecking. Fill of [57]
[80]	Cut	Sub-circular feature measuring 0.3 m x 0.6 m & 0.16 m deep. Filled by (93)
[81]	Cut	Sub-circular feature measuring 0.3 m x 0.4 m & 0.2 m deep. Filled by (94)
(82)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [61]
(83)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [62]
(84)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [63]
[85]	Cut	Small circular feature. Diameter 0.12 m. Filled by (88)
(86)	Fill	Small circular feature. Diameter 0.12 m. Filled by (105)
[87]	Cut	Small circular feature. Diameter 0.12 m. Filled by (89)
(88)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [85]
(89)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [87]
(90)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [70]
(91)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [74]
(92)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [76]
(93)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [80]
(94)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [81]
(95)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [59]
(96)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [60]
(97)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [56]
(98)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [44]
(99)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [48]
(100)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [50]
[101]	Cut	Field drain orientated E-W across the site. Measured 18 m long, and 0.8-1.6 m wide. Filled by (102)
(102)	Fill	Fill of field drain [101]. Gravel & small stones
[103]	Cut	Sub-oval feature measuring 1 m by 1.3 m. Filled by (104)
(104)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [103]
(105)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [86]
[106]	Cut	Sub-circular pit measuring 0.7 m by 0.8 m & 0.24 m deep. Filled by (202)
107-199		Not used
(200)	Fill	Fill of [201]. Topsoil-like clay with small stones.
[201]	Cut	Ditch orientated E-W across the site. Exposed for 28 m, 0.6-1.2 m wide & 0.8 m deep. Cuts (305) spread. Filled by (200)
(202)	Fill	Darkish grey-brown clayey silt with infrequent charcoal flecking. Fill of [106]
(203)	Spread	Colour variation noted within burnt stones (305)
204-211		Not used

(212)	Fill	Fill of [213]. Small stones noted in patches throughout
[213]	Cut	Sub-circular pit with small extension at SE corner. Measured 0.7 m wide and 1.1 m long, extension portion 0.2 m wide. Filled by (212)
(214)	Fill	Fill of [220]. Small stones noted in patches throughout fill
(215)	Fill	Lower fill of [216], below (219). Small stones noted in patches throughout fill
[216]	Cut	Irregular sub-angular pit, measuring 0.3 m by 0.7 m & 0.14–0.16 m deep. Filled by (215) & (219)
(217)	Fill	Fill of [218]
[218]	Cut	Sub-circular pit measuring 0.3 m by 0.6 m & 0.22 m deep. Filled by (217)
(219)	Fill	Upper fill of [216], above (215)
[220]	Cut	Irregular oval pit, measuring 0.4 m by 0.6 m & 0.24 m deep. Filled by (214)
221–299		Not used
[300]	Cut	Sub-circular pit measuring 0.9 m by 0.95 m & 0.5 m deep. Filled by (302).
[301]	Cut	Sub-circular pit measuring 0.8 m by 0.9 m. Filled by (303).
(302)	Fill	Dark grey clayey silt with small stones & charcoal flecks. Fill of [300]. Alder charcoal dated to 1253–1030 cal. BC
(303)	Fill	Dark grey clayey silt with small stones & charcoal flecks. Fill of [301]
304		Not used
(305)	Spread	Burnt stones spread intermittently across the site. Cut by drain [101] & ditch [201]. Measured 27 m long by a maximum of 12 m wide. Occurred in two patches in the SE part of the site, extending outside the road-take here

The following table indicates the total stratigraphic archive for Site 25v:¹

Site plans and sections	4
Site registers/indexes	4
Site diary/notes	1
Context sheets	50
Context matrix	0
Sample sheets	10
Images colour print	0
Images digital	57

Appendix 2 Finds Register

No finds were recovered from the excavation.

¹ The whereabouts of archives not listed elsewhere in this report is currently unknown.

Appendix 3 Drawing Register

Sheet No.	Scale	Description
1	1:10	East facing section of [218]
1	1:10	South-east facing section of [220]
1	1:10	South-west facing section of [213]
1	1:10	North facing profile of [81]
1	1:10	North facing profile of [80]
1	1:10	South-east facing profile of [70]
1	1:10	East facing section of (206)
1	1:10	East facing section of [01] & [03]
1	1:10	West facing section of [300]
2	1:50	Pre-excavation plan of north-eastern part of site
3	1:50	Pre-excavation plan of eastern part of site
4	1:50	Mid-excavation plan of western part of site
5	1:50	Mid-excavation plan of south-eastern part of site
6	1:50	Mid-excavation plan of south-eastern part of site
7	1:100	Plan of excavated extent of site showing

Appendix 4 Sample Register

Although 10 sample sheets were listed as being in existence none of these were made available to the author in the preparation of this report.

Appendix 5 Photography Register

There are 61 digital photographs of the excavation which have been retained in the site archives.

Appendix 6 Environmental Report²

Scheme – N8 Cashel Bypass & N74 Link Road

Site Name- Site 25v Rathordan

Excavation number –03E0756

County – Tipperary

Job code – ENV/083

Author- Susan Lyons

Date – 26/05/10

Plant Macrofossil Remains & Charcoal
Report

² The alder sample submitted for radiocarbon dating is not included in this analysis as it had been sent prior to the report being prepared.

Contents

- 1 Introduction
- 2 Background
- 3 Methodology
 - 3.1 Plant remains
 - 3.2 Charcoal
- 4 Results
- 5 Discussion
- 6 Conclusion
- 7 Recommendations
- 8 References

Tables

- Table 1 Composition of plant remains from Site 25v, Rathordan (03E0756)
- Table 2 Charcoal Identifications from Site 25v, Rathordan (03E0756)

1 INTRODUCTION

This report discusses the plant macrofossil remains and charcoal remains recorded from the soil samples associated with the archaeological excavations at Site 25v Rathordan (03E0756). While the carbonized plant remains and the charcoal are both constituted as environmental remains, they represent the results of two separate human activities. The remains of charred/waterlogged cereal remains and wild taxa can suggest evidence for arable farming and the selection of crops and plants brought to the site. The wood charcoal material on the other hand is characteristic of the wood species selected as a fuel resource and can go some way to understanding the local woodland environment.

The primary objective of the plant remains and charcoal project is to identify, analyse and interpret the botanical remains present in order a) highlighting the function of certain areas of the site or indeed the features recorded within and b) to help with understanding the change in the floral environment and activities at the site over time.

This report will later form part of an overall scheme-wide synthesis of environmental archaeological remains from the excavations along the N8 Cashel Bypass and N74 Link Road (Lyons, *forthcoming*)

2 BACKGROUND

Site 25v was excavated as part of the archaeological mitigation programme associated with the N8 Cashel Bypass and the N74 Link Road under archaeological excavation licence number 03E0756.

