

Appendix 5.1: SMR/RMP Sites within the study area of the planning application site

SMR NO.	LI010-014
RMP STATUS	Scheduled for inclusion in the next revision of the RMP
TOWNLAND	Aughinish West
PARISH	Robertstown
BARONY	Shanid
I.T.M.	527553,652277
CLASSIFICATION	Enclosure
DIST. FROM DEVELOPMENT	Within the planning application site
DESCRIPTION	In level low-lying terrain on Aughinish Island; area of site now occupied by industrial complex. Site described in 1974 as 'an approximately circular platform-like area demarcated by the remains of an earthen bank in the south and east and a high embankment at north and west. A field wall and fossway cuts off the southern segment ... dimensions east-

	west 40m ... covered with blackthorn ... probably a rath' (Byrne 1996, 5). In 1993 a further inspection of the site revealed a slightly curving raised platform ... probably the surviving north-east quadrant of the monument' which was covered by 'dense growth' (O Rahilly 1993, 1). Archaeological excavation at the site in 1996, prior to its incorporation into an industrial complex (Aughinish Alumina), produced no finds or features of an archaeological nature, leading to the conclusion that 'the site may be of no archaeological significance' (Byrne 1996, 10).
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-152
RMP STATUS	Not scheduled for inclusion in the next revision of the RMP
TOWNLAND	Island Macteige
PARISH	Robertstown
BARONY	Shanid
I.T.M.	527768, 651091
CLASSIFICATION	Charcoal-making site
DIST. FROM DEVELOPMENT	Within the planning application site
DESCRIPTION	Three charcoal-making sites (Site 3A) excavated by Nikolah Gilligan (08E0998). A radiocarbon date places these in the early medieval period (961-1020 cal. AD; UBA 11555).
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-153
RMP STATUS	Not scheduled for inclusion in the next revision of the RMP
TOWNLAND	Island Macteige
PARISH	Robertstown
BARONY	Shanid
I.T.M.	527755,651048
CLASSIFICATION	Charcoal-making site
DIST. FROM DEVELOPMENT	Within the planning application site
DESCRIPTION	Charcoal-making site (Site 3B) excavated by Nikolah Gilligan (08E0998). A radiocarbon date places this in the early medieval period (961-1020 cal. AD; UBA 11555).
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-154
RMP STATUS	Not scheduled for inclusion in the next revision of the RMP
TOWNLAND	Island Macteige
PARISH	Robertstown
BARONY	Shanid
I.T.M.	527726,651012
CLASSIFICATION	Charcoal-making site
DIST. FROM DEVELOPMENT	Within the planning application site
DESCRIPTION	Charcoal-making site (Site 3C) excavated by Nikolah Gilligan (08E0998). A radiocarbon date places this in the early medieval period (961-1020 cal. AD; UBA 11555).
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-155
RMP STATUS	Not scheduled for inclusion in the next revision of the RMP
TOWNLAND	Aughinish West
PARISH	Robertstown
BARONY	Shanid
I.T.M.	527619,651485
CLASSIFICATION	<i>Fulacht fia</i>
DIST. FROM DEVELOPMENT	Within the planning application site

