

## N71 CHETWYND VIADUCT ROAD SCHEME



<b>Registration No.</b>	10E0353
<b>Site Name</b>	Chetwynd 1
<b>Townland</b>	Chetwynd
<b>County</b>	Cork
<b>Excavation Director</b>	Dave Bayley
<b>NGR</b>	164085/68413

### **FINAL REPORT ON THE EXCAVATION OF TWO BURNT MOUNDS AT CHETWYND, CO. CORK**

**ON BEHALF OF CORK COUNTY COUNCIL**

**AUGUST 2012**

**IAC** Irish Archaeological  
Consultancy

**PROJECT DETAILS**

<b>Project</b>	N71 Chetwynd Viaduct Road Scheme
<b>Excavation Registration Number</b>	10E0353
<b>Excavation Director</b>	Dave Bayley
<b>Senior Archaeologist</b>	Tim Coughlan
<b>Consultant</b>	Irish Archaeological Consultancy Ltd, 120b Greenpark Road, Bray, Co. Wicklow
<b>Client</b>	Cork County Council
Site Name	Chetwynd 1 (Area A & B)
Site Type	Burnt Mound
Townland(s)	Chetwynd
Parish	St. Finbars
County	Cork
NGR (easting)	164085 (Area A)
NGR (northing)	68413 (Area A)
Chainage	N/A
Height OD (m)	40
<b>RMP No.</b>	N/A
Excavation Dates	28 October – 8 November 2010
Project Duration	6 September – 22 November 2010
<b>Report Type</b>	Final
<b>Report Date</b>	August 2012
<b>Report By</b>	Dave Bayley and Tim Coughlan



## **ACKNOWLEDGEMENTS**

This report has been prepared by Irish Archaeological Consultancy Ltd on behalf of Cork County Council in advance of the construction of the N71 Chetwynd Viaduct Road Scheme, Co. Cork. This excavation has been carried out under Licence to the Department of Environment, Heritage and Local Government (DoEHLG), in consultation with the National Museum of Ireland issued under Section 14 of the National Monuments Acts 1930–2004.

Irish Archaeological Consultancy Ltd would like to acknowledge the assistance of the following in bring the project to a successful conclusion:

### **NRA**

Sheelagh Conran  
Ken Hanley

Project Archaeologist  
Project Archaeologist

## ABSTRACT

This report prepared on behalf of Cork County Council has been undertaken to describe the results of an excavation at a site of archaeological significance, Chetwynd 1, Co. Cork. The excavation of site Chetwynd 1 (Areas A & B) was undertaken along the route of the proposed N71 Chetwynd Viaduct Road Scheme situated approximately 9km south west of Cork City. Excavation of site Chetwynd 1 (Area A) was undertaken by Dave Bayley (Licence Ref. 10E0353) of Irish Archaeological Consultancy Ltd in November 2010.

Chetwynd 1 was first identified during a programme of testing (Licence Ref. 09E0135) undertaken by Sheelagh Conran in October 2009. Area B was identified as having archaeological potential and as such ground disturbances were monitored. Nothing of archaeological significance was identified in Area B.

The excavation has identified the site of two burnt mounds. The larger mound, which had been heavily disturbed by ploughing, was located centrally within the excavation area. Two associated rectangular troughs were recorded beneath the disturbed mound. One of the troughs (Trough 2) was radiocarbon dated to the late Bronze Age (903–811BC, UB 18108). To the south of the troughs was a large pit which may have acted as a cistern. The pit was also radiocarbon dated to the late Bronze Age (832–788BC, UB 18110). A series of stake-holes extended from the pit/cistern, possibly representing a small fence or windbreak. The clustering of stake-holes indicates that the fence was possibly re-erected a number of times.

The second burnt mound was located to the north-west of the first mound and was only partially exposed within the excavation area. A radiocarbon date from charred barley grain recovered from the disturbed mound returned a medieval date (AD1303–1410, UB 18109). The mound was, however, heavily truncated by early modern land reclamation and it is interpreted that the dated grain sample may have been intrusive, such that the corresponding date is considered unlikely to correspond to the true date of the burnt mound. Similar dating has been returned from a barley seed from a nearby site at Garranedarragh 1 (10E352) located 250m to the north-east, which indicates the potential for medieval activity in the area. However, the second burnt mound was located adjacent to a natural hollow which was infilled with silts possibly as post-medieval/modern land reclamation from which post-medieval pottery was noted. Similar pottery was recovered from the overlying burnt mound deposit associated with the larger burnt mound site, indicating that the site had been subject to intensive agricultural activity and disturbance in the last century. It is interpreted that this disturbance is the source of the intrusive charred seeds.

The late Bronze Age burnt mound recorded at Chetwynd 1 is a site of local importance as it represents the first evidence of prehistoric activity in the immediate vicinity. The location of this site type adjacent to a river is not unexpected and the identification of features in the form of troughs and pits are often associated with these sites. Burnt mounds are known to be sites where hot water was generated by means of immersing fire-heated stone into troughs of cold water. What the hot water was used for, however, continues to be a subject of much debate.

**CONTENTS**

<b>1</b>	<b>INTRODUCTION .....</b>	<b>6</b>
1.1	General.....	6
1.2	The Development .....	6
1.3	Excavation Methodology .....	6
<b>2</b>	<b>EXCAVATION RESULTS.....</b>	<b>8</b>
2.1	Phase 1 Natural Geology.....	8
2.2	Phase 2 Late Bronze Age Activity – Burnt Mound A .....	8
2.3	Phase 3 Possible Medieval Activity - Burnt Mound B .....	12
2.4	Phase 4 Later Drainage and Other features.....	13
2.5	Phase 5 Topsoil.....	13
<b>3</b>	<b>SYNTHESIS .....</b>	<b>14</b>
3.1	Physical Landscape Setting.....	14
3.2	The Archaeological Landscape.....	14
3.3	Typological Background of Burnt Mound Activity .....	15
3.4	Summary of the Excavation Results .....	16
3.5	Summary of the Specialist Analysis .....	17
<b>4</b>	<b>DISCUSSION AND CONCLUSIONS.....</b>	<b>18</b>
4.1	Discussion .....	18
4.2	Conclusions .....	19
<b>5</b>	<b>BIBLIOGRAPHY .....</b>	<b>20</b>
5.1	References .....	20
5.2	Other Sources .....	21
<b>APPENDIX 1</b>	<b>CATALOGUE OF PRIMARY DATA.....</b>	<b>XXIII</b>
Appendix 1.1	Context Register.....	xxiii
Appendix 1.2	Catalogue of Artefacts .....	xxvii
Appendix 1.3	Catalogue of Ecofacts.....	xxviii
Appendix 1.4	Photograph Register.....	xxix
Appendix 1.5	Plan Register and Section Register .....	xxx
<b>APPENDIX 2 –</b>	<b>SPECIALIST REPORTS .....</b>	<b>XXXI</b>
Appendix 2.1	Medieval and Post Medieval Pottery Analysis – Clare McCutcheon.....	xxxii
Appendix 2.2	Archaeobotanical and Charcoal Report – Susan Lyons .....	xxxiv
Appendix 2.3	Radiocarbon Dating Results – QUB Laboratory.....	xli
<b>APPENDIX 3</b>	<b>LIST OF RMP IN AREA .....</b>	<b>XLIII</b>

**FIGURES****PLATES**

## Figures and Plates

### List of Figures:

- Figure 1 Chetwynd 1 - general site location
- Figure 2 Chetwynd 1 - location of site showing RMPs
- Figure 3 Chetwynd 1 - location within development
- Figure 4 Chetwynd 1 - plan of site
- Figure 5 Chetwynd 1 - sections

### List of plates:

- Plate 1 Chetwynd 1, showing exposed extent of Burnt Mound A, pre-excavation, facing south-west
- Plate 2 Chetwynd 1, Burnt Mound A mid-excavation, facing south
- Plate 3 Burnt Mound A, possible trough C51 and pit C49, post-excavation, facing north-east
- Plate 4 Burnt Mound A, Trough C16, mid-excavation, facing NNW
- Plate 5 Burnt Mound A, Trough C16, post-excavation, facing NNW
- Plate 6 Burnt Mound A, Posthole C56, post-excavation
- Plate 7 Burnt Mound A, Pit/ possible cistern C15, post-excavation
- Plate 8 Burnt Mound A, Stake-holes C18-C47, post-excavation, facing east
- Plate 9 Burnt Mound A with mound of heat-shattered stone (C3) partially removed, mid-excavation, facing NNE
- Plate 10 Burnt Mound A, with mound of heat-shattered stone (C3) partially removed, mid-excavation, facing east (note plough scar marks running east/west).
- Plate 11 Aerial View of Burnt Mound A, post-excavation facing south-west (Photo: Gavin Duffy, Airshots)
- Plate 12 Aerial View of Burnt Mound B, post-excavation, facing north-west (Photo: Gavin Duffy, Airshots)

## 1 INTRODUCTION

### 1.1 General

This report presents the results of the Stage (iii) Excavation Services at Chetwynd 1 (Area A & B) carried out in the townland of Chetwynd, Co. Cork (Figures 1–3). This work was undertaken as part of an archaeological mitigation program completed under the Archaeological Consultancy Services Contract for the N71 Chetwynd Viaduct Road Scheme, County Cork. Archaeological fieldwork was directed by Dave Bayley of Irish Archaeological Consultancy Ltd under licence as issued by the DOEHLG in consultation with the National Museum of Ireland (Licence Ref. 10E0353). The work was undertaken on behalf of Cork County Council and it took place between 28 October and 8 November 2010.

The purpose of the Stage (iii) Excavation Services is to preserve-by-record through appropriate rescue excavation any significant archaeological features or deposits discovered by earlier investigations, so as to mitigate impacts on the archaeological remains that may be discovered within the footprint of the project.

Advance archaeological testing, undertaken by Sheelagh Conran (Licence Ref. 09E0135) in October 2009, identified a burnt mound (Area A) in the townland of Chetwynd. Area B was a small area of lawn grass located to the immediate south of St. James's Cemetery and was not previously tested by Conran as part of the advance testing works. The area was, nonetheless, considered to have non-specific archaeological potential. Areas A and B were designated as Chetwynd 1 (Area A & B). Topsoil removal from Chetwynd 1 (Area B) was archaeologically monitored and no finds or features of archaeological significance were noted. The burnt mound identified by testing at Chetwynd 1 (Area A) was duly excavated under licence ref. 10E0353 and is the subject of this report.

### 1.2 The Development

It is proposed to widen a section of the N71 Bandon Road located in the Glasheen valley in the townlands of Chetwynd, Ardarostig and Garrenedaragh, in the parish of St. Finbar's, in the barony of Cork. The proposed N71 Chetwynd Viaduct Road Scheme will begin at the existing N71 Bandon Road Roundabout, at Ardarostig townland, leading south for approximately 500m where it will terminate at a proposed new roundabout, in the neighbouring townland of Chetwynd, just north of the Chetwynd Viaduct (See Figure 3). The proposed development lies approximately 9km south-west of Cork city.

### 1.3 Excavation Methodology

The excavation area measured 1,128 sqm and was mechanically stripped of topsoil as part of the Stage (ii) Pre-excavation Services.

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, which have



been developed in consultation with IAI guidelines (2007) and licencing conditions. Features exhibiting large amounts of carbonised material were the primary targets.

All artefacts uncovered on site were dealt with in accordance with the guidelines as issued by the NMI and where warranted in consultation with the relevant specialists. All archive material is currently stored in IAC's facility in Lismore, Co Waterford and will ultimately be deposited with the National Museum of Ireland. Dating of the site involved radiocarbon dating of recommended samples and pottery analysis through typological study.

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.

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

The following date ranges for Irish prehistory and medieval periods are used for all final reports for these excavations.

Mesolithic: 7000–4000BC

Neolithic: 4000–2500BC

Early Bronze Age: 2500–1700BC

Middle Bronze Age: 1700–1200BC

Late Bronze Age: 1200–800BC

Iron Age: 800BC–AD500

Early medieval period: AD500–1100

Medieval period: AD1100–1600

Post-medieval: AD1600–1800

### ***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

Chetwynd 1 was situated in the townland of Chetwynd (Figures 1–3) at c. 40m Ordnance Datum (OD), in the parish of St. Finbar's. The surrounding topography is west-sloping being located on the eastern side of the River Glasheen. The surrounding landscape is located predominantly in the Barony of Cork North Liberties and partly in the city borough of Cork. Chetwynd 1 itself is located on a comparatively flat terrace that slopes gently to the west, at the foot of rising ground to the east.

The site contained two burnt mounds with associated pits and troughs.