Site 25v around a waterlogged depression, which was probably once a pond or small lake. Within this depression a large amorphous spread of *fulachta fiadh* material was identified. To the north and south of the depression on higher ground, a number of postholes and stake-holes were located. In the south of the site, on higher ground, these postholes formed a small circular structure (Fairburn, 2009)

Just one flot sample from **C75** was analysed for plant macrofossils and charcoal remains.

3 METHODOLOGY

3.1 Plant remains

The sample was ³processed by Eachtra Archaeological Projects Ltd (Eachtra Archaeological Projects Ltd, 2009)

3.1.1 Sample processing (after Eachtra Archaeological Projects Ltd)

The processing technique employed for bulk dry soil samples is one of floatation. This is where each sample is soaked in water and agitated by hand to loosen any charred remains from the soil particles which allows for this material to be separated and float to the surface. This floating material (flot) is poured off and trapped in a sieve (mesh size 250 µm) and, once dried, scanned for plant remains using a binocular microscope. The larger residual material left behind (retent) is washed through a 1mm, 2mm and 5mm mesh or sieve and air-dried. Once dry, each retent is sorted by eye and any material of archaeological significance removed.

3.1.2 Quantification and identification of plant remains

The flot samples are viewed under a low powered binocular microscope (magnification x0.8 to x5) Where preservation allowed, all charred remains recovered were identified to species level where applicable and the constituents quantified numerically. Those plant remains which were abraded or fragmented were recorded using an abundance key to highlight the concentrations of material identified from each sample:

+ = rare (1-10), ++ = occasional (11-50), +++ = common (51-100) and ++++ = abundant (>100)

Plant species are made using reference to the author's seed collection and standard seed atlases and references; *Flora of the British Isles* (Clapham, A R, Tutin, T G,

³ Soil samples are processed according to the standards and guidelines outlined in the Institute of Archaeologists of Ireland (IAI) 'Environmental Sampling Guidelines for Archaeologists', (IAI, 2006) and *Palaeoethnobotany: Handbook of Procedures*. 2nd edition, San Diego: Academic Press (Pearsall, D 2000)

Warburg, E F, 1957), *Zadenatlas der Nederlandsche Flora* (Beijerinck, W.1976), *New Flora of the British Isles 2nd Edition* (Stace, C, 1997) and *Digital Seed Atlas of the Netherlands* (Cappers, R.T.J., R.M. Bekker and J.E.A. Jans, 2006)

3.2 Charcoal

3.2.1 Quantification of charcoal remains

Quantifying charcoal samples can be difficult as many wood species can be affected by heat in different ways and hence become fragmented into an arbitrary number of fragments. Due to the potential for a very high number of charcoal fragments from the samples, a representative sample of 50 charcoal fragments (Keepax, 1988) are randomly chosen from larger samples for identification and analysis. In the case of smaller samples all charcoal fragments within are identified. The charcoal fragments of each species identified are counted, weighted (grams) and bagged according to species.

3.2.2 Identification of charcoal remains

Wood charcoal identifications were undertaken in accordance with Section 25 of the National Monuments Act, 1930, as amended by Section 20 of the National Monuments Amendment Act 1994, to alter an archaeological object.

The flot remains were sieved through a bank of sieves (2mm, 1mm and 0.5mm) to separate the larger charcoal samples from the much smaller charcoal fibres, which would prove more difficult to identify.

The larger sized charcoal fragments (>3mm in width) were fractured to view the three planes [transverse, radial and tangential sections] necessary for microscopic wood identification. The wood species identifications were conducted under a binocular microscope using incident light and viewed at magnifications of 100x, 200x and 400x where applicable. Where applicable the number of growth rings and the curvature of the rings are also noted, which can help with determining if the material is from trunk wood or smaller branches/twigs.

Wood species identifications are made using wood reference slides and wood keys devised by Franklin and Brazier (1961), Schweingruber (1978), Hather (2000) and the

International Association of Wood Anatomists (IAWA) wood identification manuals and (www.lib.ncsu.edu/insidewood) by Wheeler, Bass and Gasson (1989)

4 RESULTS

The plant remains recorded from Site 25v are presented in **Table 1**.

The charcoal identifications from Site 25v are presented from **Table 2**.

Carbonized nutshell – A single fragment of carbonized nutshell was recorded from **C75**. Based on the curvature and striation marks on the shell, it is tentatively identified as hazelnut (*Corylus avellana*) shell.

Charcoal – Fragmented charcoal was recovered in low concentrations from **C75**.

Wood charcoal identifications – Just two species totalling 17 identifications were identified from **C75**. Ash (*Fraxinus excelsior*) and hazel (*Corylus avellana*) were both recorded from this context.

5 DISCUSSION

The samples recorded from Site 25v did not contain any botanical remains associated with arable farming, such as cereal grains. The only botanical material recorded from Site 25v, other than charcoal was carbonized nutshell. Nut shell recorded from archaeological sites is usually interpreted as the waste debris of gathered foodstuffs that have been discarded onto fires, the remnants of drying or parching hazelnuts near or over a fire and material collected with wood for fuel or kindling (Moffet *et al*, 1989; Greig, 1991) Gathered foodstuffs such as hazelnut are high in protein, fats, and other vitamins (Vitamin E) and minerals (Monk 2000) and would have played a part in a daily diet.

Charcoal is a common result of occupational activity on archaeological sites and usually reflects the use of hearths and burning activities in and around the site and/or cleaning out and dumping of this burnt debris into nearby open features. At Site 25v the charcoal for the most part is likely to represent the remains of firing

debris associated with activities associated with these features. Both ash and hazel, which are common species to open woodland, were recorded from **C75**.

Ash thrives well on nutrient-rich soils but is also a common woodland species and grows in mixed woodland with oak on damp, slightly acidic soils (Gale & Culter, 2000) Pollen analysis indicates that ash became more common in the pollen record from the Neolithic period onwards (Mitchell, 1953/4) This could be as a result of more clearance due to agricultural practices at the time, where ash was able to germinate and grow more vigorously as secondary woodland and in marginal areas and hedges (Kelly, 1976)

Hazel woodlands replaced birch in the early post-glacial forests and remains on some shallow limestone soils to the present day (Pilcher & Hall, 2001) The species can tolerate most soil types, but not waterlogged conditions and forms a small deciduous tree or shrub. It commonly occurs in understorey of oak and/or ash woodlands, where it may grow to a height of 10m or more. In open areas or woodland glades hazel grows as a shrub. Hazel is a common species recorded from Irish archaeological sites and its widespread presence is highlighted in pollen diagrams from the Neolithic to the medieval period (Caseldine, 1996) It produces good firewood and is a suitable wood for kindling. The wood is soft enough to be split yet flexible and strong enough to be used in rope making and basketry. It has also proved a useful resource in the construction of hurdles, wattling, palisades and trackways from prehistoric times (Pilcher & Hall, 2001)

5 Conclusions

The analysis of the plant remains and wood charcoal from **C75** at Site 25v, Rathordan provided the opportunity to highlight and interpret the archaeobotanical material recorded at the site.

