ARCHAEOLOGICAL ASSESSMENT OF PROJECT PURPLE, AT IDA BUSINESS PARK, GORTEENS, BELVIEW, CO. KILKENNY

ON BEHALF OF

PM GROUP

PLANNING REFERENCE: 12/324, PL.10.241077

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ABSTRACT

Irish Archaeological Consultancy Ltd has prepared this report on behalf of PM Group, to study the impact, if any, on the archaeological and historical resource of the Project Purple: Glanbia Dairy Processing and Manufacturing facility, which is located at the IDA Business Park, Gorteens, Belview, Port Road, Co. Kilkenny (OS Sheet 47). The report was undertaken by Tim Coughlan of IAC Ltd under licence 13E068 and in response to planning conditions attached to the proposed development (Planning Reg. Ref.: 12/324, Bord Planála Ref.: PL.10.241077). Testing follows on from a geophysical survey carried out in 2004 by John Nicholls for Margaret Gowan & Co. Ltd (Nicholls, 2004; Licence Ref.: 04R004). An archaeological impact assessment was also carried out by Margaret McCarthy as part of the project Environmental Impact Assessment in 2012 (McCarthy, 2012).

An intensive program of archaeological testing was carried out across the site between 19 and 22 March 2013. A total of 64 test trenches were excavated across the proposed development area which measured *c.* 21ha. Of these, 20 trenches targeted the geophysical anomalies identified in 2004. Nothing of archaeological significance was identified in any of the excavated trenches and as such no further mitigation is recommended for this area.

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1 INTRODUCTION

1.1 General

The following report details the results of a programme of archaeological testing undertaken at the IDA Business Park, Gorteens, Belview, Port Road, Co. Kilkenny, prior to the proposed Project Purple: Glanbia Dairy Processing and Manufacturing facility. This assessment has been carried out to ascertain the potential impact of the proposed development on the archaeological resource that may exist within the proposed development area. The assessment (Licence Ref.: 13E068) was undertaken by Tim Coughlan of Irish Archaeological Consultancy Ltd, on behalf of PM Group.

Test trenching commenced at the site on 19 March 2013 and lasted for 3 days. This was carried out using two no. 13 tonne track machines, equipped with a flat, toothless bucket, under strict archaeological supervision. A total of 64 trenches were mechanically investigated across the test area which measured *c.* 21ha. This report follows on from a geophysical survey carried out in 2004 by John Nicholls for Margaret Gowan & Co. Ltd (Nicholls, 2004; Licence Ref.: 04R004). An archaeological impact assessment was also carried out by Margaret McCarthy as part of the project Environmental Impact Assessment in 2012 (McCarthy, 2012).

Nothing of archaeological significance was identified in any of the excavated trenches. The geophysical anomalies were identified as either remains of field boundaries shown on the first edition OS map or features of natural origin.

1.2 The Development

The proposed development will consist of the construction of a proposed Project Purple: Glanbia Ingrediants (Ballyragget) Ltd. (Glanbia) Dairy Processing and Manufacturing facility at the IDA Business Park, Gorteens, Belview, Port Road, Co. Kilkenny (Figure 3). The site for the proposed development measures *c.* 21ha, and is zoned for industrial development under the Ferrybank-Belview Local Area Plan (March 2009).

The site clearance and earthworks will be carried out over an area of approximately 19 acres, with topsoil stripping initially to a depth of 400mm and then deeper cutting in the areas for building development in order to drop the site levels to the required finished floor levels (see attached sections drawings).

Archaeological monitoring of the site was required as a condition of the planning permission that was granted for the development (Planning Reg. Ref.: 12/324, Bord Planála Ref.: PL.10.241077). However given the scale the development, the developer requested that the site be assessed by means of archaeological test trenching.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 General Background

The area of proposed development is located within all or part of seven fields of pasture in the townland of Gorteens, Co. Kilkenny. It is bound to the north, west and east by road and to the south by open fields. A water treatment plant is located c. 400m to the south. The proposed development area is located *c.* 750m north of the deep navigable River Suir. Its sheltered inland location is what attracted the conquering forces of the Vikings, Anglo-Normans and Tudors between the 9th and 17th centuries to the Waterford area.

Archaeological testing was undertaken at the site of the proposed SUPRAM site in the IDA Business Park to the immediate south-east of the current proposed development area (Kyle, 2007; Licence Ref.: 07E0874). A previous geophysical survey had identified a number of potential archaeological features but the subsequent test excavation indicated that these were natural and no features or finds of archaeological merit were uncovered.

Prehistoric Period

There is no known settlement activity dating to the Mesolithic or Neolithic periods within *c.* 1km of the site, however, large numbers of these settlements have been identified in the Waterford harbour area. It seems likely that hunter-gatherer groups operating from these base-camps would have exploited the rich faunal and fish resources of a major river resource such as the River Suir (Gibbons 2001, 2). One such site was recorded by the Ballylough Archaeological Survey at Creadan Head overlooking Waterford Harbour, *c.* 10km south-east of the proposed development at Belview.

The earliest evidence for occupation in the immediate area of Belview dates from the Bronze Age period (2500–800BC). Bronze Age activity is represented in the area by the discovery of burnt mounds in Gorteens townland c. 400–500m south of the current area of proposed development at the site of the Waste Water Treatment (Scully, 2007; licence ref.: 01E0959).

> *The burnt mound lay outside of the area of monitoring; the works involved in laying the roadway just clipped the edge of the mound. The area outside the remit of the monitoring did indicate a mound of c. 18m north–south by 7m. The disturbed edge showed 0.3m of burnt stone under sod, overlying boulder clay. No structures or features associated with the mound were disturbed, nor were any finds retrieved from the area (ibid.).*

Approximately 170 burnt mounds are recorded in Co. Kilkenny and as such they represent the most numerous prehistoric monument in the county (Gibbons 2001, 14). A cluster of burnt mounds is recorded *c.* 2.5km west of the proposed development in the townland of Abbeylands, Co. Kilkenny and burnt mounds were identified in testing *c.* 1.6km to the north in Kilmurry townland (Carroll, 2003; Licence Ref.: 03E1097).

Two large circular enclosures were also identified in Kilmurry townland in 2003 c. 1–1.5km to the north of the current area of proposed development (*ibid.*). It was not possible to date the enclosures at the time of testing therefore they may be prehistoric or medieval in date.

Early Medieval Period

At the time of the arrival of the Anglo-Normans (late 12th century) the *túaths* of Ossory were held by various Irish septs, ruled largely by a dynasty which came to be known as *Mac Giolla Phadraig* (Fitzpatrick), princes of Ossory. The ancient sept of the *Uí Dheaghaidh* (O'Dea) would appear to have given its name to the Barony of Ida (then part of the cantred of Iverk or Overk), within which the study area is located. Carrigan cites that this area "certainly took in the parishes of Kilcolumb, Rathpatrick, and Kilculliheen". The *O Caollaidhe* (O'Queally, O'Kealy) were in Ida prior to the Norman arrival. The O'Kealys of *Uí Bercháin* occupied an area in the old barony of Ibercon, in the southern portion of what was to become the Barony of Ida.

Historical evidence records St Patrick having founded a church in the townland of Rathpatrick and a ruined church (KK044-014) has been recorded at a site in that townland, *c.* 2.2km NNW of the proposed development. According to O'Donovan (1831, 290–1), the present old church of Rathpatrick is not the primitive one founded by St Patrick but one erected on its site about 5 centuries later.

The gradual arrival of the Scandinavians in the 9th century appears vague and it is not until after the arrival of the Viking Fleet documented in 912AD, that a more permanent Scandinavian settlement at Waterford city emerges (Hurley 1992, 49-50). According to Hurley documentary sources give a secure date for the establishment of a *longphort* by Scandinavian Settlers in 914AD. The subsequent name of the town *Port Láirge* was given by the Norsemen and is believed to commemorate Láirge, an early Viking leader.

Medieval Period

According to Hurley (1992, 70), the Norman conquest of Ireland was not just the taking over of new land, but to secure power of already well-established cities, such as Waterford. By the time of the Norman invasion of the city in 1170AD, the city was described as being walled and said to have repulsed two attacks. A medieval drying kiln was identified during monitoring works associated with the development of a water treatment plant *c.* 400–500m south of the current development area (Scully, 2007; licence ref.: 01E0959).