### 2.1 Phase 1 Natural Geology

#### 2.2.1 Natural Subsoil

##### Contexts

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

**Finds:** None

##### Interpretation

The natural drift geology consisted of grey-blue clay that was interspersed with sandy yellow-orange stone clay. The specific area of the site has been identified as undifferentiated till with areas of exposed bedrock on the GSI map of the area ([http://spatial.dcenr.gov.ie/imf/imf.jsp?site=GSI\\_Simple](http://spatial.dcenr.gov.ie/imf/imf.jsp?site=GSI_Simple)).

#### 2.2.2 Linear Geological Feature

##### Contexts

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C58	N/A	22.00+	1.10	0.22	E-W natural drainage channel	Geological Linear
C59	C58	22.00+	1.10	0.22	Sterile grey silt some iron pan flecking.	Fill of Geological Linear

**Finds:** None

##### Interpretation

A linear feature was identified in the north of the site during Stage (ii) site clearance and pre-excavation works. Hand excavated sections through this feature revealed its fill to be completely sterile. It has been interpreted as being a natural water or drainage channel that has silted. It was not possible to define its western limit although it did continue further to the east, beyond the limit of the excavation.

### 2.2 Phase 2 Late Bronze Age Activity – Burnt Mound A

The earliest dated phase of activity on site consisted of a series of troughs, pits, post-hole and stake-holes associated with a burnt mound (Mound A) in the southern half of the site. Burnt Mound A was situated on a relatively flat terrace, however the ground to the south and west was lower, giving the impression that the site was elevated. It is likely that the lower ground was wetter being adjacent the Glasheen River.

#### 2.2.1 Trough 1 (C51)

##### Contexts

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C48	C49, C50, C51	2.7	1.8	0.42	Compact dark brown black clayey silt.	Fill of pits and trough
C49	N/A	1.15	0.77	0.42	Oval, vertical sides, concave base	Cut of pit

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C50	N/A	0.8	0.54	0.28	Oval, vertical sides, concave base	Cut of pit
C51	N/A	2.7	1.8	0.38	Sub-rectangular cut, vertical sides	Cut of trough

**Finds:** None

### Interpretation

A large shallow, sub-rectangular cut C51 (Trough 1) was located at the centre of activity beneath burnt mound C3 (Figure 4 and 5; Plate 3). It may have functioned as a trough. There was no evidence of a lining and the shallow nature of the cut may suggest truncation at some point. The trough was sealed beneath the burnt mound deposit C3 and the fill of the trough (C48) consisted of a compact dark brown/black silty clay with a high concentration of heat shattered stone and charcoal, similar to the overlying mound material.

Two smaller sub-oval pits were located at opposing ends of the trough. At the north-eastern end was C49 while C50 was located at the south-western end. It was not possible during the excavation to identify with certainty if these pits were contemporary with or later than possible trough C51, however there was no discernable difference between the fills of the pits and the fill of the trough, suggesting they were contemporary.

Given its central position beneath the overlying mound and that it may have been subsequently truncated by the C49 and C50 pits it is interpreted that this may have been the primary trough on the site.

## 2.2.2 Trough 2 (C16)

### Contexts

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C16	N/A	2.1	1.25	0.49	Rectangular, steep sides, flat base	Cut of trough
C17	C16	2.1	1.25	0.49	Compact black/brown clay silt.	Fill of trough

**Finds:** None

### Interpretation

A second sub-rectangular trough (Trough 2) was identified to the east of Trough 1. Both troughs were sealed beneath the burnt mound deposit C3 (Figure 4; Plates 4 and 5). It is possible that Trough 2 may represent a secondary trough used in tandem with Trough 1 (C51), or that it was a replacement for Trough 1. There was no evidence of a lining but Trough 2 was deeper than Trough 1. The trough was sealed beneath the burnt mound deposit C3 and the fill of the trough (C17) consisted of a compact dark brown/black silty clay with a high concentration of heat shattered stone and charcoal, similar to the overlying mound material.

A sample of the fill (C17) from Trough 2 was processed and the resultant flot contained charcoal fragments. The charcoal flot was analysed and was found to contain alder (*Alnus glutinosa*), willow (*Salix* sp.), ash (*Fraxinus excelsior*) and birch (*Betula* sp.) (Lyons, Appendix 2.2). These species are thought to be amongst those used as fuel on the site and are indicative of a mixed and marginal surrounding landscape.

Ash (*Fraxinus excelsior*) charcoal from the fill (C17) of Trough 2 was chosen for AMS dating. The charcoal returned an AMS result of 2708 $\pm$ 25 BP (UB 18108). The 2 Sigma calibrated result was 903–811BC (QUB, Appendix 2.3), indicating a date in the late Bronze Age.

### 2.2.3 Post-holes between Trough 1 and Trough 2

#### Contexts

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C52	C53	0.19	0.19	0.22	Compacted, mid-grey clayey silt	Fill of posthole
C53	N/A	0.19	0.19	0.22	Circular, steep sides, concave base.	Cut of posthole
C54	C55	0.15	0.08	0.14	Mid grey silt with occasional charcoal flecks	Fill of posthole
C55	N/A	0.15	0.08	0.14	Semi-circular, gradual sides, chisel point	Cut of posthole
C56	N/A	0.27	0.23	0.31	Rectangular, concave sides, flat base	Cut of posthole
C57	C56	0.27	0.23	0.31	Dark bluish grey silty clay.	Fill of posthole

**Finds:** None

#### Interpretation

Three possible post-holes, C53, C55 and C56 (Figure 4, Plate 6) were recorded between Trough 1 (C51) and Trough 2 (C16) and all three were sealed by the overlying burnt mound C3. Their location suggests that they were directly related to one or both of the troughs although there is no conclusive stratigraphic evidence for this. The post-holes may have formed the basis for a small temporary structure, such as a rack or a windbreak.

### 2.2.4 Pit/Cistern C15 and associated stake-holes

#### Contexts

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C14	C15	2.7	2.4	0.78	Compact dark brownish black silt	Fill of pit/cistern
C15	N/A	2.7	2.4	0.78	Oval, concave sides, concave base	Cut of pit/cistern
C18	N/A	0.08	0.08	0.16	Circular, steep sides, concave base.	Cut of stakehole
C19	C18	0.08	0.08	0.16	Compact dark brownish black silty clay	Fill of stakehole
C20	N/A	0.11	0.11	0.18	Circular, steep sides, pointed base.	Cut of stakehole
C21	C20	0.11	0.11	0.18	Light grey with yellow flecks, silty clay	Fill of stakehole
C22	N/A	0.1	0.8	0.12	Oval, steep/convex sides, concave base	Cut of stakehole
C23	N/A	0.1	0.1	0.17	Circular, steep/convex sides, concave base	Cut of stakehole
C24	N/A	0.09	0.65	0.09	Oval, gradual sides, concave base	Cut of stakehole
C25	N/A	0.12	0.9	0.19	Oval, gradual sides, concave base	Cut of stakehole
C26	N/A	0.11	0.09	0.18	Oval, gradual sides, concave base	Cut of stakehole
C27	N/A	0.08	0.08	0.16	Circular, steep sides, concave base.	Cut of stakehole
C28	N/A	0.07	0.06	0.11	Oval, gradual concave sides, concave base	Cut of stakehole
C29	N/A	0.05	0.03	0.07	Oval, gradual sides, concave base	Cut of stakehole
C30	N/A	0.07	0.05	0.12	Oval, gradual sides, concave base	Cut of stakehole
C31	N/A	0.08	0.04	0.09	Oval, gradual concave sides, concave base	Cut of stakehole
C32	N/A	0.08	0.04	0.15	Oval, gradual sides, concave base	Cut of stakehole
C33	N/A	0.06	0.04	0.20	Oval, gradual sides, concave base	Cut of stakehole
C34	N/A	0.06	0.06	0.10	Circular, steep sides, concave base.	Cut of stakehole
C35	C22	0.1	0.08	0.12	Mid to light grey silty clay,	Fill of stakehole
C36	C23	0.1	0.1	0.17	Mid to light grey silty clay	Fill of stakehole
C37	C24	0.09	0.65	0.09	Mid to light grey silty clay	Fill of stakehole
C38	C25	0.12	0.09	0.19	Mid to light grey silty clay	Fill of stakehole
C39	C26	0.11	0.09	0.18	Mid to light grey silty clay	Fill of stakehole
C40	C27	0.08	0.08	0.16	Mid to light grey silty clay	Fill of stakehole
C41	C28	0.07	0.06	0.11	Mid to light grey silty clay	Fill of stakehole
C42	C29	0.05	0.03	0.07	Mid to light grey silty clay	Fill of stakehole
C43	C30	0.07	0.05	0.12	Mid to light grey silty clay	Fill of stakehole
C44	C31	0.08	0.04	0.09	Mid to light grey silty clay	Fill of stakehole
C45	C32	0.08	0.04	0.15	Mid to light grey silty clay	Fill of stakehole
C46	C33	0.06	0.04	0.2	Mid to light grey silty clay	Fill of stakehole
C47	C34	0.06	0.06	0.1	Mid to light grey silty clay	Fill of stakehole

**Finds:** None

### Interpretation

A large, roughly oval shaped cut (C15) was located to the south of Trough 2 and was sealed beneath burnt mound deposit C3 (Figure 4 and 5; Plate 7). The cut was possibly too large in comparison to the Trough 1 and 2 to have functioned efficiently as a trough used to heat water and may represent the location of a well or cistern-type feature associated with water management. The cut consisted of gently sloping concave sides which were noticeably different to the vertical sides of the two rectangular troughs, which could also indicate an alternative function. It is possible that it represented a simple large pit, possibly for storage or other function with no significant water-related function.

A series of 15 stake-holes (C18, C20, C22-C34), roughly aligned north-west/south-east, extended from the north-western edge of the pit/cistern C15 (Figure 4, Plate 8). The stake-holes may have served as a small fence or windbreak. While the fence/windbreak extends from the cistern and as such appeared to be associated, it seems likely that the fence is bounding/protecting the area to its northeast possibly including Trough 2. The stake-holes were so clustered that it is possible they represent a number of phases of activity, with the possible fence/structure being re-erected a number of times rather than in one single episode. While no clear definitive pattern could be identified to the arrangement of the stakeholes, analysis of their distribution suggests two potentially significant patterns. The first is identified by a roughly circular setting of stakeholes around the perimeter of the main cluster (C18, C22, C24, C32, C33, C34, and C20) which encloses the remaining stakeholes. Within this pattern the doubling up of stakeholes at opposite sides of the enclosing ring is notable – C18/C22 and C33/C34. The second pattern is focussed on the possible rectangular setting of C18/C22, C24, C34, and C20, with the remaining stakeholes forming a roughly double line through the centre. These patterns may suggest a more formal light structure rather than a simple fence.

A sample of pit/cistern fill C14 contained charcoal of alder (*Alnus Glutinosa*), oak (*Quercus* sp.), willow (*Salix* sp.), ash (*Fraxinus excelsior*) and cherry (*Prunus* sp.) (Lyons, Appendix 2.2). These species are thought to be amongst those used as fuel at the site and are indicative of a mixed and marginal surrounding landscape.

Alder charcoal identified from a sample of pit/cistern fill C14 was recommended for AMS dating. The charcoal returned an AMS result of 2635 $\pm$ 25 BP (UB 18110). The 2 Sigma calibrated result was 832–788BC (QUB, Appendix 2.3), indicating a date in the late Bronze Age, broadly complementary with the radiocarbon date returned from Trough 2.

## 2.2.5 Burnt Mound Deposits

### Contexts

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C3	N/A	10	21	0.35	Brown/black clay heat-shattered stones	Burnt mound
C13	N/A	4.7	1.1	0.3	Black loose silt with large angular stones.	Burnt mound material

### Finds

Context	Find Number	Material	Period	Description
C3	10E353:3:1-35	ceramic	Post-medieval	35 sherds of pottery
C3	10E353:3:36-49	glass	Modern	14 sherds of modern glass



## Interpretation

This represented deposits of burnt mound material that sealed the troughs, pits, post-holes and stake-holes associated with Burnt Mound A (Figure 4 and 5; Plates 1, 2, 9 and 10). The burnt mound deposit C3 had been subject to a lot of disturbance from ploughing and levelling and as such was patchy in places. Plough scar marks (Plate 10) were present, cut into the underlying natural subsoil beneath the mound. This confirms that the mound was raked through by modern agricultural activity. A noticeably looser deposit C13 was identified in a localised area in the southwest of the mound possibly indicating further disturbance

A quantity of modern pottery sherds identified in the burnt material further testified to the level of disturbance. The pottery dates to the nineteenth and early twentieth centuries. Transfer printed ware, painted Pearlware, Prattware, Banded/Mochaware, brown glazed earthenware, Chinaware and Stoneware were all present (McCutcheon Appendix 2.1).

### 2.3 Phase 3 Possible Medieval Activity - Burnt Mound B

The second phase of activity on site consisted of a burnt mound spread in the north-west of the site.