No botanical remains indicative of arable agriculture, such as cereal remains, were recorded at the site. The presence of carbonized nutshell could represent the remains of gathered foodstuffs or fuel debris. While ash and hazel charcoal certainly represent some of the fuel used in **C75**, it is difficult based on such a small charcoal assemblage to make any viable interpretation of wood use at the site.

6 Recommendations

1. There is no further identification work required on these samples from Site 25v, Rathordan. Any additional processed samples associated with features

excavated at the site should also be scanned to determine if there are any other plant remains present, which may help with the interpretations put forward.

2. All flot samples associated with Site 25v should be retained permanently in accordance with the National Monuments Act 1930 (Section 2) and the National Monuments Act 1994 (Section 9) and for future archaeobotanical research studies to be carried out.
3. A record of the methodology and results of this analysis should be included in any final report

7 References

Beijerinck, W 1976 *Zadenatlas der Nederlandsche Flora*, Amsterdam: Backhuys & Meesters

Brazier, J D and Franklin, G L, 1961 *Identification of hardwoods: a microscopic key*. London: H.M Stationary Office

Cappers, R.T.J., R.M. Bekker & J.E.A. Jans 2006 *Digital Seed Atlas of the Netherlands*, Groningen, Netherlands: Barkhuis Publishing & Groningen University Library

Clapham, A R, Tutin, T G, Warburg, E F, 1957 *Flora of the British Isles* Cambridge University Press

Fairburn N 2009 'Preliminary report for Site 25v, Kilsobin (03E0807)', *N8 Cashel Bypass & N74 Link Road – Phase 2 Archaeological Investigations*

Gale, Rowena & Cutler, David 2000 *Plants in Archaeology: Identification manual of artefact of plant origin from Europe and the Mediterranean*. Westbury and the Royal Botanic Gardens Kew

Greig, J, 1991 'The British Isles' in van Zeist, Wasylkova & Behre (eds) *Progress in Old World Palaeoethnobotany*, 299 – 334. Rotterdam

Hather, J.G., 2000. *The Identification of the Northern European Woods. A guide for archaeologists and conservators*. London: Archetype Publications Ltd

Keepax, C.A. 1988. Charcoal Analysis with Particular Reference to Archaeological Sites in Britain. Unpublished PhD thesis, University of London

Kelly, F 1976 'The old Irish tree-list', *Celtica*, **11**, 107-124

Mitchell, G F, 1953/4. 'A Pollen Diagram from Lough Gur, Co. Limerick'. *Proceedings of the Royal Irish Academy Vol 56, Sec C*, 481-488

Moffett, L *et al* 1989 Cereals, fruits and nuts: charred plant remains from Neolithic sites in England and Wales and the Neolithic economy. In A Milles, D Williams & N Gardner (eds), *The beginnings of agriculture*. British Archaeological Reports International Series 496: 234-261.

Monk, M 2000 'Seeds and soils of discontent: an environmental archaeological contribution to the nature of the early Neolithic' In *New agendas in Irish prehistory*, edited by Angela Desmond *et al*, pp.67-87. Bray: Wordwell

Pearsall, D 2000 *Palaeoethnobotany: Handbook of Procedures*. 2nd edition, San Diego: Academic Press

Pilcher, J & Hall V 2001 *Flora Hibernica: The wild flowers, plants and trees of Ireland*, The Collins Press

Renfrew, J M 1973 *Palaeoethnobotany: the prehistoric food plants of the Near East and Europe*, London: Methuen

Schweingruber, F H 1978 *Microscopic wood anatomy*, Birmensdorf: Swiss Federal Institute for Forest, Snow and Landscape Research

Stace, C 1997 *New Flora of the British Isles* (2nd edition) Cambridge: Cambridge University Press

Wheeler, E A, Bass, P & Gasson, P E 1989 *IAWA list of microscopic features for hardwood identification*. IAWA Bulletin nos. 10 (3): 219-332. Rijksherbarium: Leiden

Table 1. Composition of plant remains from Site 25v, Rathordan (03E0756)

Context number	Sample Number	Flot volume (grams)	Context description	Wood charcoal	Carbonized nutshell	Comments
75	2	2.8 grams	Not known	+	+	

Key: + = rare (1-10), ++ = occasional (11-50), +++ = common (51-100) and ++++ = abundant (>100)

Table 2. Charcoal Identifications from Site 25v, Rathordan (03E0756)

Context number	Sample number	Flot volume (grams)	Context description	Wood Species Identifications	No. of fragments	Charcoal weights (grams)	No. of growth rings	Growth ring curvature	Comments
75	1	2.8 grams	Not known	Fraxinus excelsior (ash)	15	1 gram	2 - 4 rings	weak	
				Corylus avellana (hazel)	2	0.2 grams	2 rings		

Appendix 7 Radiocarbon Date

UBANo	Sample ID	¹⁴ C Age	±	AMS δ ¹³ C	F14C	±
UBA-13715	8 S2 8101	781	24	-26.1	0.9073	0.0027
UBA-13741	18 S23 18103	2399	20	-22.5	0.7418	0.0019
UBA-13772	25iiiS44 326	2245	21	-22.6	0.7562	0.0020
UBA-13773	25iiiS49 258	2791	21	-23.2	0.7065	0.0018
UBA-13774	25iiiS8 106	1273	19	-25.9	0.8534	0.0020
UBA-13775	25iiiS5 110	3669	22	-22.6	0.6334	0.0017
UBA-13776	25iv S1 254007	2160	20	-24.2	0.7643	0.0019
UBA-13778	25iv S18 254164	1148	20	-28.1	0.8669	0.0022
UBA-13779	25iv S2 254009	1488	20	-24.5	0.8309	0.0020
UBA-13781	25v S3 300	2924	21	-18.9	0.6949	0.0018
UBA-13782	30iiS12 119	1189	22	-20.0	0.8624	0.0023
UBA-13783	30i S1 2	2809	22	-22.4	0.7049	0.0019
UBA-13784	33 S2 33004	3097	22	-16.9	0.6800	0.0019
UBA-13785	32 S1 32004	3043	22	-18.9	0.6847	0.0019
UBA-13786	34 S1 34003	3569	22	-23.4	0.6413	0.0018
UBA-13788	34 S3 34007	3645	23	-19.8	0.6352	0.0018
UBA-13789	36i S1 4	3413	22	-27.5	0.6538	0.0018
UBA-13790	36i S30 361519	2901	21	-21.6	0.6969	0.0019
UBA-13791	36i S36 361565	3315	23	-24.2	0.6619	0.0019
UBA-13792	36i S21 580	3515	23	-20.7	0.6456	0.0019
UBA-13793	35 S6 35038	3037	25	-25.2	0.6852	0.0021
UBA-13794	35 S9 35053	3392	29	-27.5	0.6556	0.0024
UBA-13795	35 S5 35046	3639	34	-24.6	0.6357	0.0027
UBA-13796	35S8 35021	2989	28	-24.2	0.6892	0.0024
UBA-13797	35 S3 35031	3901	28	-26.0	0.6153	0.0022
UBA-13798	35 S1 35005	4899	36	-28.1	0.5434	0.0024
UBA-13800	35 S2 35003	3735	24	-22.6	0.6282	0.0019
UBA-13803	38i S11 38018	1942	22	-24.6	0.7853	0.0022
UBA-13804	38i S10 38018	1962	24	-25.8	0.7833	0.0023
UBA-13805	38iiS50 38644	3021	23	-23.6	0.6866	0.0020
UBA-13806	38iiS63 38698	4009	32	-26.2	0.6071	0.0024
UBA-13807	39 S13 39054	3787	26	-23.3	0.6241	0.0020
UBA-13808	39 S24 39104	1045	21	-26.2	0.8781	0.0023
UBA-13809	39 S2 39025	3837	24	-25.2	0.6202	0.0019
UBA-13811	41 S49 41012	2898	24	-28.4	0.6971	0.0021
UBA-13812	41 S12 41082	3186	28	-25.7	0.6726	0.0024
UBA-13813	41 S13 41012	3077	24	-25.5	0.6817	0.0021
UBA-13814	E2285 S2 2 51	2911	24	-27.4	0.6960	0.0021
UBA-13815	E2285 S9 11 85	3325	27	-23.9	0.6610	0.0022
UBA-13816	E2285 S13 26 84	2856	31	-21.7	0.7008	0.0027
UBA-13817	E2285 S19 29 81	3276	27	-28.5	0.6651	0.0022
UBA-13818	E2285 S22 36 183	3801	27	-25.1	0.6230	0.0021
UBA-13820	E2285 S40 202 278	2141	26	-26.1	0.7661	0.0024
UBA-13822	E2285 S53 217 155	3022	23	-24.5	0.6864	0.0020