DESCRIPTION	<i>Fulacht fia</i> excavated by Nikolah Gilligan (07E0805) and described as 'a sub-rectangular pit, which was c. 0.51m deep and contained a 1.18m long (east–west) and c. 0.5m wide horizontal oak plank at its base. The plank was laid on a bed of gravelly clay and silt. Mortise and tenon joints were visible in the eastern and western ends of the plank to create vertical and opposing 'header' and 'footer' oak features and the remnants of a grooved side panel were present along the north-western end of the plank. Worked hazel and ash stakes had been set vertically into the gravelly clay alongside the southern and northern lengths of the oak plank; they may have been incorporated into some form of superstructure above the trough. One of these stakes has been radiocarbon dated to 1612–1494 cal bc (UBA–10274). The trough was probably used in association with a rectangular structure present to its west, which was formed by four groups of stake-holes. Evidence of scorching was visible within the structure and it is thought to have been built to house a fire; it may have been joined to the roof above the trough.
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-150
RMP STATUS	Not scheduled for inclusion in the next revision of the RMP
TOWNLAND	Glenbane West
PARISH	Shanagolden
BARONY	Shanid
I.T.M.	528531,651088
CLASSIFICATION	Fulacht fia
DIST. FROM DEVELOPMENT	Within planning application site
DESCRIPTION	Fulacht fia excavated by Nikolah Gilligan (08E0782) and described as 'four pits and four troughs, some of which had internal postholes. The flooding of the palaeochannel had caused a deposit of heat-shattered stone and charcoal which had been produced in one of the troughs to spread across the site and seal the other features. Specialist analysis shows that yew was the dominant species present in the spread and the trough that had produced it. This was an unusual discovery as oak tends to be the dominant species identified from fulacht fiadh sites. Charcoal from the base of a posthole within one of the troughs was dated to 1129- 1007 cal. BC (UBA 11553), which placed the site in the Middle Bronze Age.'
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-151
RMP STATUS	Not scheduled for inclusion in the next revision of the RMP

TOWNLAND	Glenbane West
PARISH	Shanagolden
BARONY	Shanid
I.T.M.	528465,651072
CLASSIFICATION	Cremation pit
DIST. FROM DEVELOPMENT	Within planning application site
DESCRIPTION	Two cremation pits excavated by Nikolah Gilligan (08E0910) and described as 'both containing the remains of an individual who was aged between 18-44 years at the time of death. One of the pits contained a sherd of prehistoric pottery which was initially thought to be Neolithic (Appendix 4). However, a date retrieved from one of the pits placed the site in the Middle Bronze Age (1323-1251cal. BC (UBA 11554)).'
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-108
RMP STATUS	Scheduled for inclusion in the next revision of the RMP
TOWNLAND	Aughinish East
PARISH	Robertstown
BARONY	Shanid
I.T.M.	528214,652338
CLASSIFICATION	Enclosure
DIST. FROM DEVELOPMENT	Immediately south
DESCRIPTION	In level terrain, recently planted with trees. No visible surface trace of site depicted as roughly rectangular hachured area (c. 25m E-W; c. 25m N-S) on 1841 OS 6-inch map, but not shown on 1923 OS 6-inch map. Listed by Barry as a moated site (Barry 1981, 83; site no. 1).
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-147
RMP STATUS	Not scheduled for inclusion in the next revision of the RMP
TOWNLAND	Fawnamore
PARISH	Robertstown
BARONY	Shanid
I.T.M.	528669,651192
CLASSIFICATION	Hearth
DIST. FROM DEVELOPMENT	c. 31m northeast

DESCRIPTION	A hearth excavated by Rose Cleary (04E1306) and described as 'eight flat stones extended over an area measuring 0.92m by 0.29m. Ash and charcoal flecks were visible on the east side. Oxidised and charcoal-flecked soil was visible 0.54m to the west. The site was probably a hearth.'
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-146001
RMP STATUS	Not scheduled for inclusion in the next revision of the RMP
TOWNLAND	Fawnamore
PARISH	Robertstown
BARONY	Shanid
I.T.M.	528623,651241
CLASSIFICATION	Pit-burial
DIST. FROM DEVELOPMENT	c. 75m north
DESCRIPTION	An Early Bronze Age pit excavated by Rose Cleary (04E1306) and described as 'a subcircular pit with some bone fragments in the basal fill. A large flat stone occupied part of the base on the north end. The pit fill was charcoal-enriched brown/black soil with some burnt bone, seashell and a burnt hazelnut shell fragment. The bone was concentrated in the south-west side. The bone fragments were too minute to identify as either animal or human. Five pieces of flint debitage were found at the base of the fill and Beaker pottery sherds were found throughout. The flint debitage may have been placed in the pit prior to infilling. A rounded water-rolled stone of old red sandstone was recovered from this fill. Some evidence of pocking/pitting on one end suggests use as a hammer stone. The pit appears to contain random deposits of pottery sherds, burnt bone and flint debitage. The pottery is from the Beaker period and includes 43 sherds representing at least five vessels. The pottery includes one sherd of Bell Beaker with zoned decoration including comb- impressed lines and short strokes. A second vessel can be categorised as Domestic Beaker and has impressed pits below the rim, both internally and externally. Two fragments of a third vessel are also decorated with impressed comb motifs and they may belong to the Bell Beaker classification. These fragments are from a small, thin-walled vessel (max. thickness 5.5mm). The remaining sherds are undecorated but on fabric type belong to two other vessels. The pottery was broken in antiquity and may have been deposited in the pit as some type of ritualistic gesture.'
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-146002
RMP STATUS	Not scheduled for inclusion in the next revision of the RMP
TOWNLAND	Fawnamore
PARISH	Robertstown
BARONY	Shanid