#### 2.3.1 Burnt Mound Deposits Contexts

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C11	N/A	2.45	3.3	0.55	Mid-brown/black silty clay	Burnt mound

**Finds:** None

## Interpretation

This represented a deposit of burnt mound material C11 (Burnt Mound B) that was located to the north of a possible drainage channel or natural depression (C12) (Figure 4 and 5, Plate 12). The material consisted of a compact brown/black silty clay with a high concentration of heat shattered stone and charcoal. Run-off and disturbed quantities of this burnt material are found in the upper fill of C12. Further material disturbed from mound C11 transferred to the base of modern drain C10 (C9) below. The location of the burnt mound adjacent the possible natural depression/pool and the River Glasheen to the immediate west of the site may have been significant.

A sample of the C11 burnt mound material was processed and the resultant flots were sent for analysis. Charcoal and charred cereal grains were identified. The charcoal was found to contain predominantly oak (*Quercus* sp.) charcoal with a small quantity of alder (*Alnus glutinosa*) (Lyons, Appendix 2.2). These species are believed to be amongst those used as fuel at the site.

The charred plant assemblage was dominated by cultivated crops in the form of barley and oat grain, along with field pea seeds. A lower occurrence of wheat grain, possible broad/horse bean seeds and fragments of indeterminate vetch/pea seeds were also identified. The collective presence of barley, wheat, oat and pulse crops (peas and beans) are associated with later medieval arable agriculture (Lyons, Appendix 2.2).

A sample of charred barley from the burnt mound was chosen for AMS dating. The charcoal returned an AMS result of 589±22 BP (UB 18109). The 2 Sigma calibrated result for this was AD1303–1410 (QUB, Appendix 2.3), indicating a date in the medieval period. It is thought the date returned may reflect disturbance of the mound material and that the barley seeds are intrusive. Similar dating was returned from a

barley seed from the nearby site at Garranedarragh 1 (10E352, Bayley & Coughlan 2012), a mere 250m to the north-east of Burnt Mound B. It must, however, also be considered that the burnt mound deposit may actually be of medieval date.

## 2.4 Phase 4 Later Drainage and Other features

### 2.4.1 Natural depression (C12)

#### Contexts

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C4	C12	1.8	1.3	0.27	Firm dark blackish brown clayey silt	Burnt mound material
C5	C12	10	6	0.11	Very soft, light pinkish grey silt.	Fill of depression
C6	C12	10	6	0.42	Grey black/brown clayey silt,	Fill of depression
C12	N/A	10	6	0.62	Irregular in plan, shallow sides, flat base.	Natural Depression

**Finds:** Post-Medieval Pottery and glass

#### Interpretation

A large, possibly natural, depression (C12) was identified south of Burnt Mound B (Figure 4). It appeared to represent a natural anomaly; perhaps identifying the original course of the stream which was straightened during land clearance, or a pool adjacent the Glasheen River which is located to the west. Upper deposit C4 appeared to be disturbed burnt mound material from C11 associated with the adjacent Burnt Mound B. The depression (C12) was partly excavated during stage (ii) works. It was found to contain nearly modern to modern pottery and glass sherds, similar to those identified within the Burnt Mound A (C3). Based on current evidence it seems likely the feature was a natural depression in-filled in recent times, perhaps as part of land reclamation efforts by a former landowner.

### 2.4.2 Drains

#### Contexts

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C7	C10	0.52	0.86	0.52	Mottled orange brown/ mid grey silty clay	Fill of drain
C8	C10	2.4	0.8	0.4	Mid orange-brown silty clay	Fill of drain
C9	C10	2.4	1	0.5	Dark grayish black silty clay	Disturbed burnt mound material
C10	N/A	2.4	1.2	0.5	Linear, steep sides, flat base	Cut of drain

**Finds:** None

#### Interpretation

A modern land drain truncated both Burnt Mound B (C11) and the in-filled natural depression, C12 (Figure 4 and 5). Evidence for natural silting and slippage of adjacent the burnt mound material was noted in the fills – C7, C8 and C9.

## 2.5 Phase 5 Topsoil

Context	Fill of	L(m)	W(m)	D(m)	Basic Description	Interpretation
C1	N/A	N/A	N/A	0.4	Fairly loose reddish-brown/grey clayey silt	Topsoil

**Finds:** None

#### Interpretation

This topsoil sealed all deposits and archaeological features on site.

### 3 SYNTHESIS

#### 3.1 Physical Landscape Setting

Chetwynd 1 was situated in the townland of Chetwynd (parish of St. Finbar's) at c. 40m Ordnance Datum (OD). Chetwynd (Area B) is located to the immediate south of St. James's Cemetery, a cemetery. Chetwynd 1 (Area A) is located to the north of St. James's Cemetery (in the NW corner of the field). The surrounding topography is west-sloping, being located on the eastern side of the River Glasheen. The area of the site is low-lying, near the base of the River Glasheen valley and is relatively poorly drained, being generally wetter than the surrounding higher ground.

The landscape hinterland is located predominantly in the Barony of Cork North Liberties and partly in the city borough of Cork. It encompasses the townlands of Ardarostig, Garranedarragh and Chetwynd, and to a lesser extent Ballinaspig More, Knockamallavoge, Gortagoulane, Doughcloyne, Rochfordstown and Ballymah.

#### 3.2 The Archaeological Landscape

As part of the general research relating to Chetwynd 1, the known archaeology within the surrounding landscape was assessed. The assessment included a review of information from the Record of Monuments and Places (RMP), previous excavations in the area and other relevant documentary sources, including historic mapping. The excavated archaeology at Chetwynd 1 has been identified as being Late Bronze Age in date.

##### Prehistory

Neolithic pits and were uncovered at Ballinaspig More (02E0947) and a Neolithic house at Barnagore (02E0384) located c. 1.5km and 8km WNW of Chetwynd 1 respectively. Several sites with Bronze Age activity were also recently excavated at Barnagore (02E0383 and 02E0400) and Carrigrohane (02E0890) c. 8km and c. 4km NW of Chetwynd 1.

There is one recorded *fulacht fiadh* (CO086-004) located c. 1.4km south of Chetwynd 1 in the townland of Knockamallavoge. In Ireland, the siting of *fulachta fiadh* or burnt mounds seem almost always to have been determined by the presence of wet or marshy ground. Burnt mounds are most commonly located in marginal land, adjacent to water sources or at a level that facilitate access to the water table. Burnt mounds are the most common indicators of Bronze Age Activity however they are also known to date, albeit less frequently to the Iron Age and medieval period.

Several recent excavations have revealed the remains of burnt mounds or *fulachta fiadh* in the surrounding landscape. Three *fulachta fiadh* were excavated at Ballinaspig More (01E0546, 02E1230, 02E1233) as part of the N22 Ballincolling Bypass, located between c. 1km and 1.75km NW of Chetwynd 1. Two more *fulachta fiadh* sites were excavated on the same scheme further to the W in Carrigrohane (01E0444) and Curraheen: (02E1297); located over 4km WNW of Chetwynd 1.

Recent archaeological testing (Conran 2009, 09E0135) undertaken as stage (i) works along the proposed route of N71 Chetwynd Viaduct Scheme revealed a agricultural furrows, a ditch and several pits of unknown age (Garrandaragh 1 – Area A); and a number of dispersed features (Garrandaragh 1 – Area B) that included a suspected stone revetment wall, deposits, furrows, ditches, a stone surface and a stone drain.

### Iron Age and Early Medieval Periods

There are no known sites dating to the Iron Age in the vicinity of the site. The early medieval landscape surrounding the proposed scheme is characterised by enclosures, earthworks and ringforts. A ringfort (CO086-005) is located c. 1.2km south of Chetwynd 1 in the townland of Knockamallavoge. At Gortagoulane, there is a recorded earthwork (CO086-008) c. 1km south-east of the Chetwynd 1 which, while undated, could also be early medieval in date. An early medieval hearth was recently excavated at Lisheens (01E0755) located c. 7km north-west of Chetwynd 1.

### Medieval and Post-Medieval Periods

The receiving environment for the proposed scheme is dominated by post-medieval sites, ranging in type from transport related sites, industrial sites and residential sites. There are no recorded medieval sites in the vicinity. There is only one Recorded Monument and Place (RMP) within a 500m radius of the road widening scheme. This is Chetwynd House (CO086-058) and it will not be impacted upon by the proposed development. The Chetwynd Viaduct (CO086-002) is located c. 800m SSW of Chetwynd 1 in the townlands of Rochfordstown/Chetwynd. The Chetwynd Viaduct carried the rail line over the Glasheen River valley and the main Bandon road for over 100 years between 1851 and 1961. It was designed by Charles Nixon and constructed between 1847 and 1851 by Fox, Henderson and Co, the same company who built the Crystal Palace in London (Rynne 2006, 373). An unrecorded, pre-1840 flour mill (AIR Site CHS 16), associated mill pond (AIR Site CHS 1) and mill race (AIR Site CHS 2) at Ardarostig as well as a disused quarry (AIR Site CHS 7) at Ballinaspig More (Hanley 2006) are also visible within the receiving environment.

The development of a landed gentry is also represented within the receiving environment by Garrane Demesne (AIR Site CHS 3) at Garranedarragh; the walled garden (AIR Site CHS 6) belonging to Bishopstown House, at Ballinaspig More; Wilton Demesne (AIR Site CHS 8) at Farrandahadore; Doughcloyne House (AIR Site CHS 10), at Doughcloyne; and both 'Chetwynd' (AIR Site CHS 11), and Chetwynd House (AIR Site CHS 21) at Chetwynd (Hanley 2006).

A study of the nearby townland names was undertaken as part of the Archaeological Impact Report (Hanley 2006). It was suggested that Ardarostig could be translated to *Árd an ros tig*, 'height of the grove of the house'. Chetwynd is an Anglo-Saxon name, derived from parish of Chetwynde, Shropshire, England. The original place name derived from Old English compound word which means 'dweller at the winding ascent'. The origins of the family name are believed to pre-date the Battle of Hastings. The Chetwynd family motto is *Probitas verus honos* or 'Probity is true honour'. The current place name clearly derives from the landownership at the time of the ordnance survey mapping in Cork. The townland name is linked to Chetwynd House (AIR Site CHS 21). Garranedarragh translates as *Garáin darach* or 'grove of the abounding oak' (Flanagan 1994, 67 & 90).

### 3.3 Typological Background of Burnt Mound Activity

Burnt mound sites (also referred to as *Fulacht Fiadh* sites) 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. In many cases, however, the sites have been disturbed by subsequent agricultural activity and are no longer visible on the field surface. Nevertheless, even disturbed spreads of burnt mound material often preserve underlying associated features, such as troughs, pits and gullies.

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-holes and stake-holes 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 & 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 excavation has identified the site of two burnt mounds. The larger mound (Burnt Mound A) was located centrally within the excavation area and two rectangular troughs were recorded beneath the overlying mound material, which had been heavily disturbed by ploughing. One of the troughs (Trough 2) was dated to the late Bronze Age (903–811BC, UB 18108). To the south of the troughs was a large pit which may have acted as a cistern or assisted in water management rather than water heating as with the rectangular troughs. This pit was also dated to the late Bronze Age (832–788BC, UB 18110). A series of stake-holes extended from the cistern, possibly representing a small fence or windbreak. The clustering of these stake-holes indicates that the fence was possibly re-erected a number of times.

The second mound (Burnt Mound B) was located to the north-west and was only partially exposed within the excavation area. It returned a medieval date from



radiocarbon dating of a charred barley seed, although it is interpreted that this was potentially intrusive. All other features on site were of early modern or modern date.

### **3.5 Summary of the Specialist Analysis**

A number of specialists provided analysis of samples and artefacts recovered from the site, as part of the post-excavation assessments. This work in part formed the basis for the dating evidence for the site. The detailed reports on the results of all analysis are in Appendix 2

#### ***Post-medieval pottery analysis***

A total of 35 ceramic and 14 glass finds were presented for study. All of the material dates to the 19th and early 20th century.

#### ***Charcoal and Wood Species identification***

Six wood species totalling 119 identifications were recorded from charcoal samples associated with Chetwynd 1. The mixed wood assemblage of oak, alder, willow, ash, cherry and birch is not unusual from these sites. Alder and willow typically grew close to *fulacht fiadh* sites, as these site types were usually constructed close to wet or marshy ground (Waddell, 1998, 174). Oak and ash are common to drier woodland areas, while cherry and birch would have grown in clearances and marginal woodland or hedgerows.