Graham Hull TVAS
TVAS (Ireland) Ltd
Ahish
Ballinruan
Crusheen, Co. Clare
Ireland
VAT No. IE6360113C



¹⁴CHRONO Centre
Queens University Belfast
42 Fitzwilliam Street
Belfast BT9 6AX
Northern Ireland

Radiocarbon Date Certificate

Laboratory Identification: UBA-13781
Date of Measurement: 2010-07-02
Site: N8Cashel Bypass Site25v 03E0756
Sample ID: 25v S3 300
Material Dated: charcoal
Pretreatment: AAA
Submitted by: Graham Hull TVAS

¹⁴C Date: 2924±21

AMS δ¹³C: -18.9

Information about radiocarbon calibration

RADIOCARBON CALIBRATION PROGRAM*

CALIB REV6.0.0

Copyright 1986-2010 M Stuiver and PJ Reimer

*To be used in conjunction with:

Stuiver, M., and Reimer, P.J., 1993, Radiocarbon, 35, 215-230.

Annotated results (text) - -

Export file - c14res.csv

8 S2 8101			
UBA-13715			
Radiocarbon Age BP	781 +/- 24		
Calibration data set:	intcal09.14c	# Reimer et al. 2009	
% area enclosed	cal AD age ranges	relative area under	
		probability distribution	
68.3 (1 sigma)	cal AD 1226- 1234		0.212
	1238- 1267		0.788
95.4 (2 sigma)	cal AD 1218- 1275		1.000
18 S23 181			
UBA-13741			
Radiocarbon Age BP	2399 +/- 20		
Calibration data set:	intcal09.14c	# Reimer et al. 2009	
% area enclosed	cal AD age ranges	relative area under	
		probability distribution	
68.3 (1 sigma)	cal BC 507- 458		0.612
	454- 439		0.164
	419- 404		0.225
95.4 (2 sigma)	cal BC 537- 400		1.000
25iiiS44 3			
UBA-13772			
Radiocarbon Age BP	2245 +/- 21		
Calibration data set:	intcal09.14c	# Reimer et al. 2009	
% area enclosed	cal AD age ranges	relative area under	
		probability distribution	
68.3 (1 sigma)	cal BC 381- 356		0.363
	285- 253		0.436
	250- 234		0.201
95.4 (2 sigma)	cal BC 389- 350		0.326
	306- 209		0.674
25iiiS49 2			
UBA-13773			
Radiocarbon Age BP	2791 +/- 21		
Calibration data set:	intcal09.14c	# Reimer et al. 2009	
% area enclosed	cal AD age ranges	relative area under	
		probability distribution	
68.3 (1 sigma)	cal BC 975- 953		0.383
	945- 908		0.617
95.4 (2 sigma)	cal BC 1007- 896		0.991
	865- 859		0.009
25iiiS8 10			
UBA-13774			
Radiocarbon Age BP	1273 +/- 19		
Calibration data set:	intcal09.14c	# Reimer et al. 2009	
% area enclosed	cal AD age ranges	relative area under	
		probability distribution	
68.3 (1 sigma)	cal AD 688- 720		0.542
	741- 769		0.458
95.4 (2 sigma)	cal AD 678- 774		1.000
25iiiS5 11			
UBA-13775			
Radiocarbon Age BP	3669 +/- 22		
Calibration data set:	intcal09.14c	# Reimer et al. 2009	
% area enclosed	cal AD age ranges	relative area under	
		probability distribution	
68.3 (1 sigma)	cal BC 2128- 2088		0.552
	2046- 2021		0.340
	1993- 1982		0.107
95.4 (2 sigma)	cal BC 2136- 1976		1.000

25iv S1 25
 UBA-13776
 Radiocarbon Age BP 2160 +/- 20
 Calibration data set: intcal09.14c
 % area enclosed cal AD age ranges

68.3 (1 sigma)	cal BC 347- 319	# Reimer et al. 2009
	206- 174	relative area under
		probability distribution
		0.434
95.4 (2 sigma)	cal BC 354- 290	0.566
	232- 158	0.459
	133- 117	0.515
		0.026

25iv S18 2
 UBA-13778
 Radiocarbon Age BP 1148 +/- 20
 Calibration data set: intcal09.14c
 % area enclosed cal AD age ranges

68.3 (1 sigma)	cal AD 877- 900	# Reimer et al. 2009
	918- 962	relative area under
		probability distribution
		0.368
95.4 (2 sigma)	cal AD 782- 789	0.632
	810- 847	0.016
	856- 971	0.103
		0.881

25iv S2 25
 UBA-13779
 Radiocarbon Age BP 1488 +/- 20
 Calibration data set: intcal09.14c
 % area enclosed cal AD age ranges

68.3 (1 sigma)	cal AD 562- 601	# Reimer et al. 2009
95.4 (2 sigma)	cal AD 542- 622	relative area under
		probability distribution
		1.000
		1.000

25v S3 300
 UBA-13781
 Radiocarbon Age BP 2924 +/- 21
 Calibration data set: intcal09.14c
 % area enclosed cal AD age ranges

68.3 (1 sigma)	cal BC 1191- 1177	# Reimer et al. 2009
	1160- 1144	relative area under
	1131- 1108	probability distribution
	1105- 1055	0.135
		0.169
95.4 (2 sigma)	cal BC 1253- 1239	0.261
	1213- 1040	0.435
	1032- 1030	0.022
		0.977
		0.001

