

## N9/N10 KILCULLEN TO WATERFORD SCHEME, PHASE 4 – KNOCKTOPHER TO POWERSTOWN



Ministerial Direction	A032
Scheme Reference No.	
Registration No.	E3840
Site Name	AR132, Shankill 6
Townland	Shankill
County	Kilkenny
Excavation Director	Richard Jennings
NGR	266403 161836
Chainage	67450

### FINAL REPORT

ON BEHALF OF KILKENNY COUNTY COUNCIL

FEBRUARY 2011

## PROJECT DETAILS

<b>Project</b>	N9/N10 Kilcullen to Waterford Scheme, Phase 4 – Knocktopher to Powerstown
<b>Ministerial Direction Reference No.</b>	A032
<b>Excavation Registration Number</b>	E3840
<b>Excavation Director</b>	Richard Jennings
<b>Senior Archaeologist</b>	Tim Coughlan
<b>Consultant</b>	Irish Archaeological Consultancy Ltd, 120b Greenpark Road, Bray, Co. Wicklow
<b>Client</b>	Kilkenny County Council
<b>Site Name</b>	AR132, Shankill 6
<b>Site Type</b>	Bronze Age
<b>Townland(s)</b>	Shankill
<b>Parish</b>	Shankill
<b>County</b>	Kilkenny
<b>NGR (easting)</b>	266403
<b>NGR (northing)</b>	161836
<b>Chainage</b>	67450
<b>Height OD (m)</b>	59
<b>RMP No.</b>	N/A
<b>Excavation Dates</b>	11–16 November 2007
<b>Project Duration</b>	20 March 2007–18 April 2008
<b>Report Type</b>	Final
<b>Report Date</b>	February 2011
<b>Report By</b>	Richard Jennings and Tim Coughlan
<b>Report Reference</b>	Jennings, R. and Coughlan, T. 2011 E3840 Shankill 6 Final Report. Unpublished Final Report. National Monuments Service, Department of the Environment, Heritage and Local Government, Dublin.

## **ACKNOWLEDGEMENTS**

This final report has been prepared by Irish Archaeological Consultancy Ltd in compliance with the directions issued to Kilkenny County Council by the Minister for Environment, Heritage and Local Government under Section 14A (2) of the National Monuments Acts 1930–2004 and the terms of the Contract between Kilkenny County Council and Irish Archaeological Consultancy Ltd.

### **CONSULTING ENGINEERS – N9/N10 KILKENNY CONSULT**

James Eogan (NRA Senior Archaeologist), Ed Danaher (NRA Archaeologist) and Bernice Kelly (NRA Assistant Archaeologist)

Project Liaison Officer, Kilkenny Co. Council – Joe Gannon and Lisa Mulcahy

### **NATIONAL MONUMENTS, DOEHLG**

Archaeologist – Martin Reid

### **IRISH ANTIQUITIES DIVISION, NATIONAL MUSEUM OF IRELAND**

Assistant Keeper – Nessa O'Connor

## **ABSTRACT**

Irish Archaeological Consultancy Ltd (IAC), funded by the National Roads Authority (NRA) through Kilkenny County Council, undertook an excavation at the site of AR132, Shankill 6 along the proposed N9/N10 Kilkullen to Waterford Scheme, Phase 4 – Knocktopher to Powerstown (Figure 1). The following report describes the results of archaeological excavation at that site. The area was fully excavated by Richard Jennings under Ministerial Direction A032 and Excavation Registration Number E3840 issued by the DOEHLG in consultation with the National Museum of Ireland for IAC. The fieldwork took place between the 11 and 16 November 2007.

Shankill 6 consisted of four small spreads/deposits. They were the remnants of burnt mound material but no features associated with this type of monument were found on the site. The material appeared to have washed into the area and had silted up in naturally formed depressions. Nothing diagnostic of date or function was recovered during excavation. Given the isolated and ephemeral nature of the deposits it was decided not to carry out any detailed analysis in the post excavation phase. A complex of 3 burnt mounds was excavated c.100m to the north at Moanmore 1 which was dated to the Bronze Age.

The excavated archaeology at Shankill 6 adds some further information to our understanding of the surrounding environment and may be indicative of further previously unknown archaeological features surviving outside the limits of the CPO extent of the N9/N10 Kilkenny Link Road.



## CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	General .....	1
1.2	The Development .....	1
1.3	Archaeological Requirements.....	1
1.4	Methodology .....	2
<b>2</b>	<b>EXCAVATION RESULTS .....</b>	<b>4</b>
2.1	PHASE 1 Natural Drift Geology .....	4
2.2	PHASE 2 Possible Bronze Age Activity.....	4
2.3	PHASE 3 Topsoil and Plough Soil.....	4
<b>3</b>	<b>SYNTHESIS .....</b>	<b>5</b>
3.1	Landscape Setting .....	5
3.1.1	The General Landscape – compiled by Michelle Brick .....	5
3.1.2	The Northern Landscape .....	6
3.1.3	Site Specific Landscape .....	7
3.2	The Archaeological Landscape .....	7
3.2.1	The General Bronze Age Landscape of the Scheme – compiled by Michelle Brick .....	7
3.2.2	The Site Specific Archaeological Landscape of site Shankill 6.....	12
3.3	Typological Background of Burnt Mounds .....	13
3.4	Summary of the Excavation Results.....	14
<b>4</b>	<b>DISCUSSION AND CONCLUSIONS.....</b>	<b>15</b>
4.1	Discussion .....	15
4.2	Conclusions .....	15
<b>5</b>	<b>BIBLIOGRAPHY .....</b>	<b>16</b>
5.1	References .....	16
5.2	Other Sources .....	17

### FIGURES

### PLATES

<b>APPENDIX 1</b>	<b>CATALOGUE OF PRIMARY DATA .....</b>	<b>I</b>
Appendix 1.1	Context Register.....	i
Appendix 1.2	Catalogue of Artefacts.....	ii
Appendix 1.3	Catalogue of Ecofacts .....	ii
Appendix 1.4	Archive Index .....	iii
<b>APPENDIX 2</b>	<b>LIST OF RMPS IN AREA.....</b>	<b>IV</b>
<b>APPENDIX 3</b>	<b>LIST OF SITE NAMES .....</b>	<b>V</b>

### **List of Figures**

- Figure 1: Shankill 6 - general site location
- Figure 2: Shankill 6 - location of site showing RMPs
- Figure 3: Shankill 6 - location within development
- Figure 4: Shankill 6 - plan of site

### **List of Plates**

- Plate 1: Deposit C3, mid-excavation, facing north
- Plate 2: Deposit C3, mid-excavation, facing north

# 1 INTRODUCTION

## 1.1 General

This report presents the results of the archaeological excavation of Shankill 6, AR132 (Figure 1), in the townland of Shankill undertaken by Richard Jennings of IAC, on behalf of Kilkenny County Council and the NRA, in accordance with the Code of Practice between the NRA and the Minister for Arts, Heritage, Gaeltacht and the Islands. It was carried out as part of the archaeological mitigation programme of the N9/N10 Kilcullen to Waterford Road Scheme, Phase 4, which extends between Knocktopher in Co. Kilkenny to Powerstown in Co. Carlow. The excavation was undertaken to offset the adverse impact of road construction on known and potential subsoil archaeological remains in order to preserve the site by record.

The site measured 400m<sup>2</sup> and was first identified during testing carried out between 27 March and 6 April 2007 by Richard Jennings (E3364) for IAC Ltd on behalf of the National Roads Authority. Shankill 6 was excavated between the 11 and 16 November 2007 with a team of one director and five assistant archaeologists.

## 1.2 The Development

For the purposes of construction, the N9/N10 Kilcullen to Waterford Road Scheme has been divided into separate sections, known as Phases 1–4. Phase 2 of the scheme extends from the tie-in to the Waterford City Bypass at Dunkitt, to Knocktopher in Co. Kilkenny (Ch. 2+000–Ch. 25+400). Phase 4 continues from Knocktopher to Powerstown in Co. Carlow (Ch. 25+400–Ch. 76+000) and includes the Kilkenny Link Road.

The roadway of the entire scheme includes approximately 64km of mainline high quality dual carriageway and 6.2km of the Kilkenny Link Road, which will connect the road development to the Kilkenny Ring Road Extension. The road development requires the realignment and modification of existing national, regional and local roads where the mainline intersects them. It requires the acquisition of 305 hectares of land for its construction. A further link road will connect the scheme to Paulstown in County Kilkenny, while six new grade separated junctions and three roundabouts are part of the road development.

## 1.3 Archaeological Requirements

The archaeological requirements for the N9/N10 Kilcullen to Waterford Road Scheme, Phase 4: Knocktopher to Powerstown, are outlined in the Archaeological Directions issued to Kilkenny County Council by the Minister for Environment, Heritage and Local Government under Section 14A (2) of the National Monuments Acts 1930–2004 and in the terms of the contract between Kilkenny County Council and Irish Archaeological Consultancy Ltd. These instructions form the basis of all archaeological works undertaken for this development. The archaeological excavation works under this contract are located between the townlands of Knocktopher, Co. Kilkenny, and Powerstown, Co. Carlow.

The proposed N9/N10 was subjected to an Environmental Impact Assessment, the archaeology and cultural history section of which was carried out by Valerie J. Keeley Ltd and published in February 2005. The Record of Monuments and Places, the Site Monument Record, Topographical files, aerial photography, the Kilkenny and Carlow County Archaeological Urban Survey, and literary sources were all consulted. Two phases of geophysical survey were also conducted by Target (post-EIS geophysics carried out by ArchaeoPhysica) and an aerial survey was carried out by Margaret Gowen & Co. Ltd. As a result of the paper survey, field inspections and geophysical

survey, 35 sites were recorded in proximity to this section of the overall route alignment.