#### ***Analysis of Plant Remains***

This charred plant assemblage was dominated by cultivated crops in the form of barley and oat grain, along with field pea seeds. A lower occurrence of wheat grain, possible broad/horse bean seeds and fragments of indeterminate vetch/pea seeds were also identified. This plant assemblage, which contained a notably high number of arable crops (barley, oat and wheat) and economic species (peas and beans), was very similar to the crop assemblage recorded at nearby Garranedarragh 1 (Bayley & Coughlan 2012), a site comprising a medieval field system. The collective presence of barley, wheat, oat and pulse crops (peas and beans) are associated more with later medieval arable agriculture, as such none of the plant remains are likely to have been contemporary with Burnt Mound B. It should be noted that only the heavily disturbed burnt mound at Burnt Mound B was found to contain plant remains and no such remains were found associated with Burnt Mound A. It is interpreted that the plant remains, and the corresponding radiocarbon date, are intrusive to Burnt Mound B, and may be derived from activity related to the nearby Garranedarragh 1 site.

#### ***Radiocarbon Dating***

A total of 3 samples were sent for AMS radiocarbon dating.

The results of the analysis dated alder charcoal from the fill of a trough associated with Burnt Mound A. The 2 sigma calibrated date was 832–788BC (UB 18110).

The results of the analysis also dated ash charcoal from the fill of a pit/cistern associated with Burnt Mound A. The 2 sigma calibrated date was 895–821BC (UB 18108).

Charred barley grain from a deposit associated with Burnt Mound B was also dated. The 2 sigma calibrated date was AD1317–1401 (UB 18109).

## 4 DISCUSSION AND CONCLUSIONS

### 4.1 Discussion

#### *Site location*

Chetwynd 1 was identified as a burnt mound site, (also commonly referred to as a *fulacht fiadh*), which are one of the most common field monuments found in the Irish landscape. Two separate burnt mounds were present on the site. Burnt Mound A dated to the late Bronze Age and Burnt Mound B dated to the medieval period; the authenticity, however, of this latter date being related to the burnt mound activity is questionable, given the evident disturbance to the burnt mound and, consequently, the elevated likelihood that the charred barley grain, from which the radiocarbon date was derived, was intrusive. The site was located near the base of a small valley associated with the Glasheen River, located to the west. The immediate landscape is low-lying and marginal in nature. Burnt Mound A was situated on a relatively flat terrace, however the ground to the south and west was lower, giving the impression that the site was elevated. It is likely that the lower ground was wetter being adjacent the Glasheen River. 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 this instance the site is typically located. The nearest known burnt mounds are located c. 1.2km away.

Analysis of charcoal samples from the site has identified a mix of wood taxa that confirm that in the late Bronze Age the surrounding area was marginal: the presence of alder and willow indicate a wetter landscape, while ash and oak are indicative of drier woodland.

The surrounding archaeological landscape does not contain any previously recorded contemporary sites within 1km. Burnt mound activity was identified at a number of sites c. 1.2km away. Chetwynd 1 therefore does not form part of a previously known archaeological complex, and analysis of the surrounding archaeological record gave no prior indication of the archaeological potential of Chetwynd 1.

#### *The burnt mounds: function and form*

The late Bronze Age burnt mound displayed most of the features traditionally associated with this site type – troughs, smaller pits, a large deposit of heat shattered stone, charcoal and blackened soil. The current understanding of the functions of features associated with burnt mound sites has been presented in Section 3.3, and it is probable that the Chetwynd burnt mounds largely conform to this. There was no evidence of a hearth at either Burnt Mound A or B, but the identification of a hearth from burnt mound sites is generally atypical, despite the clear need for a hearth to heat the stones. It is possible that given the wet and marginal nature of the sites that the hearths were elevated slightly above the ground, possibly on a stone or other platform and do not survive in the archaeological record. The larger burnt mound deposit (Burnt Mound A) was heavily disturbed and truncated by modern agricultural activity and furrows which was evidenced by the large amount of early-modern/modern pottery and glass recovered from it. The second burnt mound (Burnt Mound B) was only partially located within the confines of the excavated area. No definitive features other than the mound material were identified. It is probable that the exposed portion was only the extreme outer edge of a larger mound that extended to the west. The outer fringe of a burnt mound is more likely to consist of disturbed slippage off the original core mound and is almost certainly a disturbed context.

It is possible that Burnt Mound A was the subject of a number of phases of activity, such as if one of the two possible rectangular troughs was a secondary replacement

for the other. A large pit (C15) may have acted as a cistern. Given its size and shape (a deep sub-circular cut with gently sloping sides) this feature is likely to have had a different function to the two troughs, which were sub-rectangular and straight-sided. The pit may have been used for water collection/storage, while the troughs were used for the boiling of water. A series of stakeholes extending from the pit/cistern may represent the line of a small fence or screen. The dense clustering of these stakeholes could indicate that it was replaced a number of times, further suggesting a number of seasons of activity at the site. They may also represent the location of a small temporary structure, based on possible rectangular or circular patterns identified in the arrangement of the stakeholes, but no definitive pattern was identified

There was no evidence that either of the troughs was lined, but this is not unusual in the archaeological record and any lining may simply have been removed on abandonment of the site or simply decayed, leaving no trace.

#### *Date of use*

Two late Bronze Age dates were returned from Burnt Mound A, one from a trough (C16) and the other from the possible pit/cistern (C15). The pit/cistern produced a 2 sigma calibrated date of 895–821BC (UB 18108), while the trough produced a 2 sigma calibrated date of 832–788BC (UB 18110). The dating indicates that the two features are broadly contemporary; however it cannot be established whether there was single or multiple phases of activity on the site, or if the dated features are directly related.

Burnt Mound B returned a radiocarbon date in the medieval period. The dated radiocarbon sample consisted of a charred barley seed. It is possible that the burnt mound activity is indeed medieval in date, however in general burnt mound sites are dated to prehistory and predominantly the Bronze Age. Evidence of medieval burnt mounds has been identified, most notably at Peter Street in Waterford (Walsh 1990, 47). However, outside urban environments, like Peter Street, medieval burnt mounds are not commonplace although a peripheral trough to a multi-phased Bronze Age burnt mound/Iron Age settlement site at Moanduff 2 Co Carlow, produced a 2 sigma calibrated date of AD1432–1472 (UB 13123) (Coughlan, T. and Lynch, R. 2011). The Moanduff date was from a secure trough fill, and there was no other medieval activity recorded on the site or in the vicinity to suggest an intrusive date. Evidence from Garranedarragh 1 (Bayley & Coughlan 2012), excavated as part of the same scheme a mere 250m to the north-east, contained barley seed radiocarbon dated to the medieval period. It is likely that the area of Chetwynd 1 saw barley cultivation in the medieval period and that grain residue became incorporated into Burnt Mound B, which is likely to have existed since the Bronze Age. However, given the evidence from Moanduff, Co.Carlow, a medieval date for Burnt Mound B cannot be completely discounted.

## **4.2 Conclusions**

The late Bronze Age burnt mound recorded at Chetwynd 1 is of local importance, as it represents the first evidence of prehistoric activity in the immediate vicinity. The location of this site type adjacent to a river is not unexpected and the identification of features in the form of troughs and pits are often associated with such sites. It is unclear what the precise nature of the activity at Chetwynd 1 was, apart from showing evidence of the use of hot stone technology for heating water in troughs. Whether the heated water was used for cooking, bathing or other activity is not known.

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## APPENDIX 1 CATALOGUE OF PRIMARY DATA

### Appendix 1.1 Context Register

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description
C1	N/A	N/A	N/A	0.4	Topsoil	Fairly loose reddish-brown/grey clayey silt
C2	N/A	N/A	N/A	N/A	Subsoil	Grey-blue clay
C3	N/A	10.0	21.0	0.35	Burnt mound	Mixed mid-brown to dark blackish brown silty clay with 30-40% heat-shattered stones
C4	N/A	1.8	1.3	0.27	Burnt mound material	Firm dark blackish brown clayey silt with 20-30% decayed sandstone
C5	C12	2.4	1.9	0.11	Fill of linear feature	Very soft, light pinkish grey silt.
C6	C12	2.2	1.8	0.42	Fill of linear feature	Soft dark grayish black to mid-brownish black clayey silt, with 20-30% decayed sandstone
C7	C10	0.52	0.86	0.52	Fill of drain	Firm mottled orange brown/ mid grey silty clay with frequent angular pebbles. – mixture of re-deposited sub-soil and burnt spread material
C8	C10	2.4	0.8	0.4	Fill of drain	Soft mid orange-brown silty clay, frequent sub-angular stones and pebbles
C9	C10	2.4	1.0	0.5	Disturbed burnt mound material	Soft dark grayish black silty clay, sub-angular sandstone and pebbles
C10	N/A	2.4	1.2	0.5	Cut of drain	Linear drain, orientated E-W, gradual break of slope at top, steep sides leading gradually a flat base.
C11	N/A	2.45	3.3	0.55	Burnt mound	Softly compacted mid-brownish black silty clay with occasional sub-angular sandstone
C12	N/A	2.5	2.4	0.62	Cut of possible trough/linear feature	Large irregular cut, rounded corners with sharp break of slope at the top, undercut sides and a level base.
C13	N/A	4.7	1.1	0.3	Burnt mound material	Semi-circular spread of fairly compact black loose silt with large angular stones.
C14	C15	2.7	2.4	0.78	Fill of well/cistern	Moderately compacted dark brownish black silt with 80% heat-shattered stone, occasional charcoal flecks visible
C15	N/A	2.7	2.4	0.78	Cut of well/cistern	Oval cut orientated NW-SE, moderate-sharp break of slope at top, slightly concave sides, moderate break of slope at base, slightly concave base.
C16	N/A	2.1	1.25	0.49	Cut of trough	Rectangular cut, orientated E-W, steep break of slope at top, steep sides, gradual break to a flat base.
C17	C16	2.1	1.25	0.49	Fill of trough	Moderately compact blackish brown clayey silt with 60% heat-shattered stone inclusions, some charcoal flecking.
C18	N/A	0.08	0.08	0.16	Cut of stakehole	Circular in plan, sharp break of slope at top, steep slopes, gradually breaking to a concave base.
C19	C18	0.08	0.08	0.16	Fill of stakehole	Moderately compacted dark brownish black silty clay, burnt mound like material, 30% heat-shattered stone and charcoal

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description
C20	N/A	0.11	0.11	0.18	Cut of stakehole	Circular in plan, sharp break of slope at top, steep slopes, gradually tapering to a pointed base.
C21	C20	0.11	0.11	0.18	Fill of stakehole	Moderate to light grey with yellow flecks, silty clay with occasional charcoal flecks
C22	N/A	0.1	0.8	0.12	Cut of stakehole	Oval in plan, gradual break of slope at top, slightly convex W slope, gradually breaking to a concave base
C23	N/A	0.1	0.1	0.17	Cut of stakehole	Circular in plan, sharp break of slope at E, gradual at W, slightly convex W slope, gradually breaking to a concave base
C24	N/A	0.09	0.65	0.09	Cut of stakehole	Oval in plan, gradual break of slope at top, gradual slopes, gradually breaking to a concave base
C25	N/A	0.12	0.9	0.19	Cut of stakehole	Oval in plan, E-W, moderate break of slope at top, straight slopes, gradually breaking to a concave base
C26	N/A	0.11	0.09	0.18	Cut of stakehole	Oval in plan, N-S, moderate break of slope at top, straight slopes, gradually breaking to a concave base
C27	N/A	0.08	0.08	0.16	Cut of stakehole	Circular in plan, sharp break of slope at top, steep slopes, gradually to a concave base.
C28	N/A	0.07	0.06	0.11	Cut of stakehole	Oval in plan, sharp break of slope at top, gradual concave slopes, gradually breaking to a concave base
C29	N/A	0.05	0.03	0.07	Cut of stakehole	Oval in plan, moderate break of slope at top, straight slopes, gradually breaking to a concave base
C30	N/A	0.07	0.05	0.12	Cut of stakehole	Oval in plan, moderate break of slope at top, straight slopes, gradually breaking to a concave base
C31	N/A	0.8	0.04	0.09	Cut of stakehole	Oval in plan, sharp break of slope at top, gradual concave slopes, gradually breaking to a concave base
C32	N/A	0.08	0.04	0.15	Cut of stakehole	Oval in plan, sharp break of slope at top, gradual concave slopes, gradually breaking to a concave base
C33	N/A	0.06	0.04	0.20	Cut of stakehole	Oval in plan, sharp break of slope at top, gradual concave slopes, gradually breaking to a concave base
C34	N/A	0.06	0.06	0.10	Cut of stakehole	Circular in plan, sharp break of slope at top, steep slopes, gradually to a concave base.
C35	C22	0.1	0.8	0.12	Fill of stakehole	Moderate compaction, mid to light grey silty clay, occasional small stones and charcoal flecks
C36	C23	0.1	0.1	0.17	Fill of stakehole	Moderate compaction, mid to light grey silty clay, occasional small stones and charcoal flecks
C37	C24	0.09	0.65	0.09	Fill of stakehole	Moderate compaction, mid to light grey silty clay, occasional small stones and charcoal flecks