30iiS12 11
 UBA-13782
 Radiocarbon Age BP 1189 +/- 22
 Calibration data set: intcal09.14c
 % area enclosed cal AD age ranges

68.3 (1 sigma)	cal AD 782- 789	# Reimer et al. 2009
	810- 849	relative area under
	851- 881	probability distribution
		0.107
95.4 (2 sigma)	cal AD 775- 892	0.505
		0.388
		1.000

30i S1 2
 UBA-13783
 Radiocarbon Age BP 2809 +/- 22
 Calibration data set: intcal09.14c
 % area enclosed cal AD age ranges

68.3 (1 sigma)	cal BC 994- 985	# Reimer et al. 2009
	980- 927	relative area under
		probability distribution
		0.128
95.4 (2 sigma)	cal BC 1013- 905	0.872
		1.000

33 S2 3300
 UBA-13784
 Radiocarbon Age BP 3097 +/- 22
 Calibration data set: intcal09.14c
 % area enclosed cal AD age ranges

		# Reimer et al. 2009
		relative area under
		probability distribution

% area enclosed	cal AD age ranges	relative area under probability distribution
68.3 (1 sigma)	cal BC 1372- 1343 1317- 1261	0.284 0.716
95.4 (2 sigma)	cal BC 1388- 1212	1.000

E3370S7613

UBA-13861

Radiocarbon Age BP 2859 +/- 29

Calibration data set: intcal09.14c

% area enclosed	cal AD age ranges	# Reimer et al. 2009 relative area under probability distribution
68.3 (1 sigma)	cal BC 1110- 1103 1075- 1065 1056- 976 952- 945	0.044 0.068 0.844 0.044
95.4 (2 sigma)	cal BC 1123- 968 963- 930	0.889 0.111

E3370S1081

UBA-13862

Radiocarbon Age BP 3280 +/- 29

Calibration data set: intcal09.14c

% area enclosed	cal AD age ranges	# Reimer et al. 2009 relative area under probability distribution
68.3 (1 sigma)	cal BC 1608- 1570 1561- 1546 1541- 1518	0.516 0.172 0.312
95.4 (2 sigma)	cal BC 1629- 1494	1.000

E3370S1161

UBA-13863

Radiocarbon Age BP 3179 +/- 26

Calibration data set: intcal09.14c

% area enclosed	cal AD age ranges	# Reimer et al. 2009 relative area under probability distribution
68.3 (1 sigma)	cal BC 1493- 1475 1461- 1427	0.311 0.689
95.4 (2 sigma)	cal BC 1499- 1413	1.000

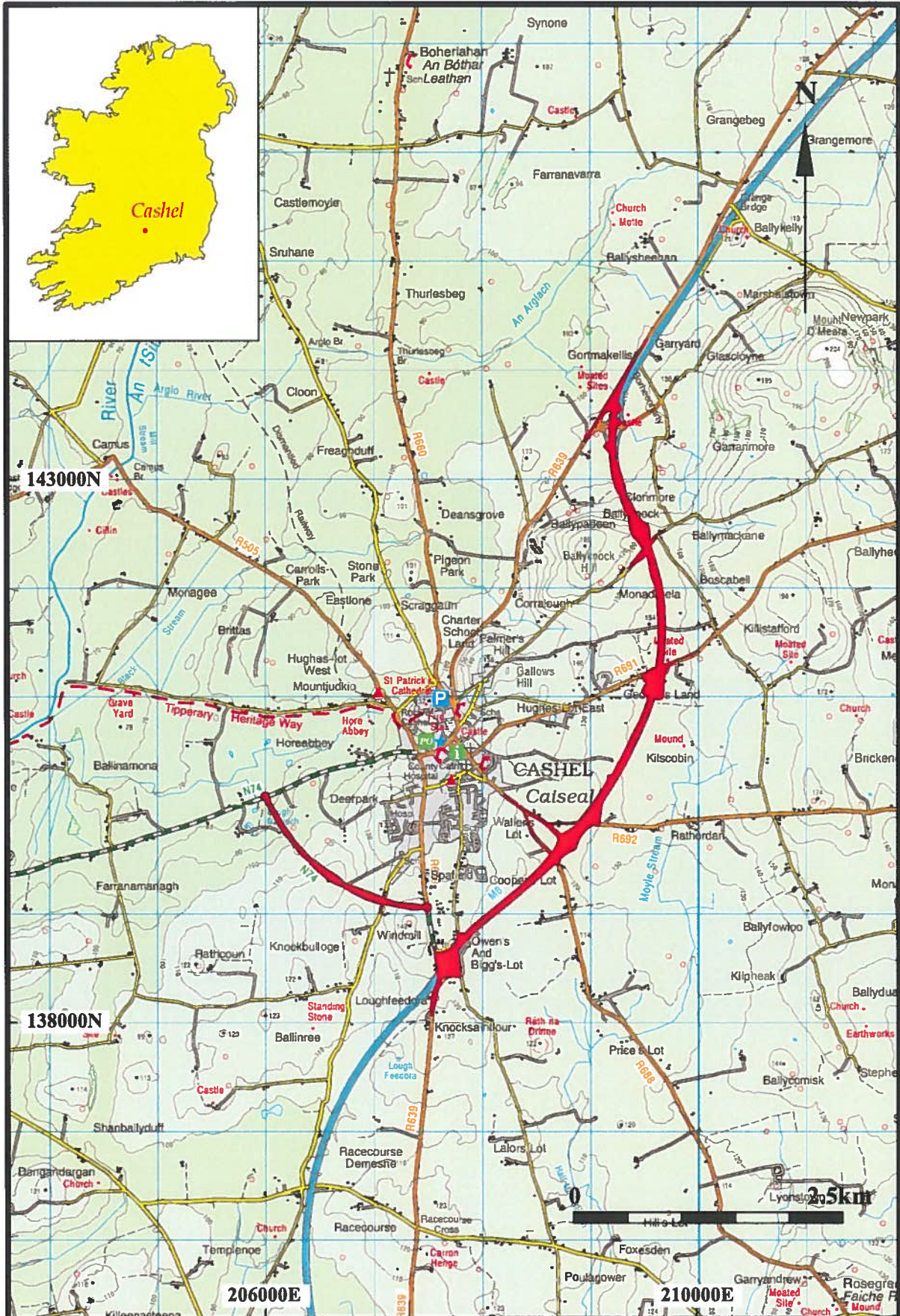
References for calibration datasets:

PJ Reimer, MGL Baillie, E Bard, A Bayliss, JW Beck, PG Blackwell, C Bronk Ramsey, CE Buck, GS Burr, RL Edwards, M Friedrich, PM Grootes, TP Guilderson, I Hajdas, TJ Heaton, AG Hogg, KA Hughen, KF Kaiser, B Kromer, FG McCormac, SW Manning, RW Reimer, DA Richards, JR Southon, S Talamo, CSM Turney, J van der Plicht, CE Weyhenmeyer (2009) Radiocarbon 51:1111-1150.