A previous archaeological assessment of Phase 2 of the scheme (test trenching conducted by Margaret Gowen & Co. Ltd. in 2006) extended into the lands acquired for Phase 4 to a point at Ch. 37+100 in the townland of Rathclogh, Co. Kilkenny. Thirty-four archaeological sites were identified within this area between Knocktopher and Rathclogh and subsequently excavated by Irish Archaeological Consultancy Ltd. as part of this archaeological contract.

Advance archaeological testing of the area between Rathclogh (Ch. 37+100) and Powerstown (Ch. 76+000) was completed by IAC during March–May 2007 and excavation of the sites identified during this process was also conducted by IAC between August 2007 and April 2008.

#### **1.4 Methodology**

The methodology adopted was in accordance with the approved Method Statement. The topsoil was removed to the interface between natural and topsoil using a 20 tonne mechanical excavator equipped with a flat toothless bucket under strict archaeological supervision. The remaining topsoil was removed by the archaeological team with the use of shovels, hoes and trowels in order to expose and identify the archaeological remains. A site grid was set up at 10m intervals and was subsequently calibrated to the national grid using GPS survey equipment.

All archaeological features were fully excavated by hand and recorded on *pro forma* record sheets using a single context recording system best suited to rural environment, with multi context plans and sections being recorded at a scale of 1:50, 1:20 or 1:10 as appropriate.

A complete photographic record was maintained throughout the excavation. Digital photographs were taken of all features and of work in progress.

An environmental strategy was devised at the beginning of the excavation based on IAC in-house post-excavation and site methodologies and guidelines. Features exhibiting large amounts of carbonised material were the primary targets.

No artefacts were uncovered on site. All archive is currently stored in IAC's facility in Lismore, Co Waterford and will ultimately be deposited with the National Museum of Ireland.

All excavation and post excavation works were carried out in accordance with the relevant approvals and in consultation and agreement with the National Roads Authority (NRA) Project Archaeologist, the National Monuments Section of the DoEHLG and the National Museum of Ireland. Where necessary licences to alter and export archaeological objects were sought from the National Museum of Ireland.

References to other sites excavated as part of the N9/N10 Phase 4: Knocktopher to Powerstown are referenced throughout this report only by their site name e.g. Paulstown 1. A list of these sites and details including director's name and National Monuments Excavation Reference Number can be referenced in Appendix 4.

#### **Final Report Date Ranges**

The following date ranges for Irish prehistory and medieval periods are used for all final reports for the N9/N10 Phase 4: Knocktopher to Powerstown excavations.

Mesolithic: 7000–4000 BC

Neolithic: 4000–2500 BC

Early Bronze Age: 2500–1700 BC

Middle Bronze Age: 1700–1200 BC

Late Bronze Age: 1200–800 BC

Iron Age: 800 BC–AD 500

Early medieval period: AD 500–1100

Medieval period: AD 1100–1600

Post-medieval: AD 1600–1800

*Source:*

Carlin, N., Clarke, L. & Walsh, F. 2008 *The M4 Kinnegad-Enfield-Kilcock Motorway: The Archaeology of Life and Death on the Boyne Floodplain*. NRA Monograph Series No. 2, Wordwell, Bray.

## 2 EXCAVATION RESULTS

This site was located on flat, well-drained pastureland. The surrounding landscape was generally flat and there were views of the countryside in all directions. It was adjacent to the Carlow-Kilkenny county border. There were low-lying hills to the north-west and west. The Blackstairs Mountains were prominent on the horizon to the east and south-east, and the peak of Mount Leinster was also apparent. Shankill 5 is located c. 150m to the south and Moanmore 1 is located c. 200m to the north. There was a number of recorded monuments situated close-by. A hearth (KK016-002) is located c. 650m to the south-west, a ringfort (KK016-004) is located c. 800m to the south and a *fulacht fiadh* (KK015-014) is located c. 550m to the north of this site.

### 2.1 PHASE 1 Natural Drift Geology

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C2	N/A				Boulder clay	Subsoil

The boulder clay subsoil in this area was undulating and covered over by yellowish brown redeposited silts.

### 2.2 PHASE 2 Possible Bronze Age Activity

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C3	N/A	1.7	1.24	0.16	Soft black clayey silt	Deposit
C4	N/A	1.5	0.7	0.25	Firm light greyish/brown silty clay	Deposit
C5	N/A	0.34	0.3	0.1	Soft dark grey clayey silt	Deposit
C6	N/A	3	1.2	0.11	Fairly loose mid-reddish/brown clayey silt	Deposit
C7	N/A	1.5	0.7	0.25	Firm light brown clayey silt	Deposit

**Finds:** None

The site consisted of four small spreads of archaeological material in secondary contexts (Figure 4). The most obvious was C3, a black clayey silt deposit resting in a natural undulation. It contained a moderate amount of small heat-shattered stones and charcoal (Plates 1–2). Deposits C4 and C7 contained charcoal-rich material mixed with stones. It is interpreted that these represent a variation in one single deposit as a slight difference in colour was noted, rather than two separate deposits. Deposit C5 consisted of clayey silt with frequent charcoal inclusions. Deposit C6 contained burnt stones without any charcoal inclusions.

It is possible that the deposits are associated with a nearby site at Moanmore 1 c. 200m to the north where three separate burnt mounds and associated troughs that were excavated date to the late Bronze Age, or Shankill 5 to the south where a medieval date was returned from a complex of pits. The location of the site beside a stream suggests it could be associated with a nearby burnt mound probably to the west of the site extents.

### 2.3 PHASE 3 Topsoil and Plough Soil

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C1	N/A			0.3	Dark brown clayey silt	Topsoil

**Finds:** None

The topsoil was a dark brown clayey silt.

### 3 SYNTHESIS

The synthesis presents the combined results of all of the archaeological analysis carried out at Shankill 6. This includes the analysis of the physical and archaeological landscape, the compilation of information gathered during research into the site type, date, and function, and the results of the excavation and specialist analysis of samples taken during the course of on-site works.

#### 3.1 Landscape Setting

##### 3.1.1 The General Landscape – compiled by Michelle Brick

The topography of the region through which the route passes is generally flat with an average height of 70m O.D. The southern periphery of the route is bordered by Kilmacoliver (261m) and Carricktriss Gorse (314m), with Slevenamon (721m) further west. The Slieveardagh hills (340m) are visible on the western horizon in the south of the route and with the exception of Knockadrina Hill (140m), the enclosed landscape is made up of minor undulations. In the centre of the route Freestone Hill (130m) and Knocknagappoge (334m) further north are the significant uplands. A number of hills and mountains are visible in the distance to the east and west of this area of the landscape but the topography remains generally flat. To the north the Castlecomer Plateau influences a rise in the overall topography of the region. This expanse of terrain stretches along the north-east margins of Kilkenny, crosses the county border into Carlow and stretches northwards into Laois. This plateau consists of a variety of hills and peaks including Mountnugent Upper (334m), Baunreagh (310m), Knockbaun (296m), Brennan's Hill (326m) and Fossy Mountain (330m). These hills contain seams of anthracite coal as a result of millions of years of compression, and consequently Shales and Sandstones were formed which are evident throughout the plateau. Mining in the region began in the 17<sup>th</sup> century, continued for over 300 years and it is for what Castlecomer is best known. According to the Environmental Protection Agency soil maps of Ireland, the underlying bedrock of the entire region primarily consists of Carboniferous Limestone. However there is also a small amount of surface bedrock, sands, gravels, shales and sandstone Tills present along the route. The soil cover of the region is primarily composed of Grey Brown Podzolics, Renzinas and Lithosols. Additional soil types also present along the route include Brown Earths, surface Water Gleys and Ground Water Gleys.

The prevailing water courses within the landscape of the N9/N10 Phase 4 are the Rivers Nore and Barrow. The River Nore rises on the east slopes of the Devil's Bit in Co. Tipperary and flows eastwards through Borris-in-Ossory and then south through Co. Kilkenny, passing through the towns of Durrow (Laois), Ballyragget, Kilkenny, Bennettsbridge and Thomastown to join the River Barrow upstream of New Ross, Co. Wexford. It is 140 kilometres long and drains a total catchment of 1572 square kilometers and runs through the central and southern sections of the route. In the south of the route three main tributaries of the River Nore are evident. The Kings River flows east through Callan and Kells. It is joined by the River Glory which meanders on a north-south axis towards the western margins of the route landscape and the Little Arrigle River flows along the southern fringes. These rivers are flanked by low-lying valleys that are characterised by wet, marshy land. The condition of the soil improves further north beyond the King's River where the influence of these waterways declines. In the northern area of the route the River Dinin is a tributary of the River Nore flowing south-west from Brennan's Hill through the Castlecomer Plateau. The Plateau is the tableland that is the watershed between the Rivers Nore and Barrow (Lyng 1984). The River Barrow is the second longest river (193 kilometres) in Ireland after the River Shannon. It rises in the Slieve Bloom Mountains in Co Laois and flows east across bogs and lowlands and then turns south into the lowland immediately east of the Castlecomer Plateau. It passes through

Portarlinton, Athy, Carlow, and Graiguenamanagh and runs through northern section of the route. It is joined by the River Nore at New Ross. The Maudlin River is the notable tributary of the River Barrow within the landscape of the route and flows east from Old Leighlin, with minor tributaries of it flowing through Bannagagole. There are also streams and minor watercourses present throughout the entire landscape and these waterways would have been a valuable resource to past communities and would also have had a major influence on settlement and the surrounding land use.

The physical landscape through which the N9/N10 Phase 4 passes can be divided into three principal areas defined by the main rivers and their catchments. The southern area is located in the undulating landscape on the western flanks of the Nore Valley. The central area is dominated by the fertile watershed between the Barrow and Nore systems in the hinterland of Kilkenny City. The northern area is located on the western flanks of the Barrow Valley overlooked by uplands to the north and west. Shankill 6 is located in the northern landscape area.