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description
C38	C25	0.12	0.9	0.19	Fill of stakehole	Moderate compaction, mid to light grey silty clay, occasional small stones and charcoal flecks
C39	C26	0.11	0.09	0.18	Fill of stakehole	Moderate compaction, mid to light grey silty clay, occasional small stones and charcoal flecks
C40	C27	0.08	0.08	0.16	Fill of stakehole	Moderate compaction, mid to light grey silty clay, occasional small stones and charcoal flecks
C41	C28	0.07	0.06	0.11	Fill of stakehole	Moderate compaction, mid to light grey silty clay, occasional small stones and charcoal flecks
C42	C29	0.05	0.03	0.07	Fill of stakehole	Moderate compaction, mid to light grey silty clay, occasional small stones and charcoal flecks
C43	C30	0.07	0.05	0.12	Fill of stakehole	Moderate compaction, mid to light grey silty clay, occasional small stones and charcoal flecks
C44	C31	0.8	0.04	0.09	Fill of stakehole	Moderate compaction, mid to light grey silty clay, occasional small stones and charcoal flecks
C45	C32	0.08	0.04	0.15	Fill of stakehole	Moderate compaction, mid to light grey silty clay, occasional small stones and charcoal flecks
C46	C33	0.06	0.04	0.20	Fill of stakehole	Moderate compaction, mid to light grey silty clay, occasional small stones and charcoal flecks
C47	C34	0.06	0.06	0.10	Fill of stakehole	Moderate compaction, mid to light grey silty clay, occasional small stones and charcoal flecks
C48	C49/C50/C51	2.7	1.8	0.42	Fill of pits and trough	Firmly compacted dark brown black clayey silt, 30-40% heat-shattered stone, occasional charcoal flecks.
C49	N/A	1.15	0.77	0.42	Cut of pit	Oval shaped NW-SE cut, rounded corners, sharp break of slope, vertical sides, tapers gradually to a concave base
C50	N/A	0.8	0.54	0.28	Cut of pit	Oval shaped NW-SE cut, rounded corners, sharp break of slope, vertical sides, tapers gradually to a concave base
C51	N/A	2.7	1.8	0.38	Cut of trough	Large sub-rectangular pit, rounded corners, sharp break of slope at top, vertical sides, flat base sloping from NE-SW
C52	C53	0.19	0.19	0.22	Fill of posthole	Firmly compacted, mid-grey clayey silt with frequent charcoal flecks and heat-shattered angular stones
C53	N/A	0.19	0.19	0.22	Cut of posthole	Circular cut, sharp break of slope at top, tapering gradually to a concave base.
C54	C55	0.15	0.08	0.14	Fill of posthole	Mid grey silt with occasional charcoal flecks
C55	N/A	0.15	0.08	0.14	Cut of posthole	Semi-circular cut, sharp break of slope at top, gradual sides with sharp break of base to a chisel pointed base. Orientated NW-SE
C56	N/A	0.27	0.23	0.31	Cut of posthole	Rectangular E-W cut, sharp break of slope at top, slightly concave sides,

Context	Fill of	L(m)	W(m)	D(m)	Interpretation	Description
						gradual to a flat base.
C57	C56	0.27	0.23	0.31	Fill of posthole	Dark bluish grey silty clay, 20% small angular stones, occasional charcoal flecks
C58	N/A	22.00+	1.10	0.22	Geological Linear	E-W linear channel. Gently rounded cut, not of uniform width. Appears to be a natural drainage channel.
C59	C58	22.00+	1.10	0.22	Fill of Geological Linear	Sterile silty fill of E-W linear natural drainage channel. Grey silt material with some iron pan flecking.

**Appendix 1.2 Catalogue of Artefacts**

Registration Number	Context	Item No.	Simple Name	Full Name	Material	No. of Parts	Description
10E0383:3:1	3	1	Pottery	Transfer Printed Ware	Ceramic	1	Body
10E0383:3:2	3	2	Pottery	Transfer Printed Ware	Ceramic	1	Body
10E0383:3:3	3	3	Pottery	Transfer Printed Ware	Ceramic	1	Body
10E0383:3:4	3	4	Pottery	Transfer Printed Ware	Ceramic	1	Rim
10E0383:3:5	3	5	Pottery	Transfer Printed Ware	Ceramic	1	Rim
10E0383:3:6	3	6	Pottery	Transfer Printed Ware	Ceramic	1	Rim
10E0383:3:7	3	7	Pottery	Transfer Printed Ware	Ceramic	1	Rim
10E0383:3:8	3	8	Pottery	Transfer Printed Ware	Ceramic	1	Rim
10E0383:3:9	3	9	Pottery	Painted Pearlware	Ceramic	1	Body
10E0383:3:10	3	10	Pottery	Painted Pearlware	Ceramic	1	Body
10E0383:3:11	3	11	Pottery	Painted Pearlware	Ceramic	1	Rim
10E0383:3:12	3	12	Pottery	Painted Pearlware	Ceramic	1	Rim
10E0383:3:13	3	13	Pottery	Prattware	Ceramic	1	Body
10E0383:3:14	3	14	Pottery	Banded/Mochaware	Ceramic	1	Rim
10E0383:3:15	3	15	Pottery	Brown Glazed Earthenware	Ceramic	1	Body
10E0383:3:16	3	16	Pottery	Brown Glazed Earthenware	Ceramic	1	Rim/handle
10E0383:3:17	3	17	Pottery	Chinaware	Ceramic	1	Body
10E0383:3:18	3	18	Pottery	Chinaware	Ceramic	1	Body
10E0383:3:19	3	19	Pottery	Chinaware	Ceramic	1	Body
10E0383:3:20	3	20	Pottery	Chinaware	Ceramic	1	Body
10E0383:3:21	3	21	Pottery	Chinaware	Ceramic	1	Body
10E0383:3:22	3	22	Pottery	Chinaware	Ceramic	1	Body
10E0383:3:23	3	23	Pottery	Chinaware	Ceramic	1	Body
10E0383:3:24	3	24	Pottery	Chinaware	Ceramic	1	Rim
10E0383:3:25	3	25	Pottery	Chinaware	Ceramic	1	Rim
10E0383:3:26	3	26	Pottery	Chinaware	Ceramic	1	Base
10E0383:3:27	3	27	Pottery	Chinaware	Ceramic	1	Base
10E0383:3:28	3	28	Pottery	Chinaware	Ceramic	1	Base
10E0383:3:29	3	29	Pottery	Chinaware	Ceramic	1	Base
10E0383:3:30	3	30	Pottery	Chinaware	Ceramic	1	Base

Registration Number	Context	Item No.	Simple Name	Full Name	Material	No. of Parts	Description
10E0383:3:31	3	31	Pottery	Chinaware	Ceramic	1	handle
10E0383:3:32	3	32	Pottery	Stoneware	Ceramic	1	Body
10E0383:3:33	3	33	Pottery	Stoneware	Ceramic	1	Body
10E0383:3:34	3	34	Pottery	Stoneware	Ceramic	1	Body
10E0383:3:35	3	35	Pottery	Stoneware	Ceramic	1	Body
10E0383:3:36	3	36	Glass	sherd of modern glass	Glass	1	Body
10E0383:3:37	3	37	Glass	sherd of modern glass	Glass	1	Body
10E0383:3:38	3	38	Glass	sherd of modern glass	Glass	1	Body
10E0383:3:39	3	39	Glass	sherd of modern glass	Glass	1	Body
10E0383:3:40	3	40	Glass	sherd of modern glass	Glass	1	Body
10E0383:3:41	3	41	Glass	sherd of modern glass	Glass	1	Body
10E0383:3:42	3	42	Glass	sherd of modern glass	Glass	1	Body
10E0383:3:43	3	43	Glass	sherd of modern glass	Glass	1	Body
10E0383:3:44	3	44	Glass	sherd of modern glass	Glass	1	Body
10E0383:3:45	3	45	Glass	sherd of modern glass	Glass	1	Body
10E0383:3:46	3	46	Glass	sherd of modern glass	Glass	1	Body
10E0383:3:47	3	47	Glass	sherd of modern glass	Glass	1	Body
10E0383:3:48	3	48	Glass	sherd of modern glass	Glass	1	Body
10E0383:3:49	3	49	Glass	sherd of modern glass	Glass	1	Body

### Appendix 1.3 Catalogue of Ecofacts

During post excavation works specific samples were processed with a view to further analysis. The following are the ecofacts recovered from these samples: -

Context #	Sample #	Feature type i.e. Structure hearth C45 A,	Flot Volume (grams)	charcoal	charred seeds	burnt animal bone	animal bone	human bone	burnt human bone	Other
C11	3	Trough	189.7	√						
C14	1	Pit	120	√						
C17	2	Burnt Mound	357.5	√	√					

**Appendix 1.4 Photograph Register**

Photo number	Context #	Direction	Type	Comments
1862	C3	NNE	Mid-ex	SW quadrant
1863	C3	E	Section	SW quadrant
1864	C3	NNE	Section	SW quadrant
1865	C3	NNE	Section	SW quadrant
1866	C3	E	Mid-ex	NE mid quadrant
1867	C3	NNE	Mid-ex	NE mid quadrant
1868	C3	S	Section	NE mid quadrant
1869	C3	S	Section	NE mid quadrant
1870	C3	NNE	Section	NE mid quadrant
1871	C3	W	Section	NE mid quadrant
1872			Work in progress	NW corner of site
1873	C3	E	Section	E mid quadrant
1874	C3	S	Section	W mid quadrant
1875	C3	NNE	Section	W mid quadrant
1876	C3	NNE	Section	W mid quadrant
1877	C3	W	Mid-ex	NE mid quadrant
1878	C3	W	Section	NE mid quadrant
1879	C3	S	Section	NE mid quadrant
1880	C3	S	Section	NE mid quadrant
1881	C3	S	Mid-ex	Overview of burnt mound
1882	C3	S	Mid-ex	Overview of burnt mound
1883	C3	N	Mid-ex	Overview of burnt mound
1884	C3	N	Mid-ex	Overview of burnt mound
1885	C3	S	Mid-ex	Overview of burnt mound
1886	C3	S	Mid-ex	Overview of burnt mound
1887	-	-	-	-
1888	C3	W	Mid-ex	Burnt mound
1889	C3	W	Post-ex	E facing section
1890	C3	W	Post-ex	E facing section
1891	C3	S	Post-ex	North facing section
1892	C3	NW	Post-ex	SE facing section
1893	C13	NE	Mid-ex	
1894	C13	NE	Mid-ex	
1895	C15	E	Post-ex	SE area A
1896	C15	N	Post-ex	
1897	C15	N	Post-ex	
1898	C15	S	Post-ex	
1899	C18-47	E	Post-ex	Stakeholes
1900	C18-47	E	Post-ex	Stakeholes
1901	C18-47	N	Post-ex	Stakeholes
1902	C18-47	N	Post-ex	Stakeholes
1903	-	-	-	-
1904	C18-47	E	Post-ex	Stakeholes
1905	C18-47	S	Post-ex	Stakeholes
1906	C16	NNW	Mid-ex	SE facing section of trough
1907	-	-	-	-
1908	C49,50,51	NE	Post-ex	Possible trough
1909	C49, C51	NE	Post-ex	
1910	C16	N	Post-ex	Trough
1911	C16	E	Post-ex	Trough
1912	C53	-	Post-ex	Posthole
1913	C55	-	-	-
1914	C56	S	Post-ex	Posthole



Photo number	Context #	Direction	Type	Comments
1915	C56	S	Post-ex	Posthole
1916	C56	W	Post-ex	Posthole

### Appendix 1.5 Plan Register and Section Register

Drawing No.	Plan/ Sections	Description	Scale
1	Section	Sections of burnt spread C3 – 1.1, 1.2, 1.3, 1.4	1:20
2	Section	Sections of burnt spread C3 and C4-C9 – 2.1, 2.2, 2.3, 2.4	1:20
3	Section	Sections of burnt spread C3 – 3.1, 3.2, 3.3, 3.4, 3.5, 3.6 and 3.7	1:20
4	Section	Section of C13 (4.1), C15 (4.2) and C49, C50 and C51 (4.3)	1:20
5	Section	Sections of C4-C11 (5.1), C11 (5.2), C16 and C17 (5.3)	1:20
6	Plan	Post-ex plan of site	1:20

## **APPENDIX 2 – SPECIALIST REPORTS**

Appendix 2.1 Medieval and Post Medieval Pottery Report - Clare McCutcheon

Appendix 2.2 Archaeobotanical and Charcoal Report – Susan Lyons

Appendix 2.3 Radiocarbon Dating Results – QUB Laboratory

## **Appendix 2.1 Medieval and Post Medieval Pottery Analysis – Clare McCutcheon**

### THE MEDIEVAL AND POST MEDIEVAL POTTERY

CHETWYND 1  
N71 CHETWYND SCHEME

CLARE MCCUTCHEON MA MIAI

A total of 41 ceramic and glass finds were presented for study all recovered from Context 3. Following identification and some reassembly this was reduced to 35 sherds as per Table 1. All of the material dates to the 19th and early 20th century.