> *The kiln was outside the area to be excavated for tanks; only the topsoil was removed as a larger clearance for office building. The area was cleaned, drawn and recorded. The maximum width of the bowl was 3.7m; the flue was between 1.2m and 1.5m wide and extended for a distance of 4.4m from the bowl. It was up to 0.49m deep. The maximum extent of the entire feature was 3.7m by 6.6m. It was aligned north-west/south-east with the bowl towards the north-west. The fill consisted of silt with some burnt stone and occasional charcoal. An angled stone by the edge of the bowl where it was joined by the flue may have functioned as a draught control. The kiln lay to the south-east of the original farmhouse, Springfield House. This is clearly marked on the first-edition OS map.*

Post-medieval Period

Gorteens Castle (KK047-01) is located *c.* 500m to the east of the proposed development. All that remains of Gorteens Castle is a late medieval 3-4-storey gatehouse. However, it was described in the Down Survey (1654-9) as having 2 castles and 4 dwellings (Bennett 1993, 136). In the 16th and first half of the 17th century the FitzGeralds held the 'manor, town and lands of Gurtins' (Carrigan 1905, 203-4) as well as the castle at Kilmurry. Subsequent to the Cromwellian invasion the lands of Gurteens were forfeited by John FitzGerald and were then divided up

between various New English settlers but little is known of the 17th century residents of Gorteens Castle.

A six week excavation was undertaken beside Gorteens Castle in 1993 during construction work on the new Belview Port road to link the Slieveroe bypass with the new Waterford port on the River Suir (King, 1994; Licence Ref.: 93E0012). Excavation revealed the foundations of two houses together with a contemporary field system. Parts of the bawn wall around the castle were also exposed. A number of trenches and drains, two small spreads of charcoal, a cobbled surface and a concentration of postholes were located, together with a large deposit of slag, burnt stones and burnt clay which appeared to suggest iron working on the site. The archaeological evidence indicated that the site was occupied from the second half of the 16th century into the first half of the 18th century (*ibid.*). Further testing adjacent to the castle site in 2003 revealed the presence of numerous medieval features and deposits including stone walls which seemed to define the walls of out-buildings associated with the castle (Walsh, 2004; Licence Ref.: 03E0255). These features were associated with deposits containing late medieval pottery and metallurgical waste (*ibid.*).

In the early 18th century Gorteens became the site of one of the earliest glass-making factories in Ireland and may have provided the origins for the Waterford Glass factory. Excavations carried out in advance of development at Glass House, *c.* 1km south-east of the proposed development, failed to isolate the location of the glassworks (Hurley, 2002; Licence Ref.: 01E0269). A flour mill and a corn mill are also recorded in the same townland *c.* 1.7km to the ESE.

The proposed development area lies outside of the demesne lands for Springfield House. Springfield House was occupied by the Waring family from about 1740 to 1860 (Walsh, 2001). It was purchased in the 1920s by the Barton family and eventually sold to the IDA in 1975 (Scully, 2007). Numerous post medieval finds including glazed print ware, porcelain ware and a single sherd of Leinster cooking ware were identified during testing along banks of the river in Gorteens (Kelleher, 2001 Licence Ref.: 00E0105). Stone-filled drainage features and early cultivation furrows and a hearth associated with the former Springfield House estate were also identified (ibid.). The area around Belview was dominated in the post-medieval period by country houses and their associated demesnes. Belview House, located *c.* 500m to the south-east was one of the principal seats in the parish of Rathpatrick and appears to have dated to at least the late 18th century. It was described by Lewis (1837) as 'beautifully situated on the banks of the river in a well-planted demesne'.

The area of proposed development is shown in the first edition OS (1842) map as a greenfield area comprising all or part of *c.* 25 fields with three small houses located along the west and north boundary (Figure 4). The third edition OS map (1945-8) shows the area as comprising *c.* 7 large fields with no evidence for the houses shown in earlier mapping (Figure 2).

2.2 Summary of Previous Archaeological Fieldwork

2.2.1 Geophysical Report

A geophysical survey of the site and surrounding lands to the south was undertaken in 2004 (Nicholls, 2004; Licence 04R004). The gradiometer scanning and detailed survey showed large scale geological variation extending across 13 of the 19 areas indicating that many anomalies may have a natural origin. The main areas of potentially significant pit-type responses and linear anomalies were identified in Areas E, H, J, L, M and N. Linear responses indicative of former field divisions were

recorded in Areas A, B, L and M. The remainder of the data reflects broad areas of clear geological and natural responses in addition to former cultivation traces.

Areas A, B, C, D, E, L, M and N are located within the current development area.

Area A – The remains of a probable former north–south running field boundary (shown on first edition OS map) was identified. Several isolated pit type responses were noted within the area as were faint linear trends which may represent former cultivation furrows.

Area B – The continuation of the field boundary identified in Area A (above). Several isolated pit type responses were noted within the area as were faint linear trends which may represent former cultivation furrows. Given an increased magnetic response in this section it was recommended that further investigation be undertaken.

Area C – A single isolated response was noted which is likely to represent modern ferrous origins. Weaker linear positive and negative trends were also noted which are thought to be natural variations in the subsoil.

Area D - A broad area of strong magnetic variation is visible through the area. This response to natural geology may have masked other potential features. No definitive archaeological patterns were identified.

Area E – Continuation of geological variation identified in Area D were noted. A network of faint linear responses were recorded suggestive of field divisions – this may correspond with a northwest–southeast running boundary shown on the first edition OS map. Isolated pit type responses were also noted but a modern origin was not ruled out for these. Evidence for faint linear trends may represent former cultivation furrows.

Area L and M – Remains of former cultivation were noted throughout both areas. Evidence for early field divisions were also noted which appear to correspond to those shown on the first edition OS map. A concentration of pit-type anomalies were located within the southeastern corner of Area M suggest archaeological origin however former cultivation is not ruled out completely. A further pit type response in the eastern half of Area M may also be archaeologically significant.

Area N – Large scale geological responses similar to those recorded in Area D area located here. Numerous weak linear trends are thought to be geological in origin also. Several isolated pit type responses were noted within the area as were faint linear trends which may represent former cultivation furrows.

2.2.2 Archaeological Impact Assessment (2008)

An archaeological impact assessment was undertaken following the geophysical survey by Margaret McCarthy. The current development area lies within the northern half of the study area for this assessment. The site was located within a mixed rural, residential and industrial landscape. The discovery of a previously unknown *fulacht fiadh* and a drying kiln during construction work on the Waste Water Treatment Plant to the immediate south of the proposed development site is a strong indicator of the archaeological potential of the area.

The report concluded that while no above ground features of archaeological significance were identified within the development site during the field inspection, buried archaeological remains may exist below the current surface. These could

range from small-scale sites such as early hunter-gatherer camps and isolated burials to extensive evidence for later prehistoric and medieval habitation. The geophysical survey identified a number of areas of potential archaeological interest. It was recommended that targeted archaeological testing be carried out in those areas where significant anomalies were identified. In particular, the remains of a former boundary extending north–south through the central area of Field 4, several early land divisions in both Field 4 and Field 5 and areas where possible pits and surface burning were noted should be investigated. Fields 4 and 5 are located within the northern half of the current development area.

3 ARCHAEOLOGICAL TEST TRENCHES

3.1 General

Test trenching took place between 19 and 22 March 2013, using two no. 13 tonne track machines equipped with a flat, toothless bucket under strict archaeological supervision. The site comprised of south-facing sloping pasture between 21.6m and 26.1m OD. A total of 44 trenches were excavated within the area of proposed development placed at regular intervals across the site (Figure 3). An additional 20 trenches were excavated targeting geophysical anomalies (Nicholls, 2004). Any investigated deposits were preserved by record. This was by means of written, drawn and photographic records. A total of 8,350 linear metres of trenches were excavated across the site.

The test trenches were excavated to determine, as far as reasonably possible, the location, extent, date, character, condition, significance and quality of any surviving archaeological remains threatened by the proposed development along the dryland/ wetland margin. Test trenching was also carried out to clarify the nature and extent of existing disturbance and intrusions and to assess the degree of archaeological survival in order to formulate further mitigation strategies. These are designed to reduce or offset the impact of the proposed development scheme.