### **3.1.2 The Northern Landscape**

The northern landscape of the N9/N10 crosses the border from Kilkenny into Carlow and traverses the western side of the River Barrow; the Blackstairs Mountains, which are of granite formation, are located to the east of the Barrow. It includes 50 sites discovered during the Phase 4 excavations stretching from Rathcash 1 northwards to Tomard Lower 1. This northern landscape is overlooked to the west by the Castlecomer Plateau, and the excavated sites are all situated on contours of 50–100m OD. From the south-west of the Barrow, and encroaching into the northern landscape, the underlying limestone is dolomitized and consequently the permeability has been increased. The glacial drift comprises slightly sandy (20–60%) slightly gravely clays with a moisture content of 10–20%. There is therefore significantly less sand but higher moisture content than in the southern and central landscapes. This moisture occurs in the wetter deposits in the top 1–2m before ground level in localised areas with silty sand and gravel lenses indicating a high water table. To the east of the River Barrow, localised silty, laminated clays and peat occur. Soft ground was noted in the river's floodplain. The area is also classified as a minor aquifer in the Kilkenny Groundwater Protection Scheme (Buckley & Fitzsimmons, 2002) due to these thick sand and gravel deposits. Progressing northwards, the views become more expansive, and the rising high ground of the Castlecomer Plateau (50–300m OD) bounds the distant landscape. This plateau consists of a variety of hills and peaks, which contain seams of anthracite, the focus of coal mining in the region from the 17<sup>th</sup> century. The Blackstairs Mountains (735m) are visible on the horizon to the south-east, and most obvious of these is the peak of Mount Leinster (795m). There are impressive views from these plateaus and hills especially to the south, east and west over the Barrow and Nore Valleys.

The prevailing watercourse of this region is the River Barrow which travels north-south through the landscape. The Maudlin River is a tributary of the River Barrow and flows from the west through Old Leighlin; minor tributaries of this river flow through Bannagagole, directly north of Moanmore, and the River Dinin is a tributary of the River Nore which travels south-west from Brennan's Hill through the Castlecomer Plateau. The suffix 'comer' signifies a meeting of the rivers; it also signifies any deep gripe, such, for instance, as the channel formed by a mountain stream (Carrigan 1905). From the hinterland of Kilkenny and the confluence of the Nore and Barrow the Monefelim River contributes to the occurrence of wet grassland and broadleaf woodland. The narrow tributaries of the River Barrow, including the Monefelim River, as well as the Maudlin River, flow from the higher, steep, escarpment located to the west. Subsoils in this area consist of undifferentiated alluvium and soils of mineral alluvium. The route crosses into County Carlow where at Moanmore (meaning 'great



bog') a variety of archaeological features have been recorded. At the most northerly point of the N9/N10 the land is again characterised by its views; here they include the Barrow Valley, Mount Leinster, Brandon Hill, and the Blackstairs Mountains.

### **3.1.3 Site Specific Landscape**

This site was located on flat, well-drained pastureland. The surrounding landscape was generally flat and there were views of the countryside in all directions. It was adjacent to the Carlow–Kilkenny county border. There were low-lying hills to the north-west and west. The Blackstairs Mountains were prominent on the horizon to the east and south-east, and the peak of Mount Leinster was also apparent. Shankill 5 is located c. 150m to the south and Moanmore 1 is located c. 200m to the north. There was a number of recorded monuments situated close-by. The site is adjacent to a small stream to the north of the site which drained into the River Barrow system.

## **3.2 The Archaeological Landscape**

As part of the general research relating to sites along the scheme and the specific research relating to Shankill 6, the known archaeology within the surrounding landscape was assessed in order to establish the level and type of activity in the surrounding area in the past. This included a review of information from the Record of Monuments and Places, previous excavations and other relevant documentary sources including mapping and other sites excavated as part of the N9/N10 Phase 4 scheme. The excavated archaeology at Shankill 6 is undated but contains evidence of burnt mound activity which is generally identified as being Bronze Age in date.

### **3.2.1 The General Bronze Age Landscape of the Scheme – compiled by Michelle Brick**

The archaeological record implies that the Irish Bronze Age (2500–800BC) population dramatically increased from that of the Neolithic and the evidence for permanent settlements with considerable longevity becomes much more substantial. In addition, a wide range of ritual and funerary activity associated with this settlement is apparent. The overall environmental record for Ireland suggests that there was a general climatic deterioration in the Bronze Age, bringing wetter, colder conditions; during this period there was also accelerated forest clearance with more intensive habitation in the drier lowlands. As a result of extensive development-led projects across the country, understanding of settlement and burial patterns from the early Bronze Age has greatly developed. The distribution of the prehistoric evidence shows that the Rivers Nore and Barrow provided a focus for settlement. In the central part of the current portion of the N9/N10 Phase 4 the fertile Kilkenny lowlands have produced some Bronze Age archaeology, particularly in Danesfort and Ennisnag townlands. In the northern part of the scheme intense settlement is indicated by both burnt mounds and barrows existing on the uplands of the Castlecomer Plateau and the flanking valleys of the Nore and Suir. Hillforts appear to be positioned to overlook the settlement activity, as well as the route of the Nore, the lower saddle to the north of the Slieveardagh Hills, and to the south of the spur surmounted by Clonmantagh. A considerable number of ringditches, cremation and inhumation burials (single and grouped), burnt mound sites, structures and domestic settlement evidence, have been recorded as part of the Bronze Age on the N9/N10 Phase 4.

In the southern landscape the exposure of domestic Bronze Age settlement was less forthcoming than that of the northern landscape. There was little direct evidence for structures in the southern and central landscapes with the exception of a cluster of structures in the Danesfort area. Instead most of the settlement activity that fell within the roadtake was noted in the northern landscape, further to the north of Kilkenny and in Carlow. Ritual and burial is a dominant feature of the Bronze Age in Kilkenny and Carlow as indicated by the presence of flat cemeteries, burial cairns, ringditches,

mounds, barrows and hillforts throughout these counties. Freestone Hill situated in Coolgrange, Co. Kilkenny, in the centre of the present landscape is just one example of these sites. Along the lower part of the Nore Valley, and concentrated in the Foulksrath and Jenkinstown areas, the landscape is dominated by barrows (in this case more specifically ringditches). The contrasting locations of these site types most probably relate to differential landscape exploitation by the same communities with some activities, possibly associated with the seasonal use of upland pasture, confined to higher terrain and settlement and funerary activity taking place in the more sheltered lowlands.

The significant number of burnt mound sites discovered due to the N9/N10 excavations, combined with the previously known examples in the RMP reinforces the concept that Bronze Age activity in Kilkenny and Carlow was considerable. A total of 36 sites with evidence for burnt mound activity were uncovered during the N9/N10 excavations, with an additional example discovered, and preserved outside, the roadtake. The burnt mounds are focussed in the upland area, especially along the river and stream valleys, such as at Clashduff, Coan West and Muckalee on the Dinin and Douglas Rivers, and in the upland hinterland of Freestone Hill.

The distribution of the prehistoric evidence shows that the Rivers Nore and Barrow provided a focus for Bronze Age settlement. The patterning of human activity in the region indicates that these were also the principal route-ways in prehistory; both were navigable by small craft but they, and the major tributaries of the Nore - the Dinin and King's Rivers - were also conspicuous landscape features that facilitated accurate navigation through this landscape. The Barrow and Nore also provided access to wider networks beyond the region.

### **The Northern Landscape: Domestic Settlement**

The domestic settlement evidence from the landscape along the northern sections of Kilkenny and the border with Carlow can be characterised by multi-period sites, such as at Moanduff 2–3, and by clusters of activity represented by multiple burnt mound sites and several, possibly associated, structures. This part of the Barrow is overlooked by the hillforts at Freestone Hill (KK020-018002) (Coolgrange), Ballinkillin (CW019-027) and Killloughternane (CW019-065). However, the distinct clustering of the Paulstown area sites suggests the existence of a community separate to that in the immediate vicinity of Freestone Hill although it is probable that the hillforts reflect a wider landscape control system involving co-operation or alliance between a number of communities in the Kilkenny region. In addition to the indirect evidence in the form of burnt mounds and cultural deposits in pits, several structures, of typical Bronze Age morphology, were recovered. At Garryduff 1 an external ring of 37 postholes and stakeholes was positioned in a shallow, curving slot-trench and enclosed an area 11m in diameter with an inner ring of 10 larger postholes (7m diameter). This structure was located on the edge of a break of slope, which led down to an adjacent river. Other features on site may represent a possible grain stand and pits for food storage/rubbish. In the south-western corner of the site a curving arc (12m long) of 18 postholes and stakeholes was identified which may continue beyond the site. Six kilometres to the north of Garryduff 1 was an oval-shaped structure at Shankill 4. This was most likely a hut (4m x 3m) and consisted of postholes, stakeholes, an internal hearth, and outlying pits. An arc of stakeholes measuring 3m by 2.5m on its north side might have formed an entrance porch. Sherds from at least one domestic cordoned urn came from the site. A roundhouse at Moanmore 2 consisted of 14 postholes, a central hearth, and up to 50 associated stakeholes and postholes.

As well as two rectangular Neolithic structures at Moanduff 2–3 there were four, or possibly five, separate areas of Bronze Age activity identified. As the features representing this activity were heavily truncated it is impossible to identify their exact function however some may represent Bronze Age structures. A middle–late Bronze Age enclosure (180m x 160m) and late Bronze Age activity in the form of troughs with burnt clay and stone were also excavated on site. At Coneykeare 1 two very tentative structures were identified by the director and a fifth concentration of activity, incorporating burnt mounds and settlement activity; was noted at Coolnakisha 1. A five post, L-shaped possible temporary structure at Coolnakisha 1 was identified along with two pits containing burnt bone and a moderate amount of charcoal and flint. A spread, also containing a moderate amount of charcoal, burnt bone, flint and heat-shattered stones was located to the north-west of the possible structure. It is most likely that the burnt bone deposits within the features on this site are domestic in nature.