Context	Context description	Pottery type
3	Burnt mound deposit	Transfer printed ware x3bodies+5rims Painted pearlware x2bodies+2rims Prattware x1body Banded/Mochaware x1rim Brown glazed earthenware x1 body+1rim/handle Chinaware x7bodies+2rims+5bases+1handle Stoneware x4bodies Glass x 14 body sherds

**Table 1:** Pottery identification by context, Chetwynd 1 (10E0352)

## **Appendix 2.2 Archaeobotanical and Charcoal Report – Susan Lyons**

### **ARCHAEOBOTANICAL & CHARCOAL ASSESSMENT CHETWYND 1**

**SUSAN LYONS MSC MIAI**

## 1 Introduction

The excavation of site Chetwynd 1 was undertaken along the route of the proposed N71 Chetwynd Viaduct Road Scheme situated approximately 9km south-west of Cork City. Samples from the site were submitted for plant remains and charcoal identifications. Chetwynd 1 was identified as a burnt mound site.

## 2 Methodology

Four samples from Chetwynd 1 were <sup>1</sup>processed by IAC Ltd.

### 2.1 Sample processing (after IAC Ltd)

Bulk dry soil samples are processed by a system 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.

### 2.2 Plant macro-remains assessment

The flot samples are viewed under a low powered binocular microscope (magnification x0.8 to x5). Where preservation allowed, the charred plant macro-remains were identified to species level and recorded using an abundance scale based on the universal DAFOR system, which is a quantitative definition of frequency for counting plant communities:

**Dominant (>250) = D**

**Abundant (51-250) = +++++**

**Frequent (21-50) = +++**

**Occasional (6-20) = ++**

**Rare (1-5) = +**

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

### 2.3 Charcoal assessment

Due to the potential for a very high number of charcoal fragments from the samples, a representative sample of 30 charcoal fragments (Keepax, 1988) were randomly chosen from each sample for identification and assessment.

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 wood species identifications were conducted under a binocular microscope using incident light and viewed at magnifications of 100x, 200x and 400x where applicable.

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<sup>1</sup> 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*. 2<sup>nd</sup> edition, San Diego: Academic Press (Pearsall, D 2000)

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](http://www.lib.ncsu.edu/insidewood)) by Wheeler, Bass and Gasson (1989).

### 3 Chetwynd 1

#### 3.1 Plant macro-remains results

The plant macro-remains from samples associated with Chetwynd 1 are presented in Table 1.

Feature		Burnt mound deposit fill	Trough	Trough fill
Context number		11(2 samples)	14	17
Fill number				
Sample number		3	1	2
Volume of sample		189.7 grams	120 grams	357.5 grams
<i>Latin name</i>	<i>Common name</i>			
<b>CEREALS: CARBONISED</b>				
Hordeum sp.	barley	++++	-	-
Avena sp.	oat	+++	-	-
Triticum sp.	wheat	++	-	-
Cereal indet	indeterminate	++	-	-
<b>PULSE CROPS: CARBONISED</b>				
Pisum sativa	Field pea	++++	-	-
Vicia faba	Broad/horse bean	+	-	-
Vicia sp.	Vetch	+	-	-
Vicia/Lathyrus spp.	vetch/pea	++	-	-
<b>WILD TAXA: CARBONISED</b>				
Galium sp.	bedstraw	+	-	-

**Table 1. Composition of plant remains from Chetwynd 1**

**C11** (burnt mound deposit) was the only feature to contain charred plant remains other than charcoal. This charred plant assemblage was dominated by cultivated crops in the form of barley and oat grain, along with field pea seeds. A lower occurrence of wheat grain, possible broad/horse bean seeds and fragments of indeterminate vetch/pea seeds were also identified. The only evidence for wild taxa from **C11** was in the form of a single bedstraw seed.

#### 3.2 Charcoal results

The charcoal identifications from samples associated with Chetwynd 1 are presented in Table 3.

Context number	Sample number	Flot volume (grams)	Context description	Wood Species Identifications	No. of fragments	Charcoal weights (grams)	Comments
14	01	120 grams	Trough fill	Alnus glutinosa (alder)	15	5.4 grams	C14 viable
				Quercus sp. (oak)	8	2.1 grams	
				Salix sp. (willow)	5	0.8 grams	
				Fraxinus excelsior (ash)	1	0.2 grams	
				Prunus sp. (cherry)	1	0.3 grams	

Context number	Sample number	Flot volume (grams)	Context description	Wood Species Identifications	No. of fragments	Charcoal weights (grams)	Comments
17	02	357.5 grams	Trough	Alnus glutinosa (alder)	20	6.7 grams	C14 viable
				Salix sp. (willow)	5	1 gram	
				Fraxinus excelsior (ash)	4	1.2 grams	
				Betula sp. (birch)	1	0.3 grams	
11	03	168.5 grams	Burnt mound	Quercus sp. (oak)	24	5.9 grams	
				Alnus glutinosa (alder)	6	1.8 grams	C14 viable
11	03	21.2 grams	Burnt mound	Quercus sp. (oak)	27	7.2 grams	
				Alnus glutinosa (alder)	3	1.6 grams	C14 viable

**Table 3. Charcoal identifications from Chetwynd 1**

Six wood species totalling 119 identifications were recorded from charcoal samples associated with Chetwynd 1.

**C14** was dominated by alder, followed by oak, willow, ash and cherry-type charcoal. **C17** was also dominated by alder charcoal, with lesser incidences of willow, ash and birch identified. **C11** contained predominantly oak charcoal, with lower occurrences of alder charcoal also present.

### 3.3 Discussion of results

Plant remains (other than charcoal) associated with domestic or industrial activity are extremely rare from *fulacht fiadh*/burnt mound sites (O'Neill, 2000).

The earliest occupational activity recorded from Chetwynd 1, in the form of burnt mound activity, was dated to the late Bronze Age period. Trough 2 (**C17**) and Trough 3 (**C14**), which dated to 903–811BC and 823–788BC (2 sigma calibration range) respectively, contained just charcoal remains.

Charcoal is a common occurrence from burnt mound/*fulacht fiadh* sites and is related to the burning activities associated with these site types. The mixed wood assemblage of oak, alder, willow, ash, cherry and birch is not unusual from these sites and has also been recorded from Bronze Age *fulacht fiadh* sites at Curraheen 3 and Ballinveitlig, Co. Cork (Lyons, 2010) as well as being commonly identified from a number of similar sites excavated along the routeway of the Gas Pipeline to the west (O'Donnell, 2007) and N8 Cashel to Mitchelstown Bypass (O'Donnell, 2009). Alder and willow grew close to *fulacht fiadh* sites as these site types were usually constructed close to wet or marshy ground (Waddell, 1998, 174). Oak and ash are common to drier woodland areas, while cherry and birch would have grown in clearances and marginal woodland or hedgerows.

The only feature from Chetwynd 1 to contain any evidence for charred plant remains, other than charcoal was **C11**, which was interpreted as a burnt mound deposit. This plant assemblage, which contained a notably high number of arable crops (barley, oat and wheat) and economic species (peas and beans), was very similar to the crop assemblage recorded at nearby Garranedarragh 1. The collective presence of barley, wheat, oat and pulse crops (peas and beans) are associated more with later medieval arable agriculture (*ibid*). This crop assemblage therefore supports the radiocarbon date obtained for **C11**, which was dated to AD1303–1410 (2 sigma



calibration range). The high cereal content along with the high oak charcoal content recorded from **C11** suggests that this is charred debris from medieval kilning activity. Oak produces good long lasting fuel (Culter and Gale, 2000, 205) and is a common wood species identified from features associated with medieval industrial activities (O'Donnell, 2009, 250/251).

Since Garrandaragh 1 and Chetwynd 1 were located in close proximity to each other (<0.5km), it is possible that later medieval activity was present at both sites. It is also possible that **C11** represents re-deposited material from later medieval kiln activity brought to the site as refuse, levelling or backfilling deposits. **C11** was truncated by a modern land drain (Bayley, 2011, 8), which could also explain the presence of later deposits from a predominantly Bronze Age site.

#### 4 Recommendations

- There is no further identification work required on these samples. 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
- The following samples contain sufficient material for radiocarbon dating in the form of AMS: alder charcoal from **C11**, **C14** and **C17** is the most suitable wood species for C14 dating
- All flot samples associated with the samples from the N71 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.
- A record of the methodology and results of this assessment should be included in any final report.

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## Appendix 2.3 Radiocarbon Dating Results – QUB Laboratory

### Radiocarbon Dating Results – QUB Laboratory

The “Measured radiocarbon age” is quoted in conventional years BP (before AD 1950). The error is expressed at the one-Sigma level of confidence.

The “Calibrated date range” is equivalent to the probable calendrical age of the sample material and is expressed at the one Sigma (68.3% probability) and two-Sigma (95.4% probability) level of confidence.

Calibration dataset:

Calibration programme: CALIB REV5.0.2 - used in conjunction with Stuiver, M., and Reimer, P.J., 1993, Radiocarbon, 35, 215–230.

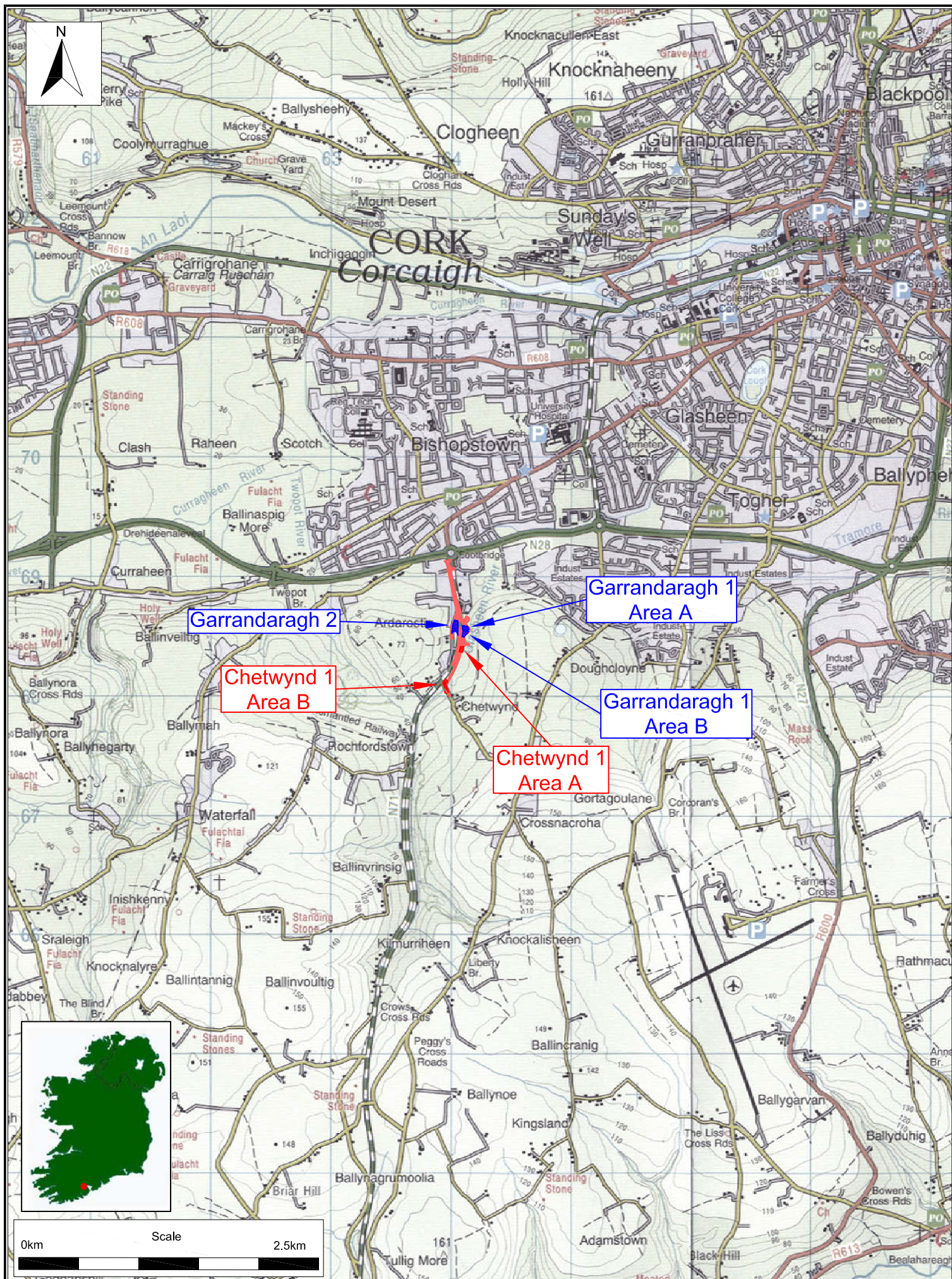
Context	Sample No	Material	Species id/ Weight	Lab	Lab Code	Date Type	Calibrated date ranges	Measured radiocarbon age (BP)	<sup>13</sup> C/ <sup>12</sup> C Ratio ‰
C14	1	Charcoal	Alder ( <i>Alnus glutinosa</i> ) (0.4g)	QUB	UBA 18110	AMS (Std)	814-796 BC (1 sigma), 832-788 BC (2 sigma)	2635±25	-26.7
C17	2	Charcoal	Ash ( <i>Fraxinus excelsior</i> ) (0.3g)	QUB	UBA 18108	AMS (Std)	895-821 BC (1 sigma), 903-811 BC (2 sigma)	2708±25	-24.0
C11	3	Grain	Barley ( <i>Hordeum</i> sp.) (>0.1g)	QUB	UBA 18109	AMS (Std)	AD 1317-1401 (1 sigma), AD 1303-1410 (2 sigma)	589±22	-25.1

### **APPENDIX 3 LIST OF RMP IN AREA**

There is only one Recorded Monument and Place (RMP) within a 500m radius of the road widening scheme. This is Chetwynd House (CO086-058) and it will not be impacted upon by the proposed development.