Comments:

* This standard deviation (error) includes a lab error multiplier.
 ** 1 sigma = square root of (sample std. dev.^2 + curve std. dev.^2)
 ** 2 sigma = 2 x square root of (sample std. dev.^2 + curve std. dev.^2)
 where ^2 = quantity squared.
 [] = calibrated range impinges on end of calibration data set
 0* represents a "negative" age BP
 1955* or 1960* denote influence of nuclear testing C-14

NOTE: Cal ages and ranges are rounded to the nearest year which may be too precise in many instances. Users are advised to round results to the nearest 10 yr for samples with standard deviation in the radiocarbon age greater than 50 yr.



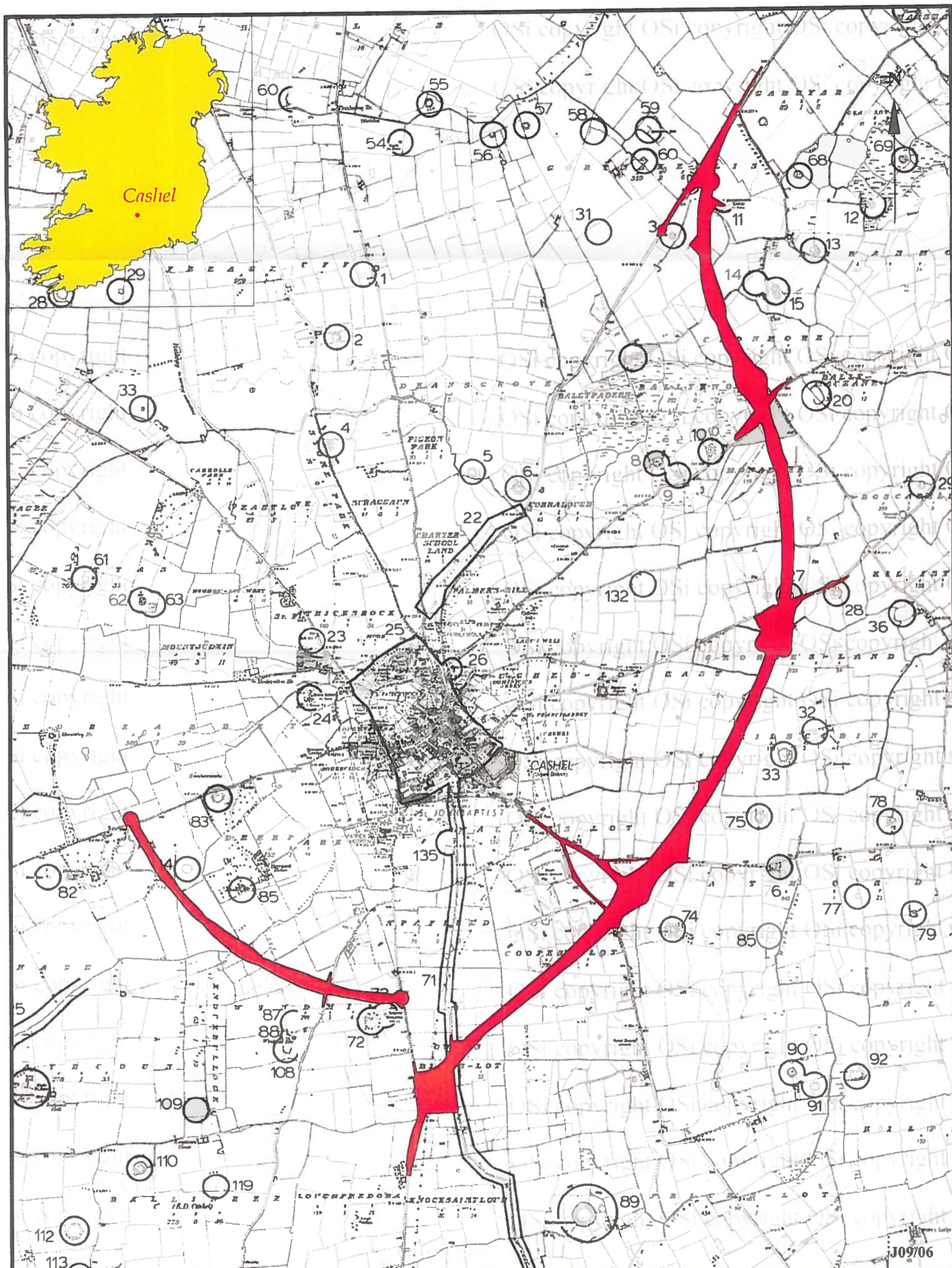
N8 Cashel Bypass & N74 Link Road, Co. Tipperary

Figure 1: Location of N8 Scheme

Scale 1:50 000

Based on Ordnance Survey Ireland Discovery Series 2nd Edition 2001-3, 1:50000. Reproduced at 1:50 000. Copyright OSI & Govt. of Ireland. OSI Licence No AR00494.10





N8 Cashel Bypass & N74 Link Road, Co. Tipperary

Based on RMP Map (1998) (SR) - sheet 52, 53, 60, 61, 68, 69.