### **The Northern Landscape; Funerary and Ritual activity**

Funerary evidence is represented by ringditches at Kellymount 5 and Paulstown 1 and simple pit cremations also at Paulstown 1. Evidence of the Bronze Age is present at Croan (Aghaviller Parish); where a food vessel was discovered, and also at Cruttenclough; where artefacts of amber, gold and bronze were found; there were 14 gold beads discovered with varying decoration together with graduated amber beads (Lyng 1984). The find circumstances of these artefacts is unknown however similar artefacts in the form of a necklace were discovered at Tara, around the neck of an adolescent male, buried in a pit (Herity and Eogan 1977) and it is likely that the Cruttenclough finds came from a similar burial context. They indicate trading links with Europe and a bronze sunflower pin was also discovered in this townland, which is of late Bronze Age type (Lyng 1984; Eogan 1974a, 87) and originally had a gold foil covering. Other material demonstrating a late Bronze Age presence in the area includes the large hoard from Ballytegan, Co. Laois (Eogan 1983); this contained three sunflower (two covered in gold foil) and one disc-headed pin, two socketed axes, a bracelet of twisted strands and a variety of both solid and hollow bronze rings. The rings are characteristic of Eogan's (1974b; 1993) midland province and this hoard demonstrates ritual activity in the region. Early Bronze Age activity is also evident in the adjacent area of Co. Carlow on the east side of the River Barrow. A cist burial at Killinane contained cremated bone and an upright tripartite bowl food vessel (Moore 1984). Similar discoveries were also found close by in Sliguff and Wells; both townlands are located in west Carlow along the Kilkenny border close to the landscape of the present scheme. The Sliguff cist contained a crouched inhumation that was accompanied by a bowl while the pit cemetery at Baunogenasraid was inserted into the mound of the earlier Linkardstown tomb (Raftery 1974). A large cemetery mound at Ballon Hill was discovered in the 19th century, which revealed a large assemblage of vases and collared urns in both pit and cist burials (Waddell 1990, 51–53).

Six of the sites in this northern landscape of the N9/N10 Phase 4 had evidence for prehistoric funerary activity which was represented by barrows, ringditches, cists and cremation deposits at Rathcash East 1, Garryduff 1, Paulstown 1–2, Kellymount 5, and Coolnakisha 1–2. This evidence broadens the funerary landscape of the Bronze Age in this region. A possible ringditch was recorded at Rathcash East 1. It was formed by two very shallow curvilinear cuts creating a circle with a diameter of 6m and potential openings or entrances (1.45m wide) mirroring one another on the south-east and north-west sides. Nearby activity included a hearth and possible refuse pit. It is possible that this domestic activity was related to funerary practices associated with the ringditch; however, it is perhaps more plausible that, given the lack of associated

burial activity (although the enclosed area had been truncated) and the occurrence of two entrances, the ringditch in fact represents a domestic structure.

At Garryduff 1 two unroofed structures, both comprising arcs of post- and stakeholes, may have been associated with a large, northwest–southeast pit (2m x 1.3m x 0.16m) located close to Structure 1. This pit contained a charcoal-rich deposit with burnt bone, heat-cracked stones and charred hazelnuts which had been deliberately deposited. Three postholes also containing similar material in their fills were arranged around the pit and a definite concentration of burnt bone was noted in this area of the site. It is possible that this pit and the adjacent postholes represent the remains of a draught pit for a pyre with the postholes at either side being used to stabilise the pyre structure for the duration of the process. Two cremation pits were located outside the enclosure which contained quite large chunks of human bone and possible pyre material.

The cemetery complex at Paulstown 1 consisted of both pit and cist burials. Three small cists (averaging 0.6m by 0.32m by 0.16m internally) were made expediently with slabs and blocks of local stone. Three other pits were less formally lined with stone. Each contained cremations but one cist produced two discrete deposits. Three other grave pits formed part of the cemetery. In one of these pits an unburnt human skull was placed on top of a washed cremation deposit. Several burials were accompanied by ceramic gravegoods. These gravegoods included burnt sherds from bipartite vases, a miniature cordoned urn and a miniature vase; a burnt flint scraper as well as charred seeds and hazelnuts also came from one of the cists. The largest grave at Paulstown consisted of a large pit or pits. This contained a complex sequence of deposition which appears to have begun with a circular pit which contained an inverted vase; this was disturbed by the insertion of Vessel 1, another inverted vase which survived intact. A miniature vase (No. 6) may have accompanied one of these burials. Subsequently, a second larger pit extended the grave to the south. The fragmentary remains of three pots (No.s 3–5) were deposited on the base of this pit and a large cremation deposit was placed over them. This deposit contained sherds from Vessels 5 and 6 as did a final silty fill. The evidence suggests that the grave was extended to accommodate burials disturbed from other graves. A large circular pit occurred on the edge of the cemetery (1.55m by 1.48m by 0.80m deep). This had originally been maintained as an open feature that filled naturally with water. Subsequently, a complex sequence of layers containing charcoal, burnt and unburnt bone, charred hazelnut shells and seeds, antler and flint (including flakes, blades and debitage), developed or was deposited in the pit. The proximity of this feature, which appears to have been a well, suggests that it was associated with the funerary activity on the site.

A double ringditch was identified at Kellymount 5. The external ringditch (12m diameter x 1.04m deep) was lined with a spread of burnt mound material, possibly relating to the earlier use of the site as a burnt mound complex. The only artefacts in this external ringditch consisted of three Bronze Age pottery sherds. The internal ringditch (5.6m diameter x 0.2m deep) was situated centrally within the external ringditch and also contained heat-shattered stones in its fills. A central pit had burnt bone inclusions. A further two pits were located to the south of the ringditches and both contained burnt bone inclusions. A substantial part of a vase urn came from one of the troughs associated with the burnt mound complex; while this may be derived from the funerary activity it is evident that the vessel had been used in a domestic context and may have been a deliberate deposit in the base of the trough.

Evidence for funerary activity was also excavated at Coolnakisha 2, where one pit (0.33m x 0.26m x 0.13m) contained 25.5g of charcoal, 0.1g of charred seeds and

390.3g of burnt bone. Other pits and possible pits and spreads also contained burnt bone inclusions, although in much smaller quantities. Both sites produced small quantities of probably middle Bronze Age pottery while residual Neolithic material in the form of three flint scrapers came from Coolnakisha 1.

It is therefore apparent that the central, northern part of Kilkenny contained the most varied evidence for burial and funerary activity. As the N9/N10 progresses northwards sites with a probable continuity of function and chronology emerge: from the Danesfort complex near the King's River to the varied ringditches and cremations at Templemartin 5 and the amalgamation of ritual and burial at Paulstown 1–2.

### **The Northern Landscape; Burnt Mound Activity**

The evidence from the northern landscape was dominated by clusters of burnt mounds and reinforces the patterning already indicated by the previously known archaeological record. Several previously identified burnt mounds were recorded in Cloghoge (KK020-039, KK020-075–076), Rathcash West (KK020-077–078), Shankill (KK016-003, KK016-010) and at Moanmore (meaning 'great bog') (CW015-007, CW015-014). Twenty seven sites with evidence of burnt mound activity were uncovered as part of the N9/N10 Phase 4 excavations within the northern landscape. The underlying limestone geology/glacial drift consisted of sandy/gravel-clays which have a higher moisture content than the southern and central landscapes resulting in a high water table in localised areas. This helps explain the presence of the considerably sized waterholes at these burnt mound sites, notably within the Jordanstown and Kellymount cluster (Jordanstown 2&3 and Kellymount 1–3, 5&6). Other clusters of burnt mound activity in the northern landscape occurred at Ballyquirk 1,2&4, Moanmore 1&3, Moanduff 1,2&3, Rathcash 1&2, Blanchevillespark 2,3&4 and Cranavonane 1&2. Other sites exhibiting burnt mound activity include Shankill 6, Bannagagole 1, Rathcash East 2, Tomard Lower 1 and Ballinvalley 1. Due to the poor on-site conditions the sites at Cranavonane 2 and Blanchevillespark 2 were not fully resolved but were identified as burnt mounds. Burnt mounds were not excavated at Kellymount 1, Moanduff 2&3, Ballyquirk 1 and Ballinvalley 1; however features associated with burnt mound activity were recovered and excavated at these sites indicating a clear association with this type of activity.

### **The Northern Landscape; Route-ways and communications**

While it is clear that the rivers and streams are a major feature of the settlement networks, the distribution of prehistoric activity, for example on the lowland fringes to the south of the Castlecomer Plateau, shows that other route-ways were functioning at both a local and regional scale. Within these network systems it is possible to identify particular concentrations of human activity. Some of these were already important in the early Neolithic while others became prominent only in the Bronze Age. Among the most significant of these are those in the area around Carlow, on the upper Barrow and its tributary, the Burren River, which the archaeological work on the Carlow Bypass has highlighted (Dunne 2007). To the south of this, the eastern side of the Barrow in the Goresbridge area formed the core of a settlement zone that in the Bronze Age extended westwards across the river into the Paulstown area of Co. Kilkenny. The immediate environs of Kilkenny City also appear in the Bronze Age as a settlement focus, underlined as a result of the N9/N10 excavations, while the southern end of the Castlecomer Plateau, with the major focal site on Freestone Hill, has been highlighted by the discovery of new sites on the lowlands immediately to the south around Rathcash.