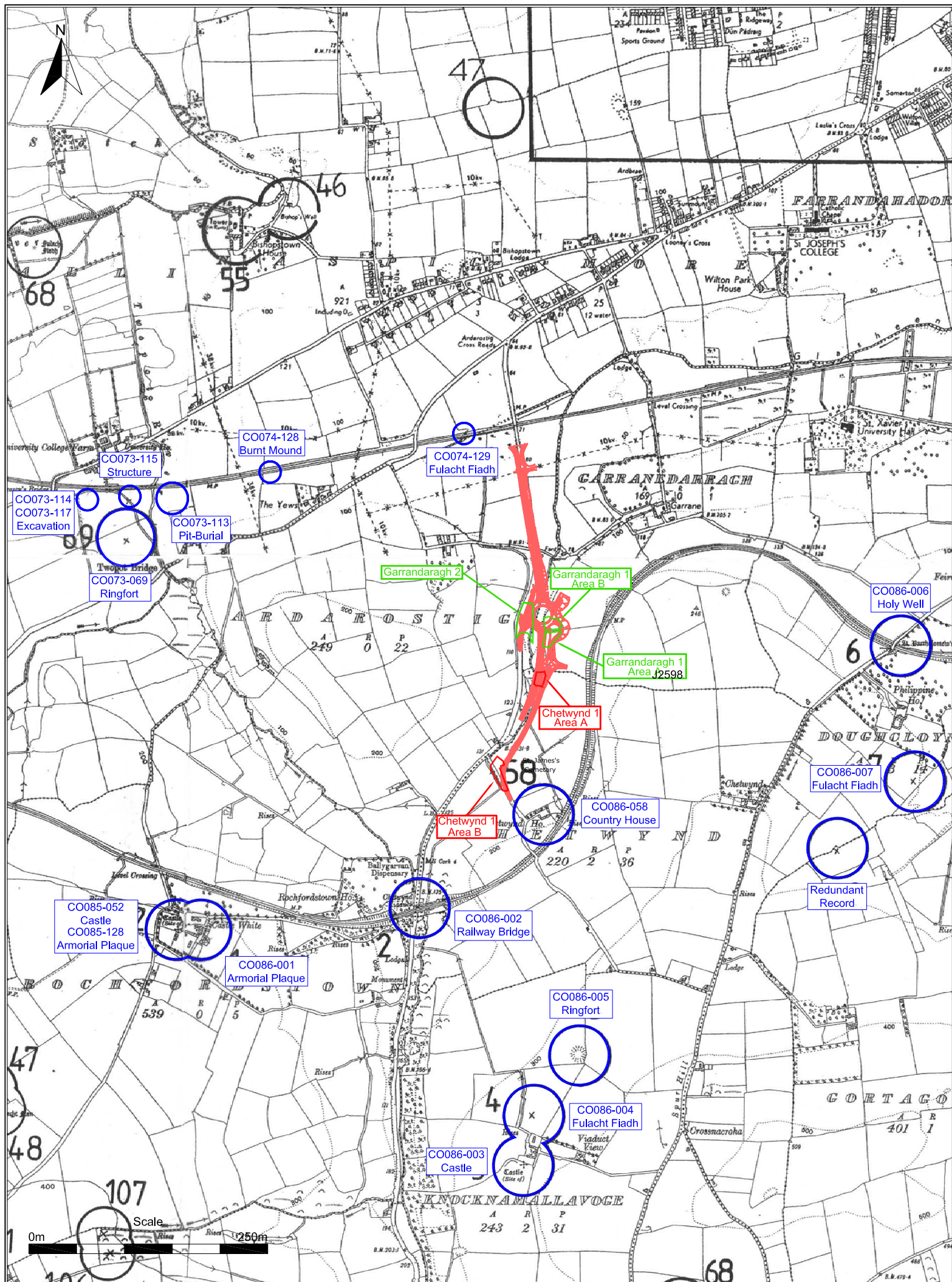
The receiving environment for the proposed scheme is dominated by post-medieval sites, ranging in type from transport related sites, industrial sites and residential sites. The Chetwynd Viaduct (CO086-002) is located c. 800m SSW of Chetwynd 1 in the townlands of Rochfordstown/Chetwynd. The Chetwynd Viaduct carried the rail line over the Glasheen River valley and the main Bandon road for over 100 years between 1851 and 1961. It was designed by Charles Nixon and constructed between 1847 and 1851 by Fox, Henderson and Co, the same company who built the Crystal Palace in London (Rynne 2006, 373).



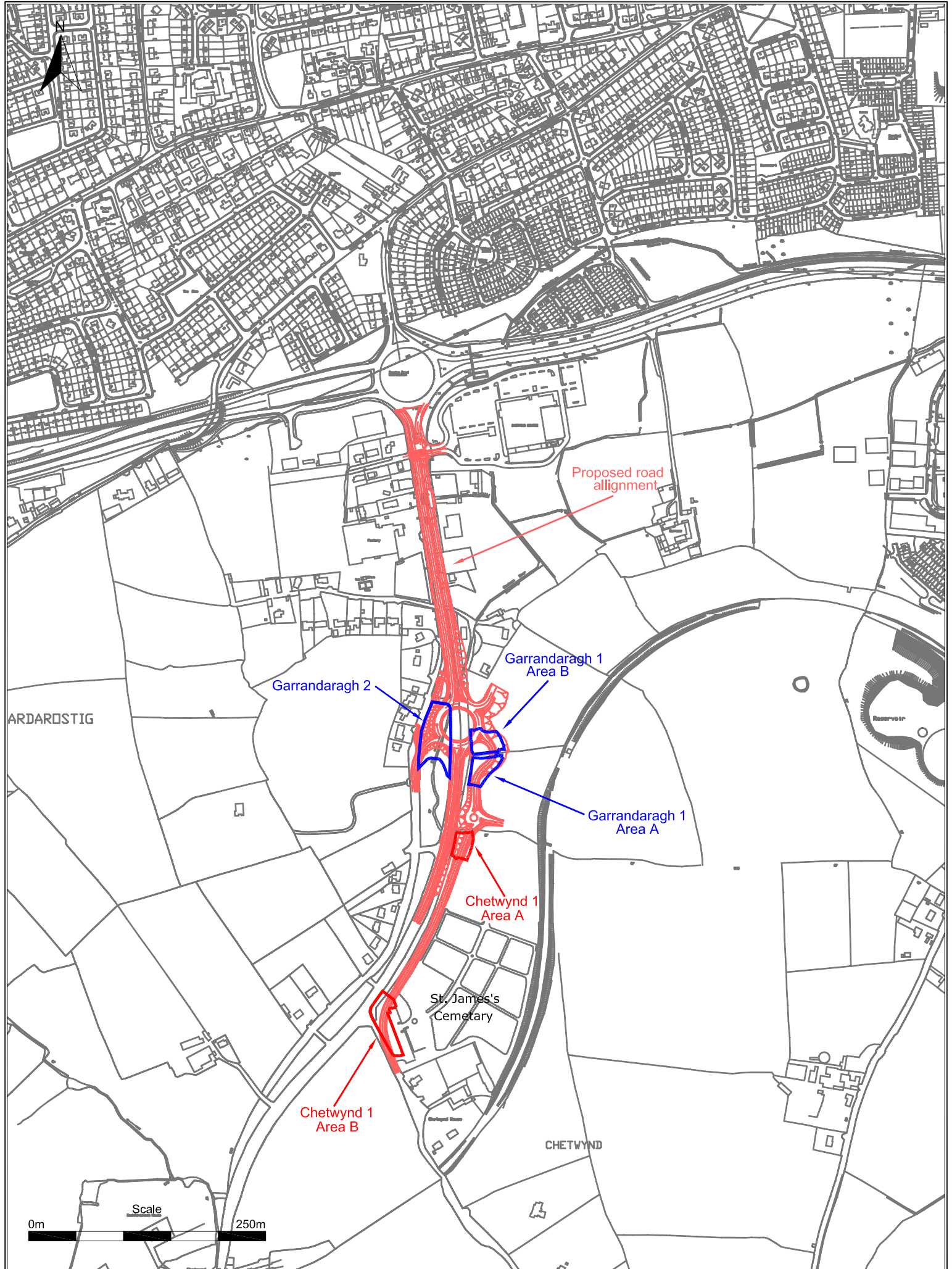


<b>IAC</b> Irish Archaeological Consultancy	Title:	Chetwynd 1 - general site location	Scale:	As shown @ A4
	Project:	N71 Chetwynd Viaduct Road Scheme	Date:	11/10/10
	Client:	Cork County Council	Produced by:	P Higgins
			Job No:	J2598
			Figure No:	1