3.2 Results

3.2.1 Linear Test Trenches

The test trenches were excavated across the area of proposed development at general intervals of 20m (Figure 3, Plates 1–10). Additional trenches were excavated (trenches 36–48) across areas of the site where it was felt some additional testing may be appropriate and to ensure that all field boundaries evident on the first edition OS map were targeted with at least one trench (Figure 3).

Trench No	Length (m)	Depth (m)	Orientation	Comments
1	262	0.25	North–south	Excavated in two sections due to field boundary
2	347	0.25	North–south	Excavated in two sections due to field boundary
3	351	0.3	North–south	Excavated in two sections due to field boundary
4	353	0.2	North–south	Nothing of archaeological significance
5	359	0.25	North–south	Nothing of archaeological significance
6	362	0.2	North–south	Nothing of archaeological significance
7	366	0.3	North–south	Nothing of archaeological significance
8	367	0.35	North–south	Nothing of archaeological significance
9	372	0.3	North–south	Nothing of archaeological significance
10	372	0.25	North–south	Nothing of archaeological significance
11	375	0.3	North–south	Nothing of archaeological significance
12	376	0.3	North–south	Nothing of archaeological significance
13	379	0.35	North–south	Nothing of archaeological significance
14	383	0.3	North–south	Nothing of archaeological significance
15	388	0.25	North–south	Nothing of archaeological significance
16	391	0.3	North–south	Nothing of archaeological significance
17	392	0.3	North–south	Nothing of archaeological significance
18	132	0.2	North–south	Nothing of archaeological significance
19	130	0.2	North–south	North end became very wet
20	98	0.18	North–south	North end became very wet
21	111	0.18	North–south	Area in centre of trench was flooded

Trench No	Length (m)	Depth (m)	Orientation	Comments
22	81	0.2	North–south	Area in centre of trench was flooded
23	44.2	0.2	North–south	Area in centre of trench was flooded
24	20	0.2	North–south	Area to north of trench was recently disturbed and flooded
25	98	0.2	East–west	Nothing of archaeological significance
26	69	0.2	NNW-SSE	Nothing of archaeological significance
27	69	0.2	NNW-SSE	Nothing of archaeological significance
28	70	0.2	NNW-SSE	Nothing of archaeological significance
29	69	0.2	NNW-SSE	Nothing of archaeological significance
30	65	0.2	NNW-SSE	Nothing of archaeological significance
31	67	0.2	NNW-SSE	Nothing of archaeological significance
32	88.2	0.3	East–west	Nothing of archaeological significance
33	61.7	0.3	East–west	Nothing of archaeological significance
34	95.6	0.3	East–west	Nothing of archaeological significance
35	56.6	0.3	East–west	Nothing of archaeological significance
36	67.7	0.3	East–west	Nothing of archaeological significance
37	99.7	0.3	East–west	Nothing of archaeological significance
38	78.4	0.35	East–west	Nothing of archaeological significance
39	61.7	0.25	East–west	Nothing of archaeological significance
40	311.3	0.35	North–south	Nothing of archaeological significance
41	59.2	0.3	North–south	Nothing of archaeological significance
42	71	0.35	North–south	Nothing of archaeological significance
43	25.6	0.35	Northwest–southeast	Nothing of archaeological significance
44	126.6	0.35	East–west	Nothing of archaeological significance

The test trenches identified a number of shallow linear features/anomalies across the site. Their orientation was consistent with features identified in the geophysical survey and represented small field boundaries, drainage channels, lazy beds and/or series of plough furrows (Figure 5). The identified linear features in the excavated trenches corresponded with boundaries marked on the first edition map and in the geophysical survey (Figure 4). This suggests that they all relate to agricultural activity.

A number of the features were investigated, sectioned and recorded. In general the boundary divisions as marked on the first edition mapping were identified as being between 1.70–1.90m wide and between 0.12–0.20m deep and were filled with grey-brown silty clay with no notable inclusions (Plate 11). The modern/existing boundaries were wider and deeper - generally 2.00m wide and 0.50m deep (Plate 12). The lazy beds/plough furrows were generally between 0.18–0.40m wide and 0.05–0.08m deep and were filled with grey-brown silty clay with no notable inclusions (Plate 13). The stone drains were less frequent than the plough furrows but were generally 0.15m wide and 0.20m deep and filled with small angular stone.

The location of Trenches 18–24 were also particularly low-lying and waterlogged (Plates 6–8). The eastern half of site was wetter and the central portions of trenches 21, 22 and 23 could not be excavated due to the volume of surface water. The northern section of Trench 24 had been recently disturbed and was also under water. The subsoil in this area consisted of a grey clay/marl, consistent with the low-lying wet, marshy conditions.

The south-east of the site (in the area of the proposed compound, Trenches 25–31) was relatively low-lying and wet and subsoil was consisted of a mixed stony grey clay/marl and orange-brown silty clay (Plate 9).

Only one feature of possible archaeological significance was recorded. This was located to the west of Trench 5 in additional Trench 33. It consisted of a shallow roughly circular pit 1.70m by 1.50m with a roughly north-west-southeast alignment. It was a maximum of 0.20m deep. There was some evidence of *in situ* burning on the east side of the cut with small areas of reddened, oxidized subsoil, and the base was sealed with a thin layer of charcoal. The main fill of the pit consisted of large stones (0.30m by 0.30m by 0.15m) set within a loose brown soil. It is unclear if the feature was of archaeological significance as the charcoal fragments looked quite large and fresh and the loose nature of the upper fill also did not appear archaeological. It was initially half sectioned to assess its content but it remained unclear if it was of archaeological significance (Plate 14). As no diagnostic material was retrieved to indicate a date the remainder of the pit was also excavated and the feature has been archaeologically resolved (Plate 15). An area measuring 5m by 10m had been stripped around the feature and no further features were recorded. The feature may relate to clearance activities, possibly related to a burnt out tree-bole.

With the exception of the single pit feature in Trench 33, nothing of archaeological significance was identified in any of the trenches.

3.2.2 Trenches Targeting Geophysical Anomalies

A total of 20 trenches (G1–G20) were excavated across the site targeting geophysical anomalies identified in the 2004 survey (Figure 5).

Trench No	Length (m)	Depth (m)	Orientation	Geophysics Anomaly	Results
G1	22	0.25	East–west	Linear Boundary	Linear field boundary identified consistent with first edition OS map
G2	20	0.25	Northwest–southeast	Pit-like anomalies	No Archaeological Significance
G3	15	0.25	Northwest–southeast	Pit-like anomalies	No Archaeological Significance
G4	10	0.25	East–west	Linear Boundary	Linear field boundary identified consistent with first edition OS map
G5	15	0.3	ENE–WSW	Pit-like anomalies and area of magnetic response	No Archaeological Significance
G6	15	0.3	East–west	Pit-like anomalies	No Archaeological Significance
G7	10	0.3	East–west	Weak linear trend	Plough furrow/lazy bed
G8	15	0.25	Northwest–southeast	Pit-like anomalies	No Archaeological Significance
G9	15	0.2	North–south	Weak linear trend	No Archaeological Significance
G10	25	0.25	East–west	Weak linear trend	No Archaeological Significance
G11	20	0.3	ENE–WSW	Linear Boundary	Linear field boundary identified consistent with first edition OS map
G12	10	0.3	North–south	Weak linear trends and Pit-like anomalies	Plough furrows/lazy beds and no archaeological significance
G13	10	0.3	Northeast–southwest	Pit-like anomalies	No Archaeological Significance
G14	15	0.3	NNE–SSW	Pit-like anomalies	No Archaeological Significance
G15	25	0.25	ENE–WSW	Weak linear trends and Pit-like anomalies	Plough furrows/lazy beds and no archaeological significance
G16	30	0.25	WNW–ESE	Pit-like anomalies and area of increased magnetic response	Highly mineralized soil with manganese flecks
G17	20	0.25	WNW–ESE	Pit-like anomalies and area of increased magnetic response	Highly mineralized soil with manganese flecks
G18	25	0.35	ENE–WSW	Weak linear trend	No Archaeological Significance
G19	15	0.25	Northeast–southwest	Pit-like anomalies	No Archaeological Significance

Trench No	Length (m)	Depth (m)	Orientation	Geophysics Anomaly	Results
G20	15	0.3	East–west	Pit-like anomalies	No Archaeological Significance

These anomalies consisted of linear and possible pit-like features. The linear features were in general aligned with former field boundaries (Plate 16), and plough furrows/lazy beds as have been outlined within the main testing results (Plate 17). Where trenches extended across possible pit-like anomalies nothing of archaeological significance was evident within the trench and as such were interpreted as natural anomalies.