### **The Northern Landscape; Conclusions**

In the northern part of the region, focussed on the uplands of the Castlecomer Plateau and the flanking valleys of the Nore and Suir, intense settlement is indicated

by both burnt mounds and barrows. The burnt mounds are focussed in the upland area and especially along the river and stream valleys, such as at Clashduff, Coan West and Muckalee on the Dinin and Douglas Rivers, and in the upland hinterland of Freestone Hill. Along the lower part of the Nore Valley, and concentrated in the Foulksrath and Jenkinstown areas, the landscape is dominated by barrows (in this case more specifically ringditches). The contrasting locations of these site types most probably relate to differential landscape exploitation by the same communities with some activities, possibly associated with the seasonal use of upland pasture, confined to higher terrain and settlement and funerary activity taking place in the more sheltered lowlands. The large number of burnt mounds discovered on the lowland fringe to the east of the plateau, along the Barrow Valley, shows the development of intensive settlement throughout the northern part of the region. In this area the hillforts appear to be positioned to overlook the settlement landscape.

### 3.2.2 The Site Specific Archaeological Landscape of site Shankill 6

There are no previously recorded monuments dating to the prehistoric period in the vicinity of Shankill 6. The site of a *fulacht fiadh* (CW015-014) is recorded c. 600m to the north and the site of a ringfort (CW015-016) is recorded c. 1.25km to the north-east. Ringforts (KK016-005&007) are also recorded c. 1.1km to the south-east and c. 800m to the south. A *fulacht fiadh* site (KK016-003) is also recorded c. 850m to the south-west and a settlement hearth site (KK016-002) is recorded c. 500m to the south-west of Shankill 6.

At Shankill 6 four undated small spreads/deposits were excavated at this site. They were the remnants of burnt mound material but no features associated with this type of monument were found and the material appeared to have washed into the area and had silted up in naturally formed depressions. A number of sites were excavated to the NNE of Shankill 6, as part of the N9/N10 Phase 4: Knocktopher to Powerstown works. Moanmore 1 was located c. 200m to the NNE and a burnt mound complex consisting of three troughs, an area of burning, a pit, and a series of stakeholes dating to the late Bronze Age was excavated. Further to the NNE, at Moanmore 2, located c. 1.05km from Shankill 6, two circular structures and associated features dating to the middle Bronze Age period were excavated. At Moanmore 3, located c. 1.45km to the NNE, burnt mound activity dating to the early Bronze Age was identified at this site.

A number of sites were also excavated to the SSW of Shankill 6, as part of the N9/N10 Phase 4: Knocktopher to Powerstown works. At Shankill 5, located c. 80m to the SSW, the remnants of a structure, comprising two parallel slot-trenches was excavated. The slot-trenches may have served as an entrance porch to a larger structure, no longer extant, or may have been part of a small platform unrelated to a habitation dwelling. A nearby group of four shallow postholes may have formed a similar structure. A large stone-filled pit and three other shallow pits, one of which has been dated to the early Iron Age period, four stakeholes and a pit filled with hearth waste which has dated to the medieval period were the only other features of note on the site. It is likely that this site had a number of occupation phases as a stone axe was recovered during the cleaning back of the site ahead of its excavation and one sherd of Beaker pottery was recovered from topsoil. Shankill 4 was located c. 300m away and an oval prehistoric hut structure made up of postholes and stakeholes and a few shallow outlying pits was excavated. An arc of stakeholes on its north side might have formed a separate sheltered space. The structure was partially covered by an occupation deposit. One of the outlying pits contained heat-shattered stones and the site therefore may have been a campsite linked to burnt mound activity. Sherds of middle Bronze Age pottery were recovered from the site and the site has

been dated to the early Bronze Age period. Shankill 3 was located c. 750m away and an undated shallow pit/hearth containing three fills was excavated at this site.

### 3.3 Typological Background of Burnt Mounds

Burnt mound sites (also commonly referred to as *fulacht fiadh*) are one of the most common field monuments found in the Irish landscape. The last published survey (Power *et al.* 1997), carried out over a decade ago, recorded over 7,000 burnt mound sites and in excess of 1,000 sites have been excavated in recent years through development led archaeological investigations. In spite of this no clear understanding of the precise function of these sites has been forthcoming.

Burnt mound sites are typically located in areas where there is a readily available water source, often in proximity to a river or stream or in places with a high water table. In the field burnt mounds may be identified as charcoal-rich mounds or spreads of heat shattered stones, however, in many cases the sites have been disturbed by later agricultural activity and are no longer visible on the field surface. Nevertheless even disturbed spreads of burnt mound material often preserves the underlying associated features, such as troughs, pits and gullies, intact.

Ó Néill (2003–2004, 82) has aptly identified these sites as the apparatus and by-product of pyrolithic technology. This technology involved the heating or boiling of water by placing fire-heated stones into troughs of water. Small shallow round-bottomed pits, generally referred to as pot boiler pits or roasting pits, are often associated with burnt mound sites. The purpose of these pits remains unclear. Occasionally large pits are also identified and may have acted as wells or cisterns. Linear gullies may extend across the site, often linked to troughs and pits, and demonstrate a concern with on-site water management. Post and stakeholes are often found on burnt mound sites and these may represent the remains of small structures or wind breakers.

Burnt mound sites are principally Bronze Age monuments and reach their pinnacle of use in the middle/late Bronze Age (Brindley *et al.* 1989–90; Corlett 1997). Earlier sites, such as Enniscoffey Co. Westmeath (Grogan *et al.* 2007, 96), have been dated to the Neolithic and later sites, such as Peter Street, Co. Waterford (Walsh 1990, 47), have been dated to the medieval period. Thus although burnt mound sites generally form a component of the Bronze Age landscape, the use of pyrolithic technology has a long history in Ireland.

Although there is a general consensus that burnt mound sites are the result of pyrolithic technology for the heating or boiling of water, the precise function of these sites has, to date, not been agreed upon. Several theories have been proposed but no single theory has received unanimous support. The most enduring theory is that burnt mound sites were used as cooking sites. O'Kelly (1954) and Lawless (1990) have demonstrated how joints of meat could be efficiently cooked in trough of boiling water. The use of burnt mound sites for bathing or as saunas has been suggested as an alternative function (Lucas 1965, Barfield and Hodder 1987, O' Drisceoil 1988). This proposal is largely influenced by references in the early Irish literature to sites of a similar character and is very difficult to prove, or disprove. Others, such as Jeffrey (1991), argue that they may have been centres of textile production for the fulling or dyeing of cloth. More recent demonstrations by Quinn and Moore (2007) have shown that troughs could have been used for brewing, however, this theory has been criticised by leading Irish environmentalists due to the absence of cereal remains from most burnt mound sites (McClatchie *et al.* 2007).

### **3.4 Summary of the Excavation Results**

The results of the excavation identified 4 small deposits in secondary contexts. It is possible that they are associated with an unidentified nearby disturbed burnt mound or with a substantial burnt mound complex at Moanmore 1, c. 200m to the north.



## **4 DISCUSSION AND CONCLUSIONS**

### **4.1 Discussion**

The landscape in the immediate vicinity of the site consists of relatively well drained pasture. Shankill 6 is located adjacent to a stream which forms part of the River Barrow system, so there would have been a suitable water source to supply any burnt mound type activity in the immediate vicinity.

The surrounding archaeological landscape shows evidence for activity in the Bronze Age with burnt mound activity apparent at Moanmore 1, but also at CW015-014 further to the north-west. It is likely that Shankill 6, although undated, is broadly contemporary with the activity at Moanmore 1, although some pits and gullies dated to the medieval period were identified 150m to the south at Shankill 5.

Small deposits of mound material can often be found in pits and are interpreted as “pot boilers”. The deposits at site Shankill 6 may be related to similar activity. The size of the deposits at Shankill 6 would be consistent with volumes associated generally with “pot boilers”, however there was no evidence of any pits or cut features associated with the burnt mound material so it is therefore more likely to have been dispersed from a larger mound. The dispersed nature of the mound material is commonplace on burnt mound sites, with post-medieval and modern agricultural practices such as ploughing generally levelling the mound material. It is possible that the fragmentary mound material at Shankill 6 represents disturbed material from a larger mound that may exist beyond the extents of the current site.

### **4.2 Conclusions**

The four deposits including heat-shattered and charcoal-rich material represented the possible remains of a ploughed-out burnt mound or material dispersed from a nearby mound. The site may comprise fragmentary remains, but it adds further evidence of past human activity to complement the more significant sites excavated along the N9/N10 Phase 4.

## 5 BIBLIOGRAPHY

### 5.1 References

Barfield, L. and Hodder, M. 1987 Burnt mounds as saunas, and the prehistory of bathing. *Antiquity* 61, 370–9.

Brindley, A. L. 1989–90 Radiocarbon dates from Irish *fulachta fiadh* and other burnt mounds. *Journal of Irish Archaeology* 5, 25–33.

Buckley, R. and Fitzsimmons, V. 2002 *Kilkenny Co Co Groundwater Protection Scheme*. Unpublished report for Kilkenny County Council.

Carlin, N., Clarke, L. & Walsh, F. 2008 *The M4 Kinnegad-Enfield-Kilcock Motorway: The Archaeology of Life and Death on the Boyne Floodplain*. NRA Monograph Series No. 2, Wordwell, Bray.

Carrigan, W. 1905 Parish of Castlecomer. *The History and Antiquities of the diocese of Ossary*, Vol. II. Dublin: Sealy, Bryers & Walker, 156–159

Corlett, C. 1997 A *fulacht fiadh* site at Moynagh Lough, County Meath. *Ríocht na Mídhe*, 9(3), 46–9.

Dunne, N. 2007 An exciting array of finds from the Carlow Bypass. *Seanda* 2, 64–66.

Eogan, G. 1974a Regionale gruppierungen in der Spätbronzezeit Irland, *Archaeologisches Korrespondenzblatt* 4, 319–27.

Eogan, G. 1974b Regionale Gruppierungen in der Spätbronzezeit Irlands. *Archäologisches Korrespondenzblatt* 4, 319–27.