I.T.M.	528623,651241
CLASSIFICATION	Excavation - miscellaneous
DIST. FROM DEVELOPMENT	c. 75m north
DESCRIPTION	Pits and postholes partially excavated by Rose Cleary (04E1306) and described as 'pits similar to post-pits and may indicate a settlement of unknown date in the area outside the pipeline wayleave.'
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-076
RMP STATUS	Scheduled for inclusion in the next revision of the RMP
TOWNLAND	Dysert
PARISH	Robertstown
BARONY	Shanid

I.T.M.	528428,650777
CLASSIFICATION	Ringfort - rath
DIST. FROM DEVELOPMENT	c. 160m south
DESCRIPTION	Monument, depicted as embanked circular enclosure (diam. c. 25m) on 1841 OS 6-inch map but is not shown on 1923 OS 6-inch map, was not inspected as landowner refused survey permission to inspect site.
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-022
RMP STATUS	Scheduled for inclusion in the next revision of the RMP
TOWNLAND	Fawnamore
PARISH	Robertstown
BARONY	Shanid
I.T.M.	528683,651324
CLASSIFICATION	Ringfort - cashel
DIST. FROM DEVELOPMENT	c. 165m northeast
DESCRIPTION	On gentle S-facing slope, in low-lying area with limestone outcropping. Roughly circular area (48m N-S; 52m E-W) enclosed by partially collapsed and overgrown dry-stone wall (int. H 0.45m; ext. H 0.65m; Wth 2m). Most of enclosing element obscured by overgrowth of gorse and bushes, as is much of interior. There appear to be some internal structures, defined by low earthworks, but no pattern discernible because of overgrowth.
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-021
RMP STATUS	Scheduled for inclusion in the next revision of the RMP
TOWNLAND	Fawnamore
PARISH	Robertstown
BARONY	Shanid
I.T.M.	528684,651325
CLASSIFICATION	Ringfort - rath
DIST. FROM DEVELOPMENT	c. 289m east
DESCRIPTION	In scrub, on gently undulating terrain. Monument, depicted as embanked circular enclosure (diam. c. 40m) on 1841 OS 6-inch map, but not shown on 1923 OS 6-inch map, could not be inspected as area where it lies is now completely covered by impenetrable overgrowth.
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-018
RMP STATUS	Scheduled for inclusion in the next revision of the RMP
TOWNLAND	Aughinish East
PARISH	Robertstown
BARONY	Shanid
I.T.M.	528144,653165
CLASSIFICATION	Enclosure
DIST. FROM DEVELOPMENT	c. 341m north (preserved by record)
DESCRIPTION	<p>On NW-facing slope of N-S ridge, on Aughinish Island overlooking the River Shannon; site now part of industrial complex (Aughinish Alumina). Excavated in 1974 prior to industrial development (Hickey 1973-4). Consists of ovoid area (56.5m N-S; 45m E-W) enclosed by 'stone bank covered in grass' which was truncated E->NW by 'a modern dry-stone fence' (ibid., 17, fig. 2). Excavation of interior revealed 'an absence of stratigraphy' with c. 0.25m of topsoil lying directly on limestone bedrock or a hard yellowish subsoil. Sections through the bank showed 'it was built on a thin layer of topsoil and was a dry-stone bank of flimsy construction' (ibid., 17, fig. 2 & 4). In SW quadrant of interior 'eight graves were uncovered occupying a small area ... they were aligned E-W and set closely together' (ibid., 19). The graves had been disturbed by agricultural activity but contained 'the skeletal remains of twelve individuals, male and female, whose ages ranged from infancy through adolescence to old age' (ibid.); no grave goods or any other datable material was recovered with the burials. Some animal bones were recovered both from interior and underneath enclosing bank, mostly from sheep; these led the excavator to conclude that the enclosure probably functioned as a sheep-fold (ibid., 23-4). Amongst the stray finds recovered was a shard from 'Belgium or Northern France ... probably of 16th or early 17th century date' (ibid., 21).</p> <p>Four separate phases of activity were discernible: some iron smelting</p>