Trenches G16 and G17 targeted an area identified in geophysics as a possible pit cluster and/or area of increased magnetic response. Inspection of these trenches identified speckled, dark reddish brown silty clay subsoil, which on initial inspection was thought to be possibly archaeological in origin. However further investigation of the area did not identify charcoal and it appears that this is an area of highly mineralized soil with manganese flecks (Plate 18) and is not of archaeological significance.

Nothing of archaeological significance was identified in the targeted geophysical trenches.

3.3 Conclusions

The area of proposed development is located within all or part of seven fields of pasture in the townland of Gorteens, Co. Kilkenny. It is bound to the north, west and east by road and to the south by open fields. A water treatment plant is located *c.* 400m to the south. The proposed development area is located *c.* 750m north of the deep navigable River Suir. Its sheltered inland location is what attracted the conquering forces of the Vikings, Anglo-Normans and Tudors between the 9th and 17th centuries to the Waterford area.

An intensive program of archaeological testing was carried out across the site between 19 and 22 March 2013. A total of 64 test trenches were excavated across the proposed development area which measured *c.* 21ha. Of these, 20 trenches targeted the geophysical anomalies identified in 2004. Nothing of archaeological significance was identified in any of the excavated trenches.

A number of linear anomalies identified on the geophysical survey have been confirmed as remains of field boundaries shown on the first edition OS map of 1842. In the early 19th century the area of proposed development comprised *c.* 25 fields however by the mid-20th century this had been reduced to *c.* 7 fields. This was a common occurrence in the early modern period as agricultural practices developed and larger areas of land could be more intensively farmed.

4 IMPACT ASSESSMENT AND MITIGATION STRATEGY

Impacts can be identified from detailed information about a project, the nature of the area affected and the range of archaeological resources potentially affected. Archaeological sites can be affected adversely in a number of ways: disturbance by excavation, topsoil stripping; disturbance by vehicles working in unsuitable conditions; and burial of sites, limiting access for future archaeological investigation.

4.1 Impact Assessment

- Nothing of archaeological significance was identified in any of the 64 excavated test trenches. The geophysical anomalies have been identified as representing removed field boundaries and features of natural origin. Given the intensive nature of this testing program and the detailed nature of the geophysical survey it is thought that the proposed development will not have any negative impact on the archaeological resource.

4.2 Mitigation

We recommend the following actions in mitigation of the impacts above.

- No further archaeological mitigation is recommended for the area subject to testing at this time.

Please note that all recommendations are subject to approval by the National Monument Section of the Department of Arts, Heritage and the Gaeltacht.