Eogan, G. 1983 *Hoards of the Irish Later Bronze Age*, University College, Dublin.

Eogan, G. 1993 The Late Bronze Age. Customs, Crafts and Cults, in E. Shee Twohig and M. Ronayne (eds), *Past Perceptions: The Prehistoric Archaeology of South-West Ireland*, 121–33, University College, Cork.

Grogan, E., O' Donnell, L. and Johnstown, P. 2007 *The Bronze Age Landscapes of the Pipeline to the West*. Wordwell, Bray.

GSB Prospection Ltd 2003 *Geophysical Survey Report 2003/39, N9/N10 Kilcullen to Waterford – South: Powerstown to Waterford*.

Hamond, F. 1990 *An Industrial Archaeological Survey of County Kilkenny*. Kilkenny County Council Planning and Environment Section.

Herity, M. and Eogan, G. 1989 *Ireland in Prehistory*. Routledge, 158.

Jeffrey, S. 1991 'Burnt mounds, fulling and early textiles?', in M Hodder and L Barfield (eds), *Burnt Mounds and Hot Stone Technology*. Sandwell Metropolitan Borough Council, 97–102.

Jennings, R. 2007 *Report on Test Area 6, N9/N10 Kilcullen to Waterford Scheme, Phase 4: Knocktopher to Powerstown*. Unpublished report prepared for Irish Archaeological Consultancy Ltd.

Keeley, V. J. Ltd 2005 *N9/N10 Kilcullen to Waterford Scheme: Waterford to Powerstown. Environmental Impact Statement*. Chapter 17: Archaeology and Cultural Heritage, Chapter 18: Architectural Heritage.

Lawless, C. 1990 A Fulacht Fiadh Bronze Age cooking experiment at Turlough, Castlebar. *Cathair na Mart*, 10, 1–10.

Lucas, A. T. 1965 Washing and bathing in ancient Ireland. *Journal of the Royal Society of Antiquaries Ireland*, 96, 65–114.

Lyng, T. 1984 *Castlecomer Connections: Exploring History, Geography and Social Evolution in North Kilkenny Environs* 217, 387, 410–413

McClatchie, M., Brewer, A., Dillion, M., Johnston, P., Lyons, S., Monk, M., Stewart, K. and Timpany, S. 2007 Brewing and *fulachta fiadh*. *Archaeology Ireland* 21(4), 46.

Moore, F. 1984 A Bronze Age burial at Killinane, near Bagenalstown, Co. Carlow. *Old Kilkenny Review*, Vol. 3, No. 1. 64–8.

O' Drisceoil, D. A. 1988 Burnt mounds: cooking or bathing. *Antiquity* 62, 671–80.

O' Kelly, M. J. 1954 Excavations and experiments in ancient Irish cooking-places. *Journal of the Royal Society of Antiquaries Ireland*, 84, 105–55.

Ó Néill, J. 2003–2004 Lapidibus in igne calefactis coquebatur: The historical burnt mound 'tradition'. *The Journal of Irish Archaeology* 12–13, 79–85.

Power, D., Byren, E., Egan, U., Lane, S., and Sleeman, M. 1997 *Archaeological inventory of County Cork. Volume 3: Mid Cork*, The Office of Public Works, Dublin.

Quinn, B. and Moore, D. 2007 Ale, brewing and *fulachta fiadh*. *Archaeology Ireland* 83, 8–10.

Rafferty, B. 1974 A prehistoric burial mound at Baunogenasraid, Co. Carlow. *Proceedings of the Royal Irish Academy* 74, 12–14

Roseveare, M. and Roseveare, A. (ArchaeoPhysica Ltd) 2005 *N9/N10 Kilcullen to Waterford Scheme: Waterford to Powerstown Geophysical Survey Report*.

Waddell, J. 1990 *The Bronze Age Burials of Ireland*. Galway University Press, Galway, 51–53

Walsh, C 1990 'A Medieval Cooking Trough from Peter Street, Waterford', in V Buckley (ed.), *Burnt Offerings: International Contributions to Burnt Mound Archaeology*, 47–8. Dublin, Wordwell.