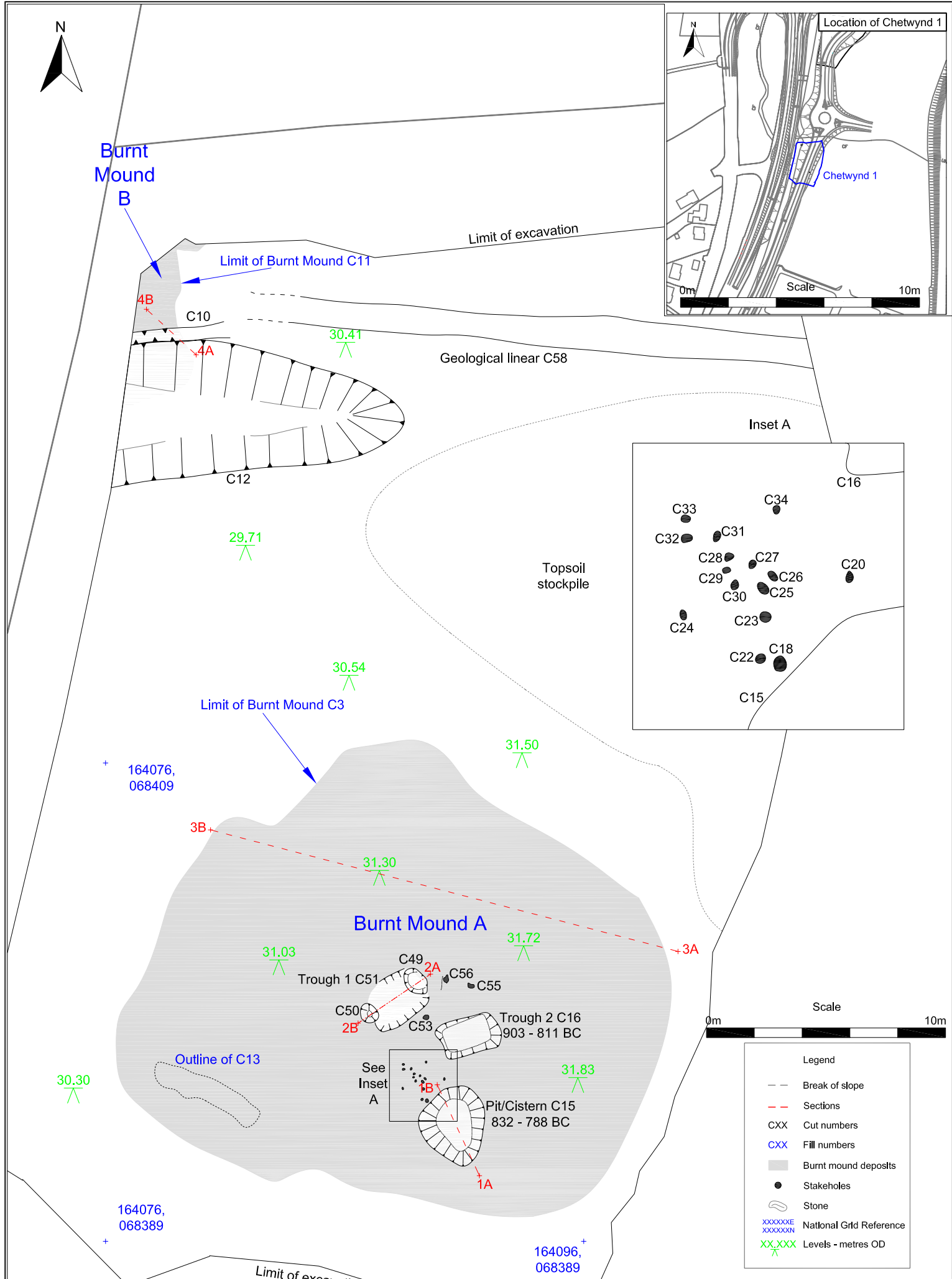




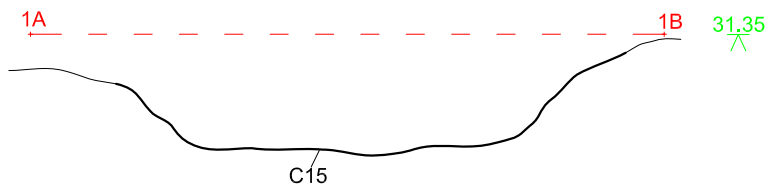




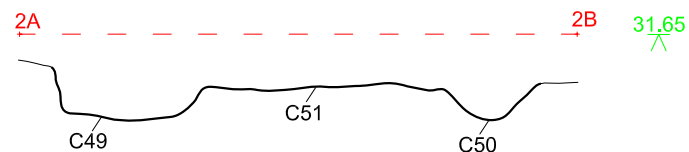




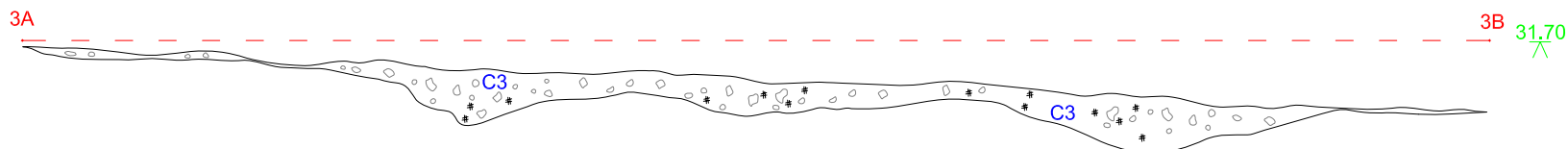
Southeast-Northwest profile of Trough C15



South-facing profile of C49, C50, C51



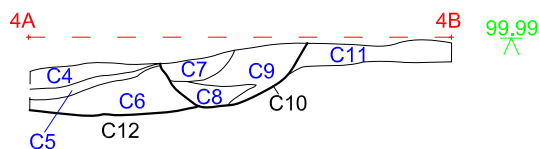
North-facing section of C3



Scale 1:100



Northeast-facing section of C4, C5, C6, C7, C8, C9, C10, C11



Scale 1:50



#### Legend

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

**IAC** Irish Archaeological Consultancy

Title: Chetwynd 1 - Sections

Project: N71 Chetwynd Viaduct Road Scheme

Client: Cork County Council

Scale: As shown @ A4

Date: 28/10/11

Produced by: G Kearney

Job No: J2598

Figure No: 5

## PLATES



Plate 1: Chetwynd 1, pre-excitation, facing southwest



Plate 2: Chetwynd 1, mid-excitation, facing south



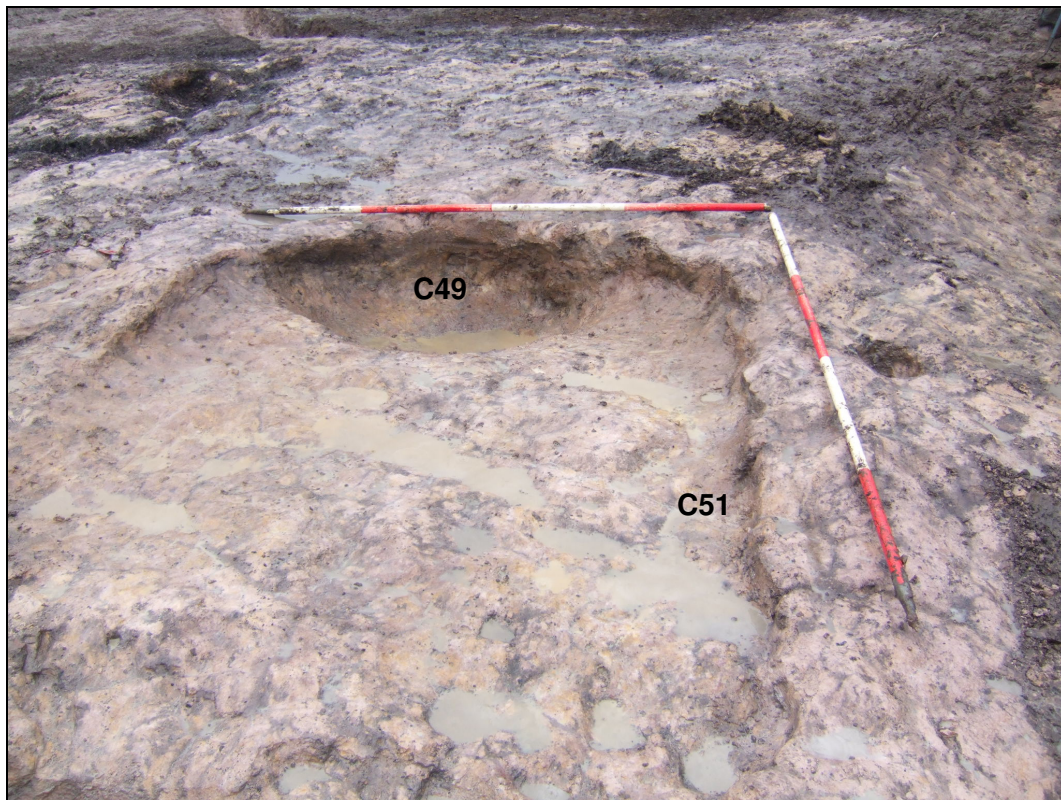


Plate 3: Burnt Mound A, possible trough C51 and pit C49, post-excavation, facing north-east



Plate 4: Burnt Mound A, Trough C16, mid-excavation, facing NNW





Plate 5: Burnt Mound A, Trough C16, post-excavation, facing NNW



Plate 6: Burnt Mound A, Posthole C56, post-excavation





Plate 7: Burnt Mound A, Pit/ possible trough C15, post-excavation

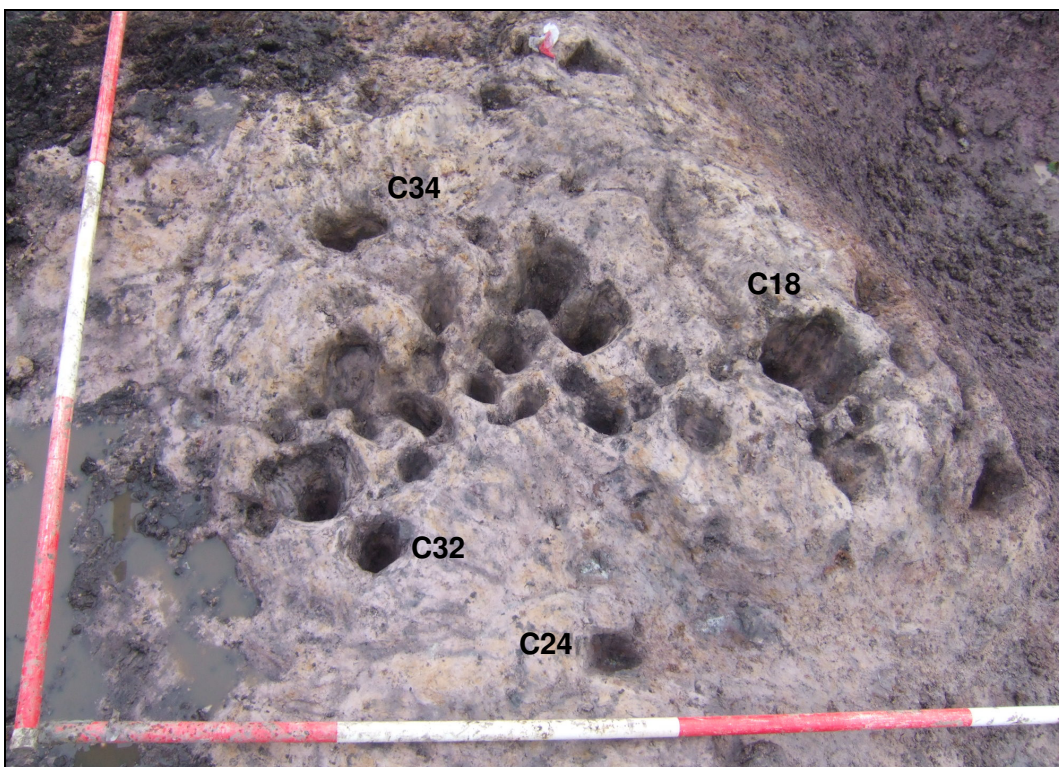


Plate 8: Burnt Mound A, Stakeholes C18-C47, post-excavation, facing east





Plate 9: Burnt Mound A with mound of heat-shattered stone (C3) partially removed, mid-excavation, facing NNE



Plate 10: Burnt Mound A, with mound of heat-shattered stone (C3) partially removed, mid-excavation, facing east (note plough scar marks running east/west).



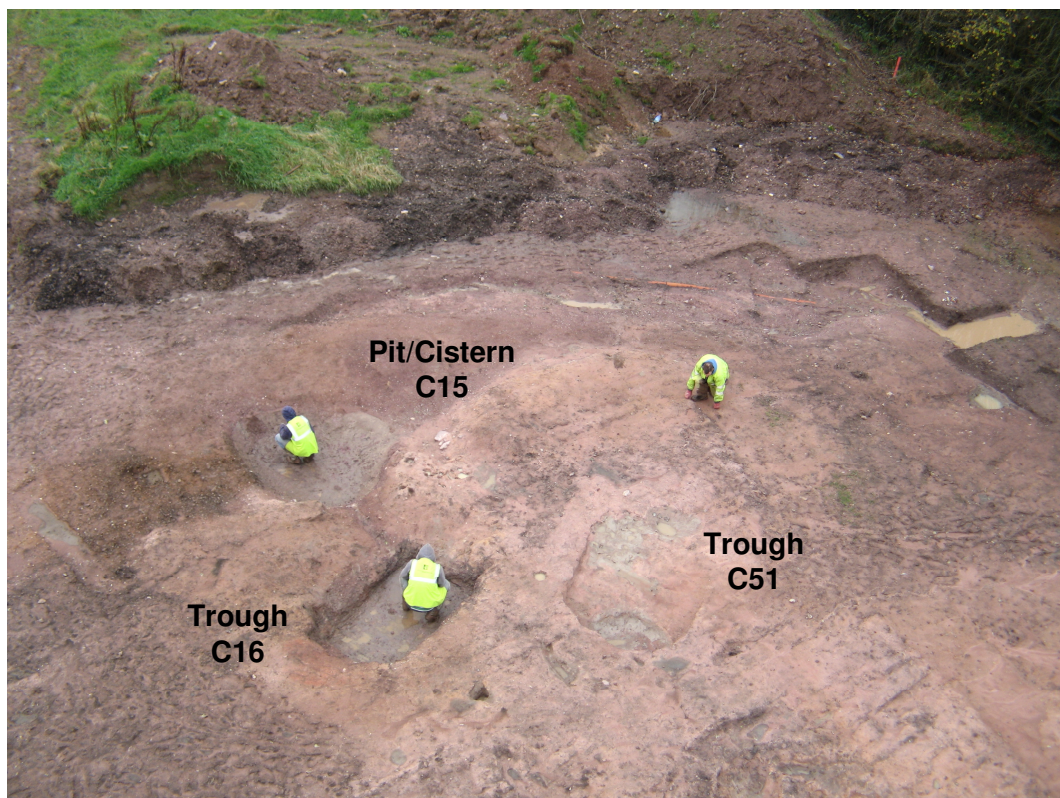


Plate 11: Aerial View of Burnt Mound A, post excavation facing southwest (Photo: Gavin Duffy, Airshots)



Plate 12: Aerial View of Burnt Mound B, post excavation facing northwest (Photo: Gavin Duffy, Airshots)