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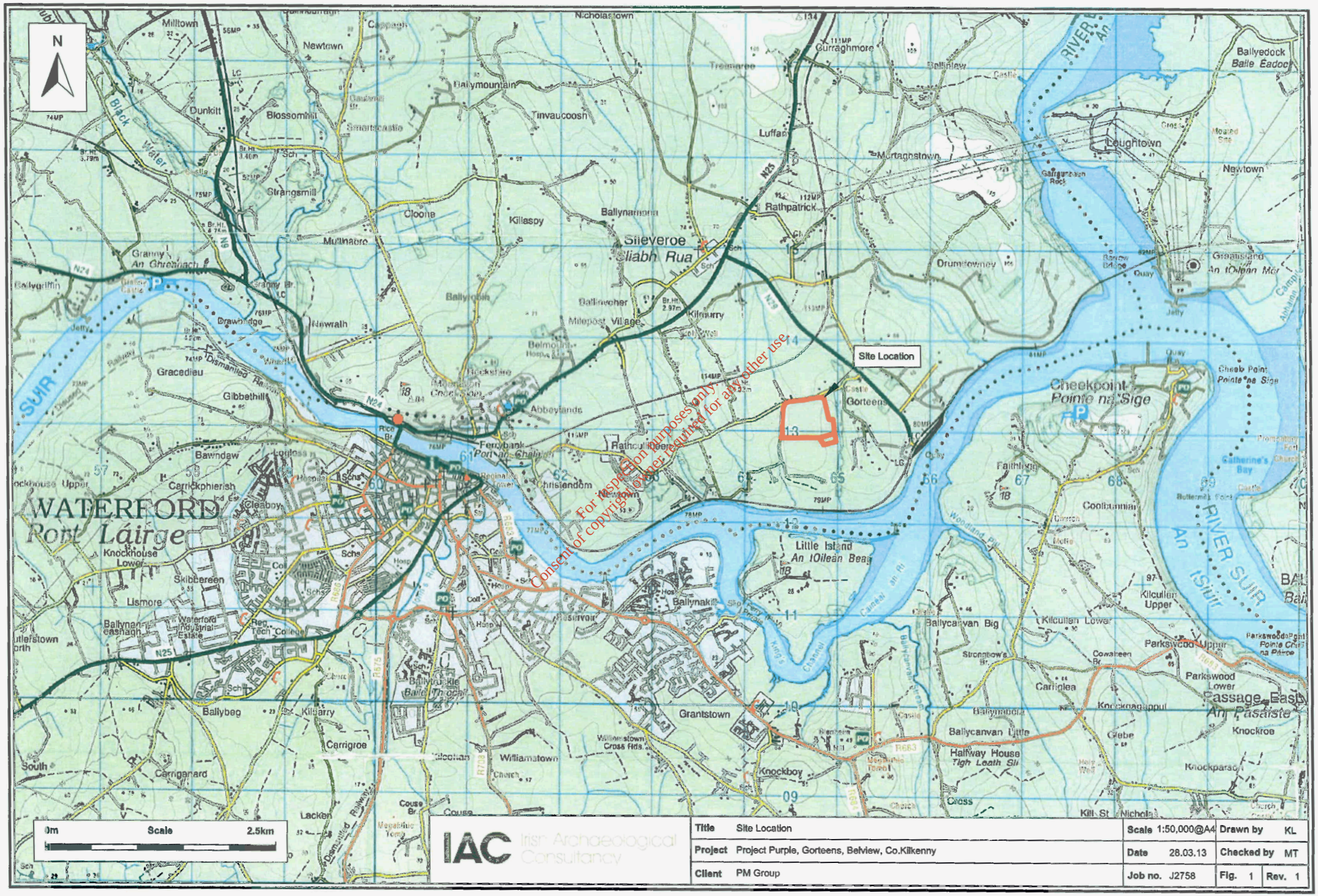
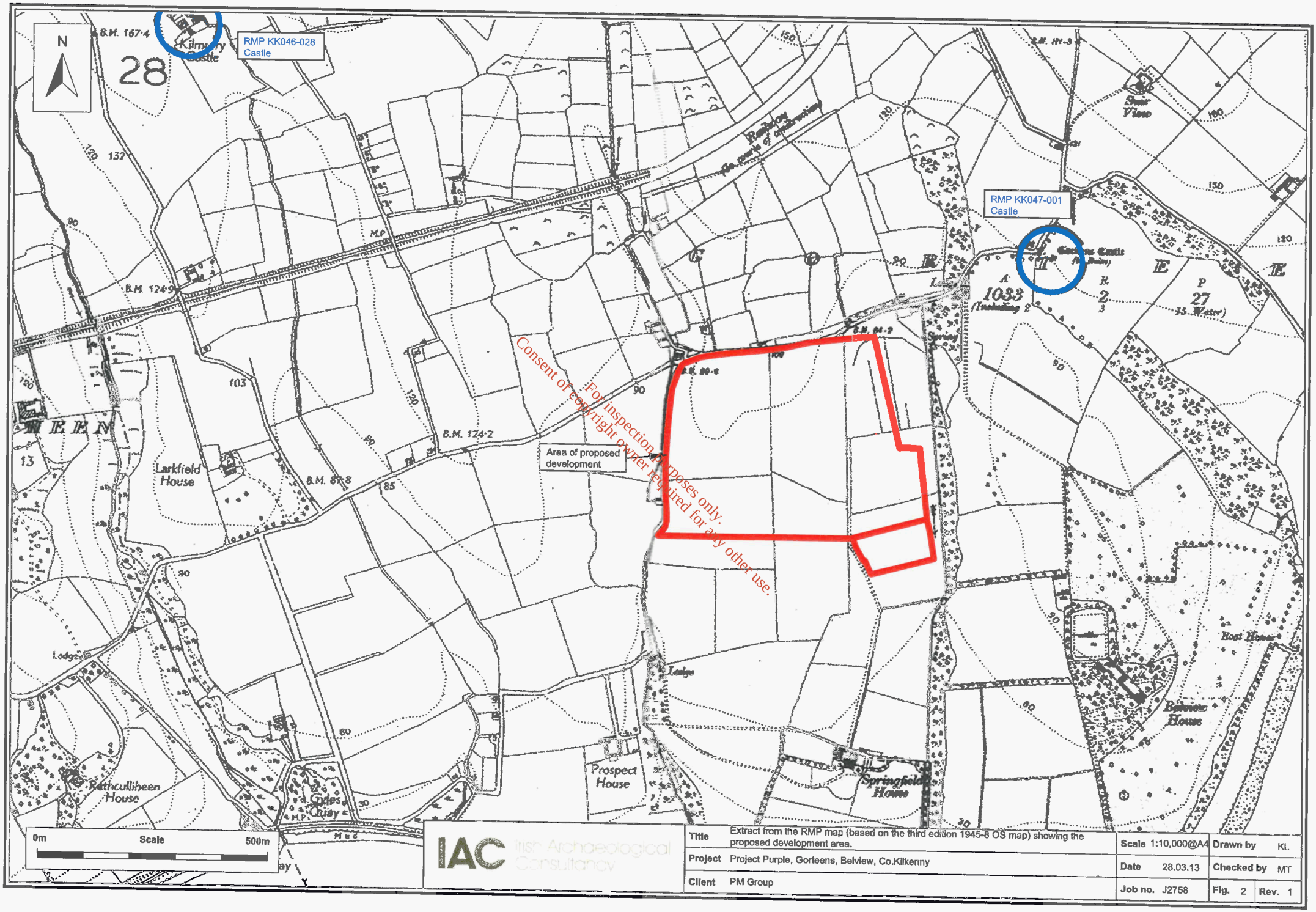
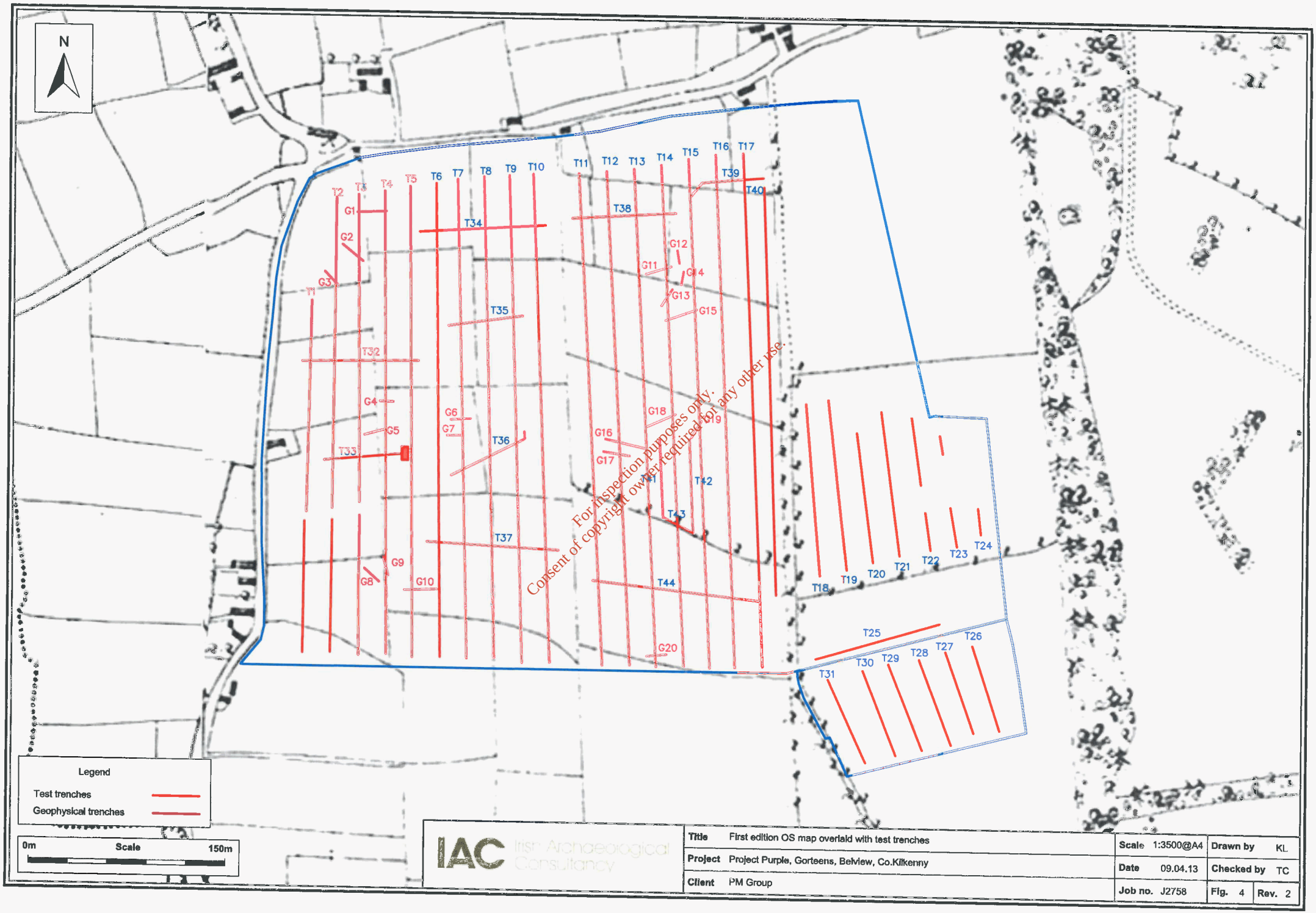
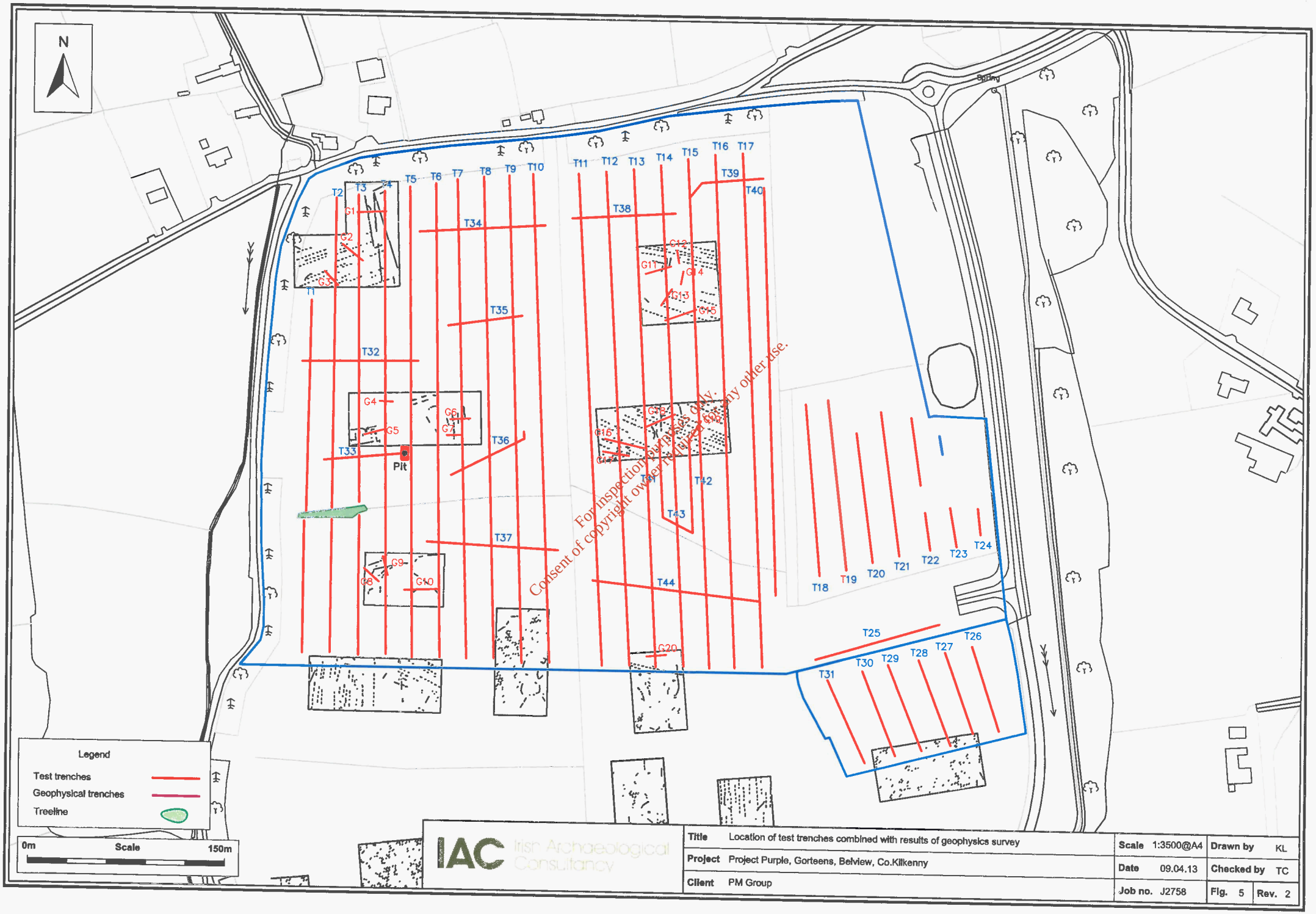