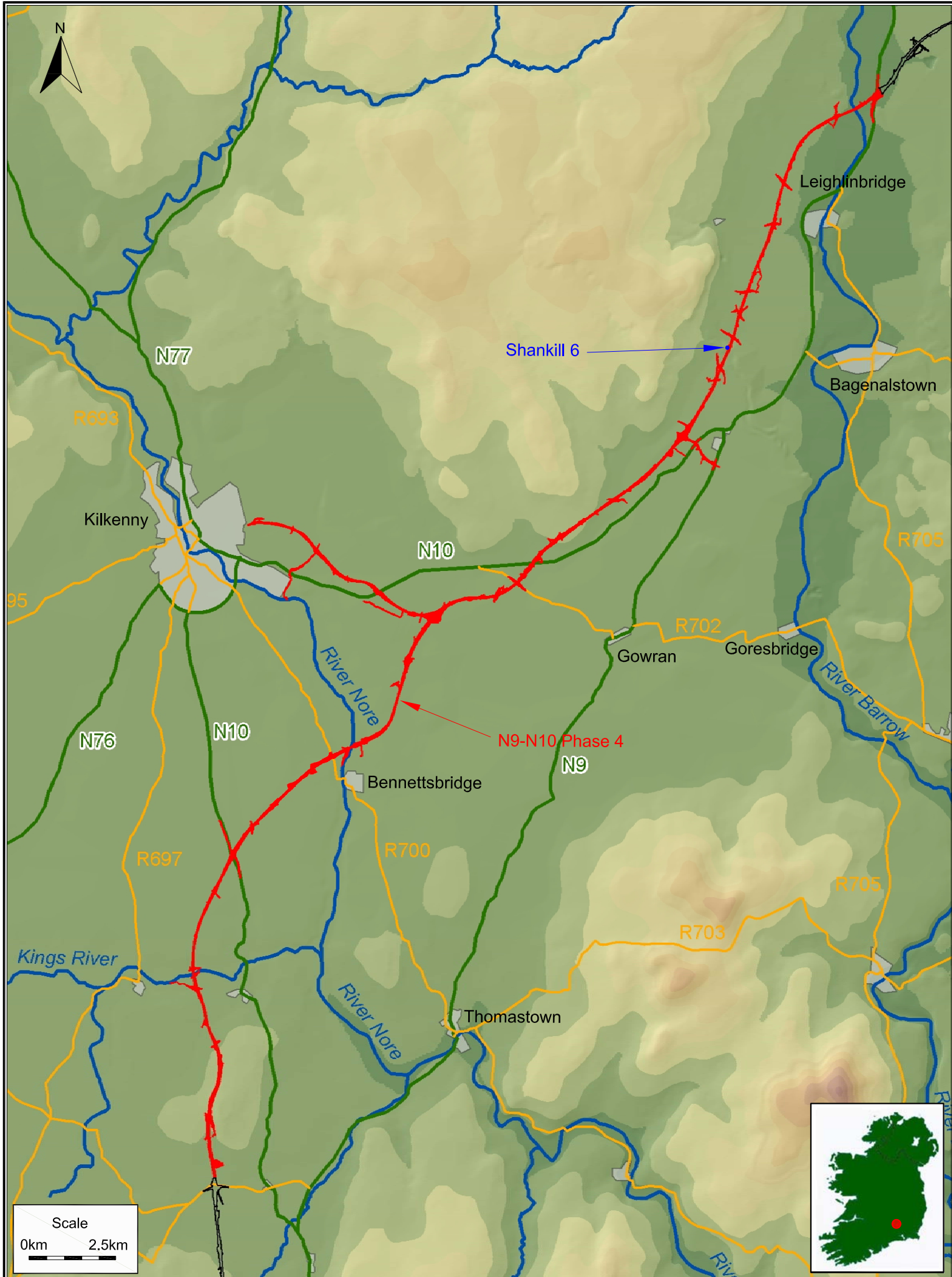
## 5.2 Other Sources

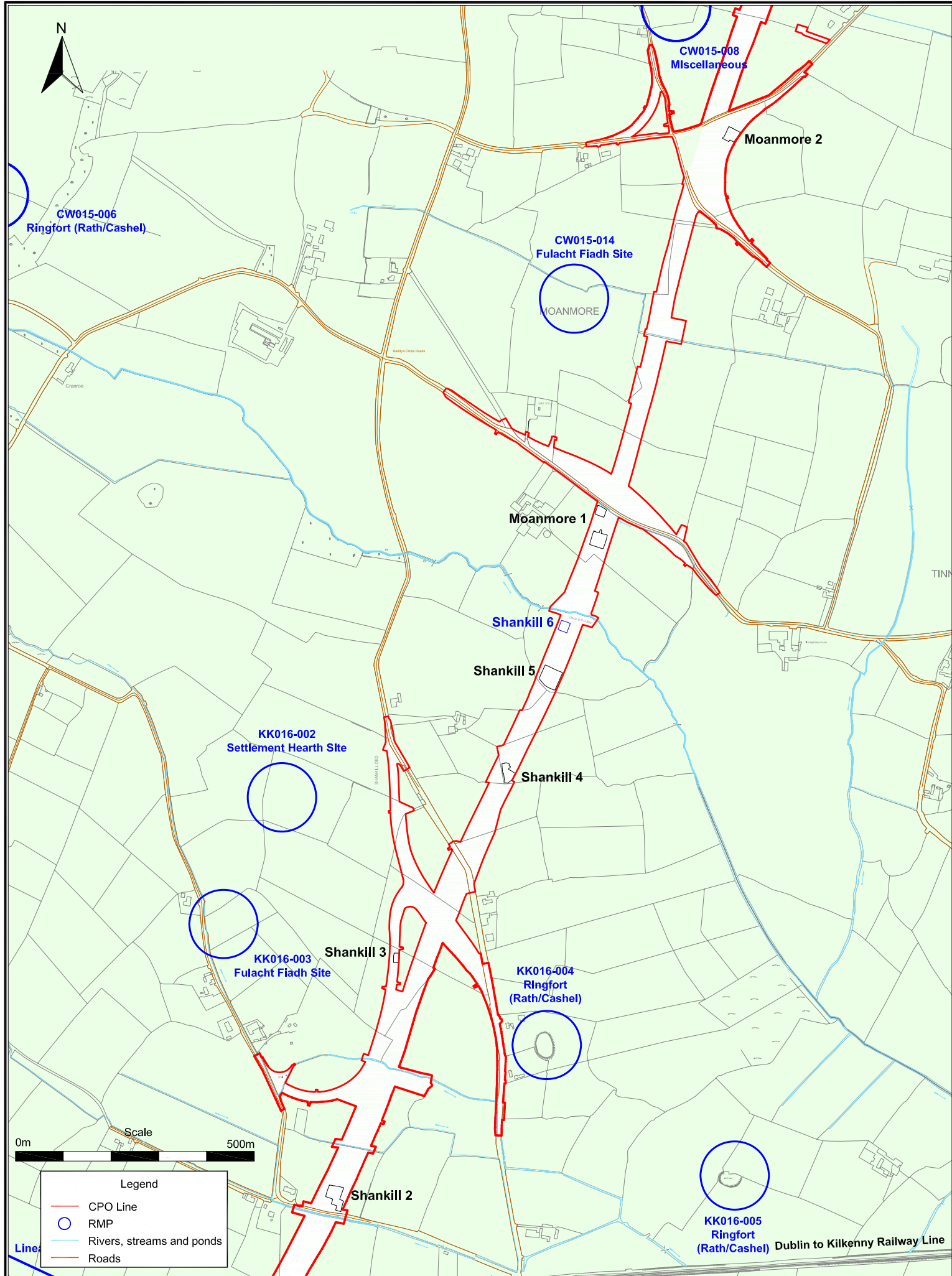
Record of Monuments and Places (RMP), The Department of the Environment, Heritage and Local Government, 7 Ely Place Upper, Dublin 2.

Topographical Files of the National Museum of Ireland, Kildare Street, Dublin 2.

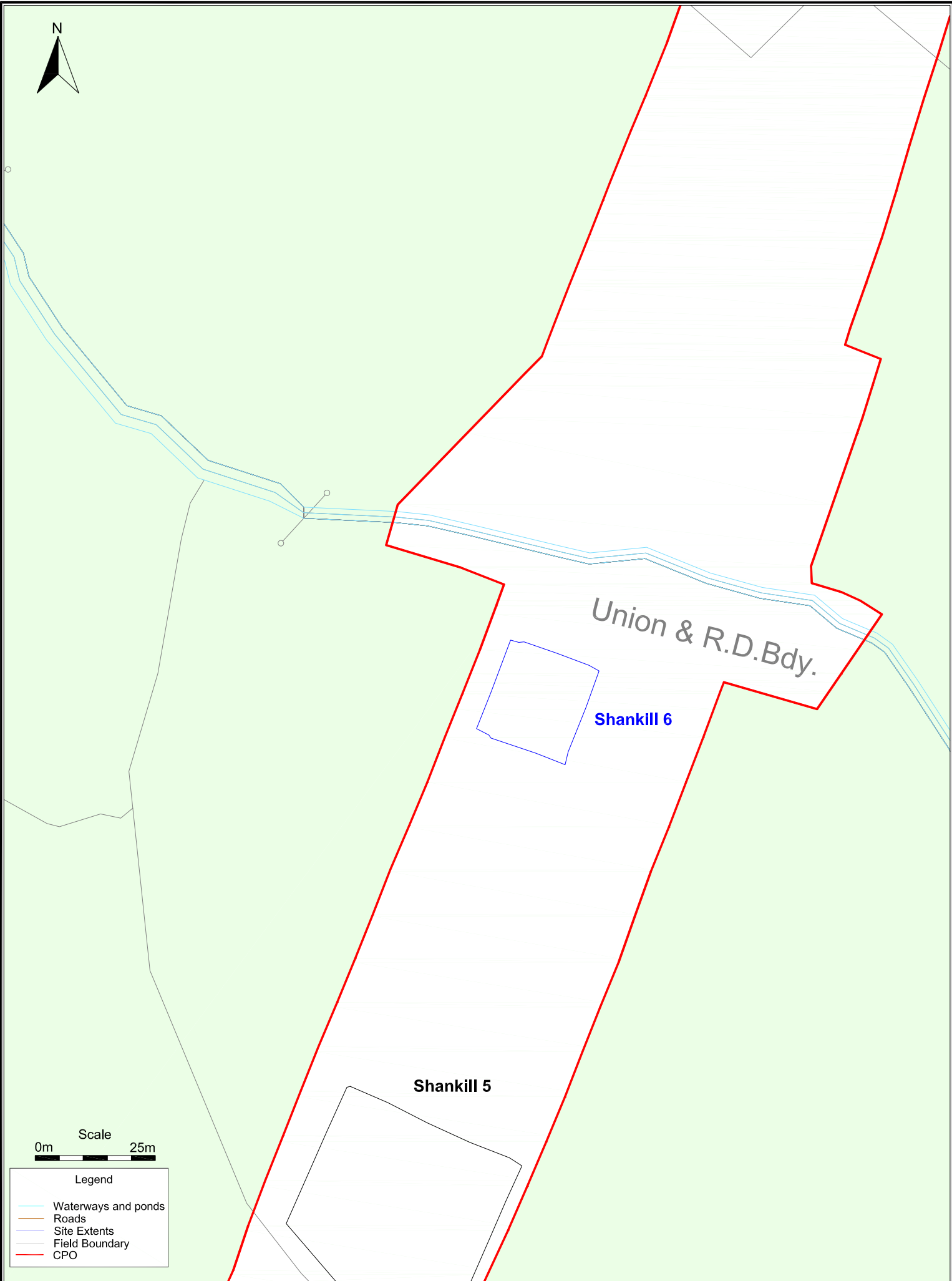
## Electronic references

ENVision; Environmental Protection Agency Soil maps of Ireland  
<http://www.epa.ie/InternetMapView/mapviewer.aspx>











58.72  
X

1A+ C7 C4 +1B

+ 266404,  
161836

C6

2B+  
C3  
2A+

58.71  
X

C5

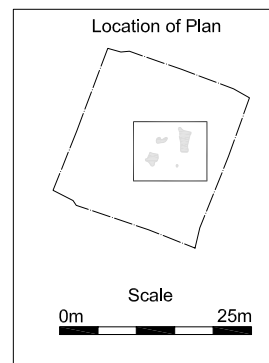
+ 266404,  
161831

+ 266409,  
161831

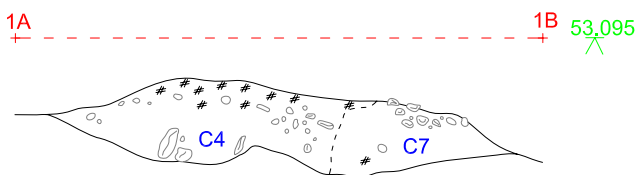
0m Scale 2.5m

#### Legend

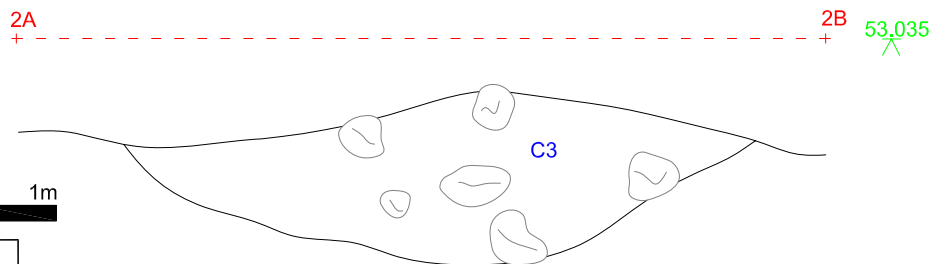
- Sections
- CXX Fill numbers
- Burnt mound deposits
- Stone
- XXXXXXE  
XXXXXXN National Grid Reference
- XX.XXX Levels - metres OD



#### North facing section of C4, C7



#### East facing section of C3



0m Scale 1m

#### Legend

- CXX Fill Numbers
- Stone
- ### Charcoal
- XX.XXX Levels - metres OD

## PLATES



Plate 1: Deposit C3, mid-excavation, facing north



Plate 2: Deposit C3, mid-excavation, facing north



## APPENDIX 1 CATALOGUE OF PRIMARY DATA

### Appendix 1.1 Context Register

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description	Context Above	Context Below
<b>C1</b>	N/A			0.3	Topsoil	Dark brown clayey silt	N/A	C2
<b>C2</b>	N/A				Subsoil	Boulder clay	C1	N/A
<b>C3</b>	N/A	1.70	1.24	0.16	Deposit	Loose black clayey silt within natural depression	C1	C2
<b>C4</b>	N/A	1.50	0.70	0.25	Deposit	Firm light greyish/brown silty clay	C1	C2
<b>C5</b>	N/A	0.34	0.30	0.10	Deposit	Soft dark grey clayey silt	C1	C2
<b>C6</b>	N/A	3.00	1.20	0.11	Deposit	Fairly loose mid-reddish/brown clayey silt	C1	C2
<b>C7</b>	N/A	1.50	0.70	0.25	Deposit	Firm light brown clayey silt	C1	C2


## **Appendix 1.2 Catalogue of Artefacts**

No artefacts were recovered on the site.