Figure 2: Scheme Location & RMP Details
Scale 1:20 000



T V A S
I R E L A N D
L T D



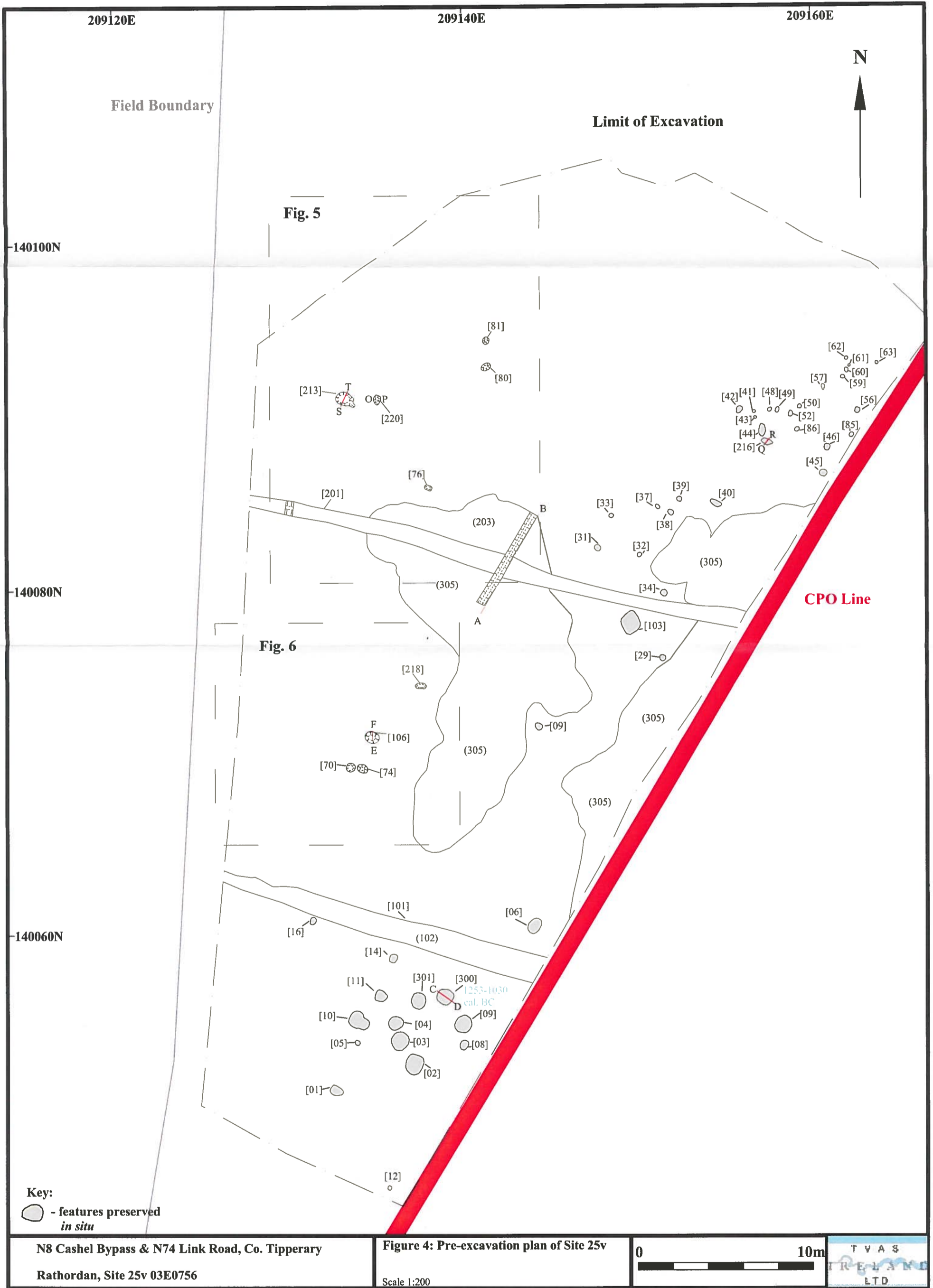
N8 Cashel Bypass & N74 Link Road, Co. Tipperary