IAC Irish Archaeological Consultancy

Title	Proposed development showing location of test trenches	Scale 1:3500@A4	Drawn by KL
Project	Project Purple, Gorteens, Belview, Co.Kilkenny	Date 09.04.13	Checked by TC
Client	PM Group	Job no. J2758	Fig. 3 Rev. 2





Plates

Plate 1: Trench 1, facing south

Plate 2: Trench 9, facing south

Plate 3: Trench 13, facing north

Plate 4: Trench 13, facing south

Plate 5: Trench 16, facing north

Plate 6: Trench 18, facing south

Plate 7: Trench 21, facing north – note very wet area in centre of trench resulting in un-excavated section

Plate 8: Trench 24, facing north – note very wet and disturbed area north of trench

Plate 9: Trench 28, facing SSW

Plate 10: Trenches in west of site, facing south-west

Plate 11: Example of first edition field boundary from northern end of Trench 6 facing west

Plate 12: Section across modern field boundary in Trench 13, facing south

Plate 13: Example of furrow/lazy-bed from Trench 16, facing south-east

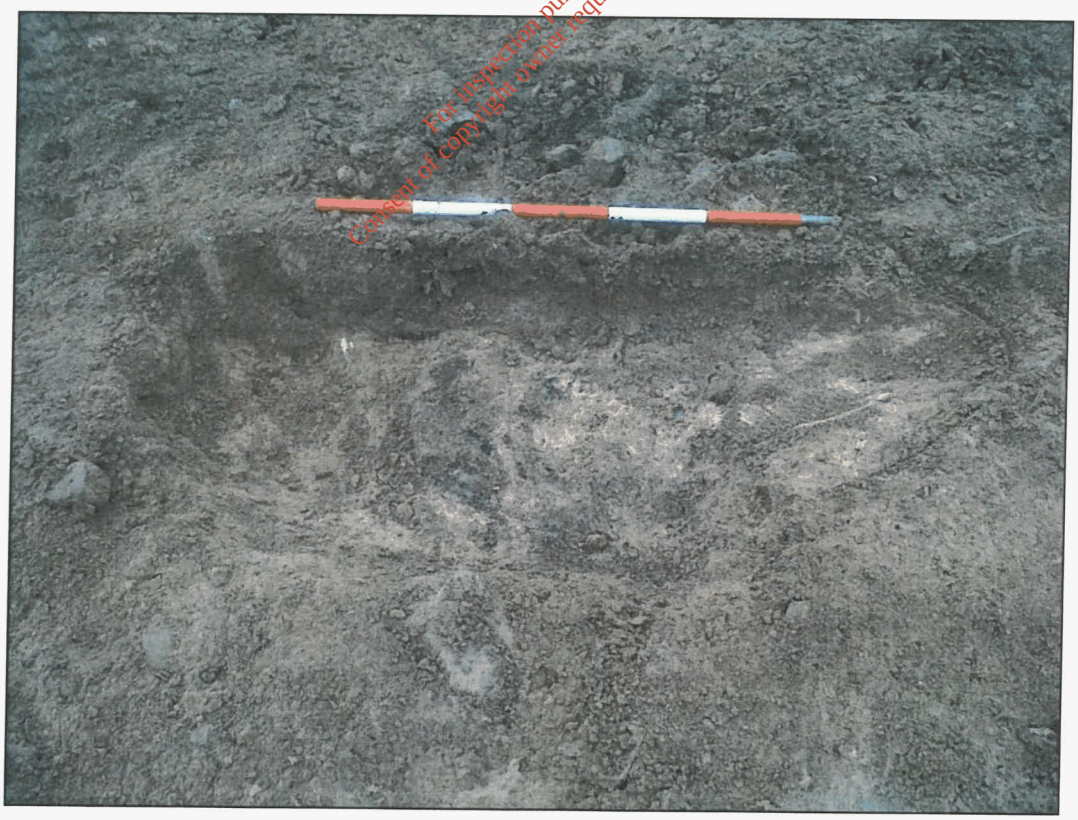


Plate 14: Shallow pit feature in Trench 33 half sectioned, facing south-east

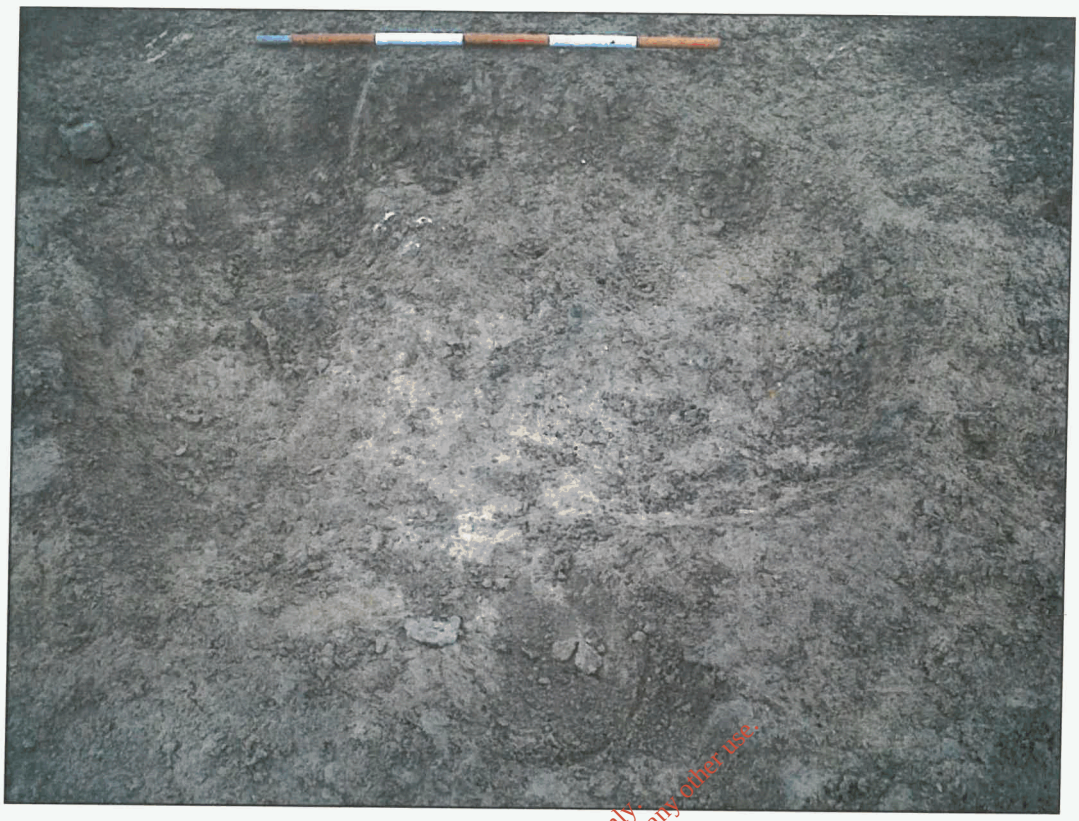


Plate 15: Shallow pit feature in Trench 33 post-excavation, facing south-west

Plate 16: Linear boundary identified in Trench G1, facing north

Plate 17: Linear furrow/lazy bed in Trench G15, facing south-east

Plate 18: Area of manganese/mineral deposits in Trench G16, facing north-east

APPENDIX 1: RMP SITES WITHIN THE SURROUNDING AREA

SMR No.:	KK047-01
Townland:	Gorteens
Parish:	Rathpatrick
Barony:	Ida
Classification:	Castle
Description:	Gorteens Castle. Located to rear (east) of a derelict house at top of a gently sloping south-west facing grass field. This was the castle of Thomas Fitz-Gerralde and according to O'Donovan, the Castle of Kilmurry also belonged to him (1839, 291). The castle measures 6.90m x 6.40m and is standing 4 storeys high. The upper floor is ivy-covered and inaccessible with the gateway aligned roughly northwest–southeast (from map). Entrance (2.40m wide) is through a pointed arch in north-west side. Within are 2 spudstones with '2 hanging eyes' above. Murder hole above (*c.* 0.40m x 0.40m). Recesses to left and right measure 2.60m x 1m deep (north-east side) and 1.70m x 0.85m deep (south-west side) respectively. The supporting wicker framework is visible in recesses and main vault. On the exterior at north-east side at ground floor level is the stump of wall at right angles to gateway at south-east corner. Wall measures *c.* 2m wide and the foundations/ footing is 1.20m long. On the 1st floor and 2nd floors are destroyed window loops. A mural stairs between 2nd and 3rd floors is visible from the south-east side. At south-east the wall has collapsed and the castle is open to the air from the vault upwards. At south-west side, on the 3rd floor is a small ruined window loop. This side is ivy covered.
Reference:	O'Donovan 1839, 291; O'Kelly 1969, 117
SMR No.:	KK043-036
Townland:	Kilmurry
Parish:	Rathpatrick
Barony:	Ida
Classification:	Cist
Description:	According to records in NMI (Appendix 2; 1959-029-030), a cist containing cremated human bones and stone slikensides (rock surfaces on either side of a fault plane which have been polished or marked by friction between the moving blocks) was found in Kilmurry
Reference:	No SMR file. NMI topographical files
SMR No.:	KK043-03701
Townland:	Kilmurry
Parish:	Rathpatrick
Barony:	Ida
Classification:	Holy Well
Description:	Known as Tobernarry well and marked on the first edition of the OS map (1839).

Reference:	No RMP file
SMR No.:	KKI043-03702/03 (duplicated site KI045-028)
Townland:	Kilmurry
Parish:	Rathpatrick
Barony:	Ida
Classification:	Castle Site
Description:	Described as a small late medieval tower-house (KI043-03702) with an adjoining 2-storey dwelling house (KI043-03703), surrounded by farm buildings. An assessment revealed that the dwelling house incorporated a later medieval church which was attached to and built at the same time as the tower house. An original doorway at ground level gave access between the two buildings. It was suggested that the house was the residence of clergymen and was built in the 1430's. Subsequent to the Cromwellian resettlement, the church was renovated and the building was converted into a dwelling house using clay-bonded masonry.
Reference:	No RMP file. Bennett 1999, 151-152; 461
SMR No.:	KK043-03801
Townland:	Kilmurry
Parish:	Rathpatrick
Barony:	Ida
Classification:	Church Site
Description:	Marked on first edition of OS map (1839). A graveyard (KI043-03802) is associated with the church site.
Reference:	No RMP file
SMR No.:	KK043-070
Townland:	Ballinvoher
Parish:	Rathpatrick
Barony:	Ida
Classification:	Standing Stone
Description:	A standing stone located on a little shelf about halfway down the W side of a valley. The stone is aligned east–west (2.64º–84º) and has a rectangular cross-section (0.54m x 0.38m). It leans slightly to the south and has a rounded top. The stone is an old red sandstone conglomerate. It is 1.20m high. It is situated in a slight hollow excavated by cattle that use the standing stone as a scratching post with the result that the edges of the stone are polished from wear.