## **Appendix 1.3 Catalogue of Ecofacts**

One sample was taken from Deposit C3, but this was not processed

## Appendix 1.4 Archive Index

<b>Project:</b> N9/N10 Phase 4 Knocktopher to Powerstown		
<b>Site Name:</b> Shankill 6, AR132		
<b>Excavation Registration Number:</b> E3840		
<b>Site director:</b> Richard Jennings		
<b>Date:</b> July 2010		
<b>Field Records</b>	<b>Items (quantity)</b>	<b>Comments</b>
Site drawings (plans)	1	
Site sections, profiles, elevations	1	
Other plans, sketches, etc.	0	
Timber drawings	0	
Stone structural drawings	0	
Site diary/note books	1	
Site registers (folders)	0	
Survey/levels data (origin information)	0	
Context sheets	7	
Wood Sheets	0	
Skeleton Sheets	0	
Worked stone sheets	0	
Digital photographs	17	
Photographs (print)	0	
Photographs (slide)	0	
Security copy of archive	Yea	digital

**APPENDIX 2 LIST OF RMPS IN AREA**

<b>RMP No</b>	<b>Description</b>
CW015-014	<i>Fulacht fiadh</i>
KK016-002	Hearth
KK016-003	<i>Fulacht fiadh</i>
KK016-004	Ringfort
KK016-005	Ringfort
KK016-007	Ringfort

See Figure 2 for location

## APPENDIX 3 LIST OF SITE NAMES

Site Name	Site Code	E Number	Director	NGR
Baysrath 2	AR055	E3627	Fintan Walsh	251593/137855
Baysrath 3	AR056	E3628	Fintan Walsh	251672/138000
Baysrath 4	AR057	E3629	Fintan Walsh	251515/138280
Danganbeg 1	AR058	E3606	Emma Devine	251462/138754
Danganbeg 2	AR059	E3607	Emma Devine	251397/138939
Danganbeg 3	AR060	E3671	Emma Devine	251430/139245
Danganbeg 4	AR061	E3676	Emma Devine	251401/139372
Knockadrina 1	AR062	E3677	Ed Lyne	251422/139420
Tinvaun 1	AR063	E3678	Ed Lyne	251482/139625
Tinvaun 2	AR064	E3680	James Kyle	251445/139736
Tinvaun 3	AR065	E3608	James Kyle	251501/139832
Tinvaun 4	AR066	E3609	James Kyle	251508/139917
Stonecarthy West 1	AR067	E3610	James Kyle	251538/140023
Knockadrina 1	AR068	E3611	James Kyle	251647/140237
Rathduff 1	AR069	E3612	Ed Lyne	251286/142167
Rathduff Upper 1	AR070	E3613	Ed Lyne	251280/142559
Kellsgrange 1	AR071	E3575	James Kyle	250911/143732
Kellsgrange 2	AR072	E3577	James Kyle	250967/143861
Kellsgrange 3	AR073	E3576	James Kyle	250948/144003
Ennisnag 1	AR074	E3614	Richard Jennings	251416/145690
Ennisnag 2	AR075	E3615	Richard Jennings	251638/146068
Danesfort 12	AR076	E3616	Richard Jennings	251669/146186
Danesfort 13	AR077	E3617	Richard Jennings	251765/146384
Danesfort 2	AR078	E3540	Richard Jennings	251953/146745
Danesfort 4	AR079	E3539	Richard Jennings	251880/147579
Danesfort 3	AR080A	E3542	Richard Jennings	252221/146845
Danesfort 1	AR080B	E3541	Richard Jennings	252267/146707
Croan 1	AR081	E3543	Emma Devine	252280/147332
Danesfort 5	AR082	E3546	Emma Devine	252567/147767
Danesfort 6	AR083	E3538	Emma Devine	252764/147995
Danesfort 7	AR084	E3537	Emma Devine	252878/148099
Danesfort 8	AR085	E3461	Richard Jennings	253020/148246
Danesfort 9	AR086	E3468	Richard Jennings	253089/148345
Danesfort 10	AR087	E3459	Richard Jennings	253229/148414
Danesfort 11	AR088	E3460	Richard Jennings	253245/148462
Rathclogh 1	AR089	E3726	Patricia Lynch	253365/145515
Rathclogh 2	AR090	E3727	Patricia Lynch	253650/148848
Kilree 1	AR091	E3728	Patricia Lynch	254088/149310
Kilree 2	AR092	E3729	Patricia Lynch	254320/149500
Kilree 3	AR093	E3643	Patricia Lynch	254449, 149639
Kilree 4	AR094	E3730	Patricia Lynch	255330/150084
Dunbell Big 2	AR095	E3853	Yvonne Whitty	256684/151066
Holdenstown 1	AR096	E3681	Yvonne Whitty	256737/151253
Holdenstown 2	AR097/98	E3630	Yvonne Whitty	256891/151781
Holdenstown 3	AR099	E3854	Yvonne Whitty	256990/152085
Holdenstown 4	AR100	E3682	Yvonne Whitty	256828/152048
Dunbell Big 1	AR101	E3855	Yvonne Whitty	257034/152315
Rathcash 1	AR102	E3859	Tim Coughlan	258178/154199
Rathcash 2	AR103	E3860	Tim Coughlan	258294/154293
Rathcash East 1	AR104	E3892	Tim Coughlan	259419/154546
Rathcash East 2	AR105	E3893	Tim Coughlan	259555/154566
Rathcash East 3	AR106	E3861	Tim Coughlan	259821/154653
Blanchvillespark 1	AR107	E3894	Richard Jennings	260535/155212
Blanchvillespark 2	AR108	E3895	Tim Coughlan	260637/155449

Site Name	Site Code	E Number	Director	NGR
Blanchvillespark 3	AR109	E3913	Tim Coughlan	260785/155653
Blanchvillespark 4	AR110	E3914	Tim Coughlan	261442/156269
Blanchvillespark / Ballyquirk 1	AR111	E3862	Ruth Elliott	261531/156323
Ballyquirk 1	AR112	E3863	Ruth Elliott	261531/156323
Ballyquirk 2	AR113	E3864	Ruth Elliott	261811/156508
Ballyquirk 3	AR114	E3865	Ruth Elliott	261875/156559
Ballinvally 1	AR115	E3836	Emma Devine	263258/157521
Garryduff 1	AR116	E3852	Emma Devine	263933/157991
Kilmacahill 1	AR117	E3915	Tim Coughlan	264267/158369
Kilmacahill 2	AR118	E3833	Tim Coughlan	264380/158453
Jordanstown 1	AR119	E3834	James Kyle	264546/158643
Jordanstown 2	AR120	E3851	James Kyle	264893/159038
Kellymount 6	AR121	E3758	Przemaslaw Wierbicki	265130,159277
Jordanstown 3	AR122	E3916	Przemaslaw Wierbicki	265103/159227
Kellymount 1	AR123	E3756	Przemaslaw Wierbicki	265250/159397
Kellymount 2	AR124	E3757	Przemaslaw Wierbicki	265164/159463
Kellymount 3	AR125	E3856	Przemaslaw Wierbicki	265338/159597
Kellymount 4	AR126	E3857	Przemaslaw Wierbicki	265412/159803
Kellymount 5	AR127	E3858	Przemaslaw Wierbicki	265530,159977
Shankill 2	AR128	E3738	Richard Jennings	265924/160651
Shankill 3	AR129	E3737	Richard Jennings	266052/161141
Shankill 4	AR130	E3838	Richard Jennings	266286/161526
Shankill 5	AR131	E3850	Richard Jennings	266374/161730
Shankill 6	AR132	E3840	Richard Jennings	266403/161836
Moanmore 1	AR133	E3835	Richard Jennings	266476/162016
Moanmore 2	AR134	E3843	Sinead Phelan	266756/162866
Moanmore 3	AR135	E3837	Sinead Phelan	266856/163259
Bannagagole 1	AR136	E3844	Sinead Phelan	266942/163569
Moanduff 1	AR137	E3839	Robert Lynch	267261/164397
Coneykeare 1	AR138	E3683	Sinead Phelan	267836/166209
Coolnakisha 1	AR139	E3768	Ellen O'Carroll	268175/167274
Coolnakisha 2	AR140	E3767	Ellen O'Carroll	268306/167559
Cranavonane 1	AR141	E3842	Tim Coughlan	268554/167895
Cranavonane 2	AR142	E3732	Ellen O'Carroll	268830/168154
Cranavonane 3	AR143	E3731	Ellen O'Carroll	269123/168362
Tomard Lower 1	AR144	E3733	Ellen O'Carroll	269349/168496
Paulstown 1	AR145	E3642	Ruth Elliot	265889/158499
Paulstown 2	AR146	E3632	Ruth Elliot	265664/158651
Rathgarvan or Clifden 1	AR147	E3760	Przemaslaw Wierbicki	257026/154123
Maddockstown 1	AR148	E3759	Przemaslaw Wierbicki	256886/154199
Templemartin 3	AR149	E3845	Emma Devine	255095/155200
Templemartin 4	AR150	E3841	Emma Devine	254920/155427
Templemartin 5	AR151	E3846	Emma Devine	254706/155636
Templemartin 1	AR152	E3849	Emma Devine	254504/155826
Templemartin 2	AR153	E3847	Emma Devine	254173/156236
Leggetsraeth East 1	AR154	E3734	Emma Devine	253793/156484
Moanduff 2	AR155	E3735	Sinead Phelan	267470/164887
Moanduff 3	AR156	E3736	Sinead Phelan	267515/164979
Ballyquirk 4	AR157	E3848	Richard Jennings	262596/157025
Shankill 1	AR158	E3766	Przemaslaw Wierbicki	265707/160269
Rathgarvan or Clifden 2	AR159	E3921	Tim Coughlan	257095/154119
Ballynolan 1	AR160	E3755	Sinead Phelan	267714/165597
Stonecarthy West 2	UA2	E3974	Tim Coughlan	251372/142037
Rathduff Bayley 1	UA4	E4011	Tim Coughlan	251005/143564