Figure 3: Post-Excavation plan of Sites 25ii-25v

Scale 1:2000

0 100m

T V A S
I R E L A N D
L T D

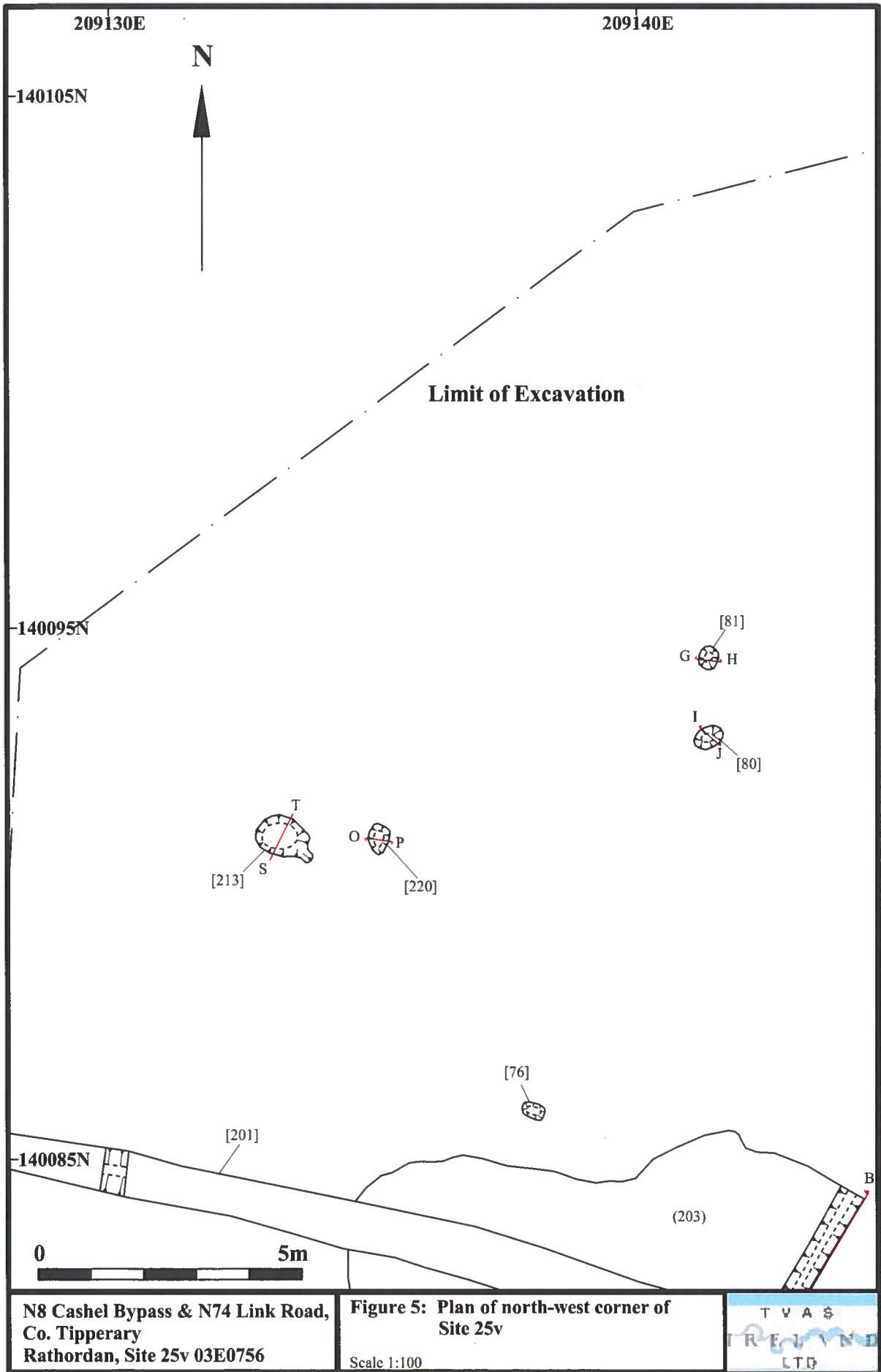


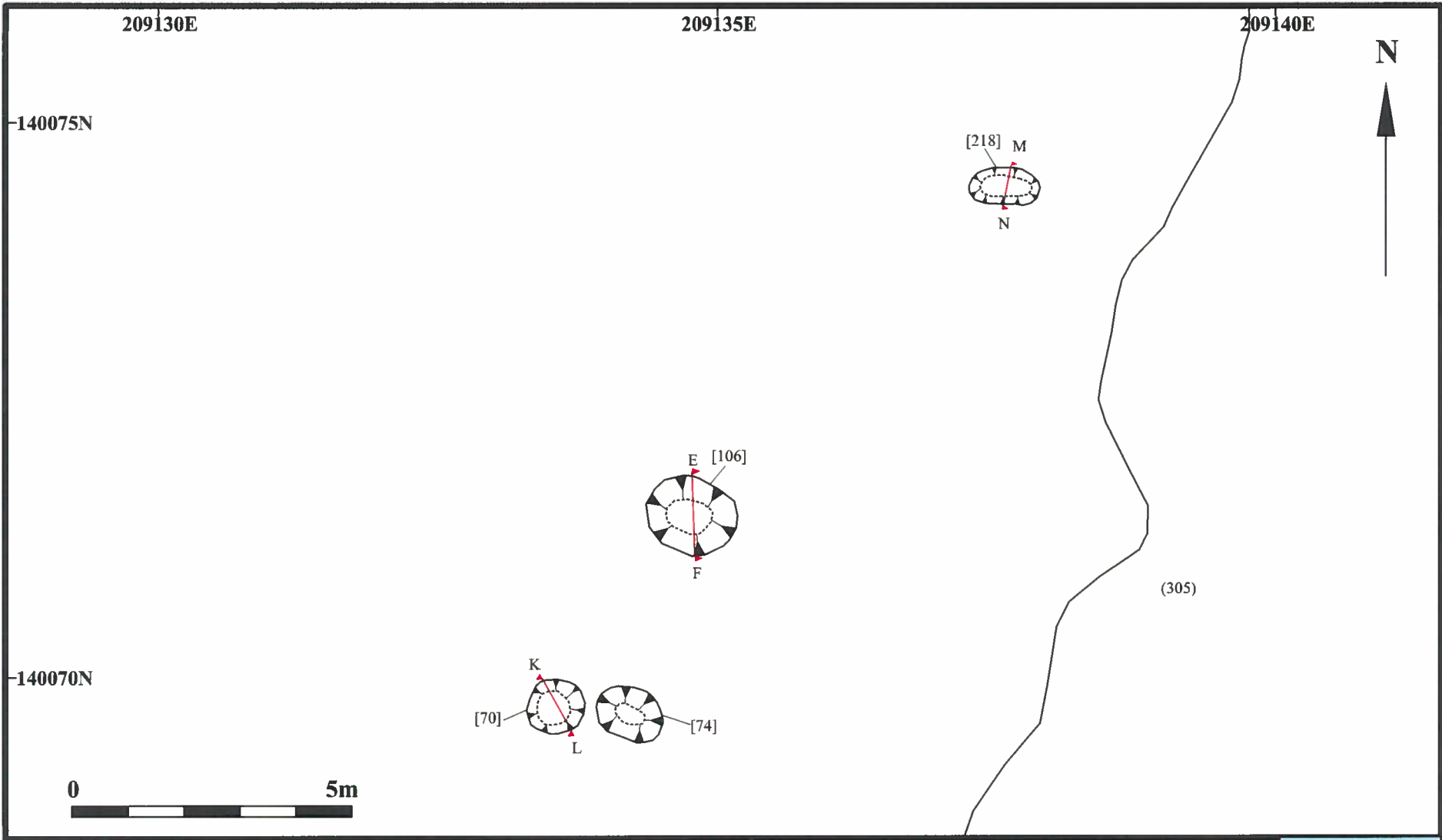
N8 Cashel Bypass & N74 Link Road, Co. Tipperary
 Rathordan, Site 25v 03E0756

Figure 4: Pre-excavation plan of Site 25v
 Scale 1:200



TVAS
 IRELAND
 LTD

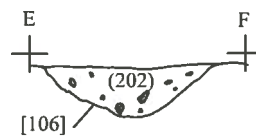
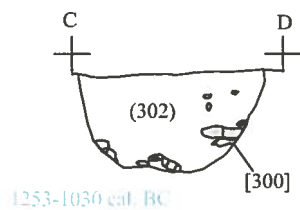
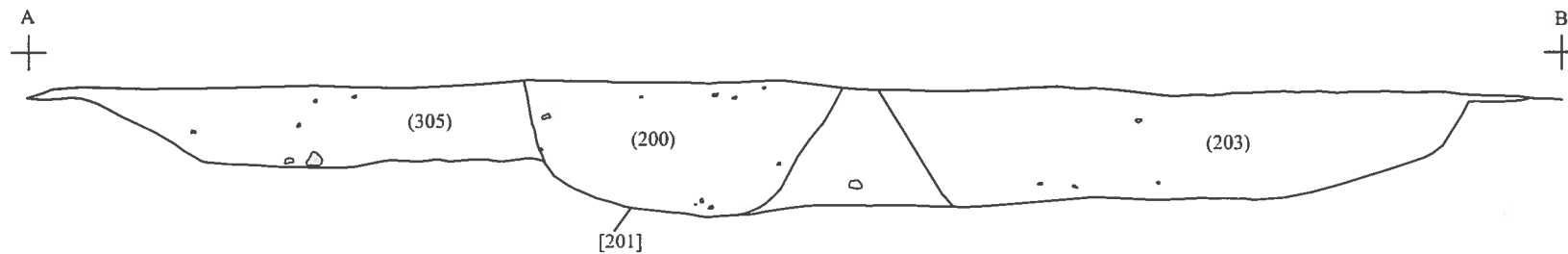




N8 Cashel Bypass & N74 Link Road, Co. Tipperary
 Rathordan, Site 25v 03E0756

Figure 6: Post-excavation plan of western part of Site 25v
 Scale 1:50





Key:

○ - stone



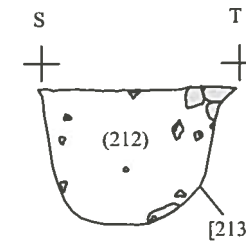
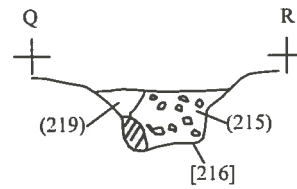
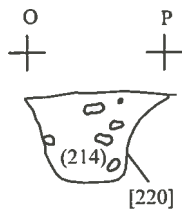
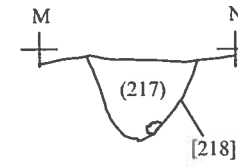
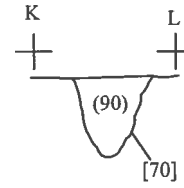
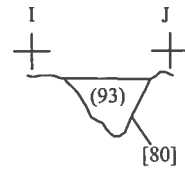
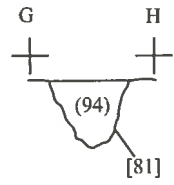
N8 Cashel Bypass & N74 Link Road, Co. Tipperary

Rathordan, Site 25v 03E0756

Figure 7: Sections from Site 25v

Scale 1:40





Key:

○ - stone



N8 Cashel Bypass & N74 Link Road, Co. Tipperary

Rathordan, Site 25v 03E0756

Figure 8: Sections from Site 25v

Scale 1:20