Reference:	RMP file
SMR No.:	KK043-013
Townland:	Rathpatrick
Parish:	Rathpatrick
Barony:	Ida
Classification:	Ringfort (Rath / Cashel)
Description:	Located on top of a hill on the north side. Site is almost flat with a very slight slope to north. Field fence curving to west has been removed. Extensive views to west. The field is in grass and the site is mostly levelled. According to Carrigan, the rath was nearly levelled and the fosse was entirely so in 1905 (202).

	Presently, the outline of the ringfort is fairly good to north and west. Not so clear at south-west. The bank along the east side is stone revetted on the exterior (west) face but the revetting has mostly fallen away. There is no trace of a ditch. Diameter of ringfort from east–west (centre of bank to centre of bank) is 40m. The bank at north is 10m wide, 0.20m high above interior and 0.70m high above exterior. The bank at west is 3.50m wide, 0.80m high above interior and 1.50m high above the field to west.
Reference:	Carrigan 1905, 202; O'Kelly 1969, 118
SMR No.:	KK044-014
Townland:	Rathpatrick
Parish:	Rathpatrick
Barony:	Ida
Classification:	Ecclesiastical Remains
Description:	According to O'Donovan (1831, 290–1), the present old church (KI044-01401) of Rathpatrick is not the primitive one founded by St Patrick but one erected on its site about 5 centuries since. This church is now in ruins with only the west gable standing tall. It was marked on the first and second editions of the OS maps as a church in ruins. It is aligned WSW/ENE. The north wall and parts of the south wall are 2.60m x 2.80m high and are ivy-covered. Only the foundations survive along the east gable. Very few features in walls; a small round headed door in west wall, 0.65m wide x 1.35m high, towards west end. Overall dimensions of the church are 26m (east–west) x 6.80m (north–south). Internally it measures 24.30m x 5.10m (at west end) x 4.80m (at east end). Within the church and set into the N wall is the upper half of a large monumental slab with raised cross down the centre and the sacred monogram HIS (Carrigan 1905, 200–282). In the associated graveyard (KI043-0102) there are several granite headstones. A grave-slab fragment (KI044-01403) is also set in the inner face of the graveyard wall on S side of gate. This was found buried under the earth (KI044-01404) and subsequently placed in its present position by the Reverend John Fitzpatrick. Near to the graveyard gate is an architectural fragment from a column or similar measuring 0.42m in diameter x 0.40m high with a slot 0.13m deep in the side of it. It has small decorative features at one end. Also rough stone with socket. Not a bullaun (0.48m x 0.33m x 0.20m). Socket measures 0.19m x 0.21m x 0.90m.
Reference:	O'Donovan 1839, 290-1; Carrigan 1905, 200–282
SMR No.:	KK044-021
Townland:	Drumdowney Lower
Parish:	Rathpatrick
Barony:	Ida
Classification:	Standing Stone
Description:	During the field inspection the standing stone was examined. The standing stone leans to the east and the area around the base of the standing stone is hollowed out. The stone is a sandstone

	conglomerate. It measured 1.30m in maximum height and was roughly rectangular in cross-section and narrows towards the top. It measures 0.88m in maximum width and 0.56m in depth. At the base the stone measures 0.72m in width and 0.56m in depth.
Reference:	No RMP file
SMR No.:	KK044-022
Townland:	Luffany
Parish:	Rathpatrick
Barony:	Ida
Classification:	Wayside Cross
Description:	Cross situated on the east side of the main Waterford/ New Ross road which is a wide modern road. It is situated over a stream and at one time was probably part of a building structure but now it is set in a cement base with the date 1976. The cross is in good condition except for a few damaged areas especially on the back on the east side. The cross is a Latin cross with rounded terminals to the arms. The centre of the cross has a raised HIS motif with a cross rising from the centre of the H. The cross was erected in 1736 to the O'Bryens and there are a number of dates on the west side of the cross from 1690 to 1736. The cross is a commemorative cross of the O'Bryens. The workmanship is very poor. The letters are deeply incised and uneven in shape. It has a patina and some lichen. It measures 1.42m high and 1.07m wide.
Reference:	RMP file

APPENDIX 2: LEGISLATIVE FRAMEWORK PROTECTING THE ARCHAEOLOGICAL RESOURCE

Protection of Cultural Heritage

The cultural heritage in Ireland is safeguarded through national and international policy designed to secure the protection of the cultural heritage resource to the fullest possible extent (Department of Arts, Heritage, Gaeltacht and the Islands 1999, 35). This is undertaken in accordance with the provisions of the *European Convention on the Protection of the Archaeological Heritage* (Valletta Convention), ratified by Ireland in 1997.

The Archaeological Resource

The *National Monuments Act 1930 to 2004* and relevant provisions of the *National Cultural Institutions Act 1997* are the primary means of ensuring the satisfactory protection of archaeological remains, which includes all man-made structures of whatever form or date except buildings habitually used for ecclesiastical purposes. A National Monument is described as 'a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto' (National Monuments Act 1930 Section 2).

A number of mechanisms under the National Monuments Act are applied to secure the protection of archaeological monuments. These include the Register of Historic Monuments, the Record of Monuments and Places, and the placing of Preservation Orders and Temporary Preservation Orders on endangered sites.

Ownership and Guardianship of National Monuments

The Minister may acquire national monuments by agreement or by compulsory order. The state or local authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not be interfered with without the written consent of the Minister.

Register of Historic Monuments

Section 5 of the 1987 Act requires the Minister to establish and maintain a Register of Historic Monuments. Historic monuments and archaeological areas present on the register are afforded statutory protection under the 1987 Act. Any interference with sites recorded on the register is illegal without the permission of the Minister. Two months notice in writing is required prior to any work being undertaken on or in the vicinity of a registered monument. The register also includes sites under Preservation Orders and Temporary Preservation Orders. All registered monuments are included in the Record of Monuments and Places.

Preservation Orders and Temporary Preservation Orders

Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the 1930 Act. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the 1954 Act. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister.

Record of Monuments and Places

Section 12(1) of the 1994 Act requires the Minister for Arts, Heritage, Gaeltacht and the Islands (now the Minister for the Environment, Heritage and Local Government) to establish and maintain a record of monuments and places where the Minister believes that such monuments exist. The record comprises a list of monuments and relevant places and a map/s showing each monument and relevant place in respect of each county in the state. All sites recorded on the Record of Monuments and Places receive statutory protection under the National Monuments Act 1994. All recorded monuments on the proposed development site are represented on the accompanying maps.

Section 12(3) of the 1994 Act provides that 'where the owner or occupier (other than the Minister for Arts, Heritage, Gaeltacht and the Islands) of a monument or place included in the Record, or any other person, proposes to carry out, or to cause or permit the carrying out of, any work at or in relation to such a monument or place, he or she shall give notice in writing to the Minister of Arts, Heritage, Gaeltacht and the Islands to carry out work and shall not, except in the case of urgent necessity and with the consent of the Minister, commence the work until two months after the giving of notice'.

Under the National Monuments (Amendment) Act 2004, anyone who demolishes or in any way interferes with a recorded site is liable to a fine not exceeding €3,000 or imprisonment for up to 6 months. On summary conviction and on conviction of indictment, a fine not exceeding €10,000 or imprisonment for up to 5 years is the penalty. In addition they are liable for costs for the repair of the damage caused.

In addition to this, under the *European Communities (Environmental Impact Assessment) Regulations 1989,* Environmental Impact Statements (EIS) are required for various classes and sizes of development project to assess the impact the proposed development will have on the existing environment, which includes the cultural, archaeological and built heritage resources. These document's recommendations are typically incorporated into the conditions under which the proposed development must proceed, and thus offer an additional layer of protection for monuments which have not been listed on the RMP.

The Planning and Development Act 2000

Under planning legislation, each local authority is obliged to draw up a Development Plan setting out their aims and policies with regard to the growth of the area over a five-year period. They cover a range of issues including archaeology and built heritage, setting out their policies and objectives with regard to the protection and enhancement of both. These policies can vary from county to county. The Planning and Development Act 2000 recognises that proper planning and sustainable development includes the protection of the archaeological heritage. Conditions relating to archaeology may be attached to individual planning permissions.

APPENDIX 3: IMPACT ASSESSMENT AND THE CULTURAL HERITAGE RESOURCE

Potential Impacts on Archaeological and Historical Remains

Impacts are defined as 'the degree of change in an environment resulting from a development' (Environmental Protection Agency 2003: 31). They are described as profound, significant or slight impacts on archaeological remains. They may be negative, positive or neutral, direct, indirect or cumulative, temporary or permanent.

Impacts can be identified from detailed information about a project, the nature of the area affected and the range of archaeological and historical resources potentially affected. Development can affect the archaeological and historical resource of a given landscape in a number of ways.

- Permanent and temporary land-take, associated structures, landscape mounding, and their construction may result in damage to or loss of archaeological remains and deposits, or physical loss to the setting of historic monuments and to the physical coherence of the landscape.

- Archaeological sites can be affected adversely in a number of ways: disturbance by excavation, topsoil stripping and the passage of heavy machinery; disturbance by vehicles working in unsuitable conditions; or burial of sites, limiting accessibility for future archaeological investigation.

- Hydrological changes in groundwater or surface water levels can result from construction activities such as de-watering and spoil disposal, or longer-term changes in drainage patterns. These may desiccate archaeological remains and associated deposits.

- Visual impacts on the historic landscape sometimes arise from construction traffic and facilities, built earthworks and structures, landscape mounding and planting, noise, fences and associated works. These features can impinge directly on historic monuments and historic landscape elements as well as their visual amenity value.

- Landscape measures such as tree planting can damage sub-surface archaeological features, due to topsoil stripping and through the root action of trees and shrubs as they grow.

- Ground consolidation by construction activities or the weight of permanent embankments can cause damage to buried archaeological remains, especially in colluviums or peat deposits.

- Disruption due to construction also offers in general the potential for adversely affecting archaeological remains. This can include machinery, site offices, and service trenches.

Although not widely appreciated, positive impacts can accrue from developments. These can include positive resource management policies, improved maintenance and access to archaeological monuments, and the increased level of knowledge of a site or historic landscape as a result of archaeological assessment and fieldwork.

Predicted Impacts

The severity of a given level of land-take or visual intrusion varies with the type of monument, site or landscape features and its existing environment. Severity of impact can be judged taking the following into account:

- The proportion of the feature affected and how far physical characteristics fundamental to the understanding of the feature would be lost;
- Consideration of the type, date, survival/condition, fragility/vulnerability, rarity, potential and amenity value of the feature affected;
- Assessment of the levels of noise, visual and hydrological impacts, either in general or site specific terms, as may be provided by other specialists.

APPENDIX 4: MITIGATION MEASURES AND THE ARCHAEOLOGICAL RESOURCE

Potential Mitigation Strategies for Cultural Heritage Remains

Mitigation is defined as features of the design or other measures of the proposed development that can be adopted to avoid, prevent, reduce or offset negative effects.

The best opportunities for avoiding damage to archaeological remains or intrusion on their setting and amenity arise when the site options for the development are being considered. Damage to the archaeological resource immediately adjacent to developments may be prevented by the selection of appropriate construction methods. Reducing adverse effects can be achieved by good design, for example by screening historic buildings or upstanding archaeological monuments or by burying archaeological sites undisturbed rather than destroying them. Offsetting adverse effects is probably best illustrated by the full investigation and recording of archaeological sites that cannot be preserved *in situ*.

Definition of Mitigation Strategies

Archaeological Resource

The ideal mitigation for all archaeological sites is preservation *in situ*. This is not always a practical solution, however. Therefore a series of recommendations are offered to provide ameliorative measures where avoidance and preservation *in situ* are not possible.

Full Archaeological Excavation involves the scientific removal and recording of all archaeological features, deposits and objects to the level of geological strata or the base level of any given development. Full archaeological excavation is recommended where initial investigation has uncovered evidence of archaeologically significant material or structures and where avoidance of the site is not possible.

Archaeological Test Trenching can be defined as 'a limited programme... of intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land or underwater. If such archaeological remains are present test trenching defines their character and extent and relative quality.' (IFA 2001c, 1).

Archaeological Monitoring can be defined as a 'formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons within a specified area or site on land or underwater, where there is possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive.' (IFA 2001b, 1).