	took place here before the enclosure was built; then the enclosure was built, probably as a sheep-fold; at some stage part of the enclosure was used as a burial ground; and finally the enclosure fell into disrepair (ibid., 23). The excavator suggests that the most likely date for the sheep-fold was between 1666 and c. 1750 (ibid., 24). A similar feature was excavated at the same time 500m to the N (see LI010-019---).
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-016
RMP STATUS	Scheduled for inclusion in the next revision of the RMP
TOWNLAND	Aughinish West
PARISH	Robertstown
BARONY	Shanid
I.T.M.	527674,653135
CLASSIFICATION	Ringfort - rath
DIST. FROM DEVELOPMENT	c. 335m north
DESCRIPTION	In level terrain. Monument, depicted as embanked circular enclosure (diam. c. 20m) on 1841 OS 6-inch map, has been levelled. No trace of monument evident when inspected.
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-075
RMP STATUS	Scheduled for inclusion in the next revision of the RMP
TOWNLAND	Dysert
PARISH	Robertstown
BARONY	Shanid
I.T.M.	528366,650579
CLASSIFICATION	Ringfort - rath
DIST. FROM DEVELOPMENT	c.354m south
DESCRIPTION	On low rise, in low-lying pasture. Roughly oval area (34m N-S; 28.7m E-W) enclosed by an earthen bank (int. H 0.75m; ext. H 0.7m) N->SW, but bank overlain or replaced by field boundary SW->NW, and bank removed NW->N leaving gap (Wth 9.7m). Field boundary which overlies enclosing bank on W side continues to run immediately outside bank elsewhere except for gap at N which corresponds to removed section of bank. Level interior under pasture.
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-077
RMP STATUS	Scheduled for inclusion in the next revision of the RMP
TOWNLAND	Dysert
PARISH	Robertstown

BARONY	Shanid
I.T.M.	528564,650581
CLASSIFICATION	Castle - tower house
DIST. FROM DEVELOPMENT	c. 367m south
DESCRIPTION	<p>Westropp (1906-7) recorded the following details about Dysert also known as Díseart Muirdeabhair; 'Probably included Morgans [LI010-030-] and Craggs [LI010-177-] at one time. Disert Murdebrair in Ui Chonail Gabrai (Cal. Oenghus), Disuirt Murdevar, 1201; Dissert Marrgeoin, 1336. 1584 Morris mac Tirrelagh Mac Moryertagh (O'Brien) held the Isles of Arin, near Galway; Crag mac teigh, near Dissert, in Conyllagh (Inq. Exch., 12, p. 270; Peyton, 187). 1600 Jas. Gould held at his death Craige and Disertbargeon from the Bishop (Inq. Exch., Vis. Reg.). 1608 J. Wakeman held them, as estate of Teige Clansie, attained (Pat. R., Rev. Exch., 1613-18, &c). 1638-1655 Wingfield held Craige and Dissert C[astle]. (C.S., 95)'. The 1654-56 Civil Survey of Limerick recorded that Sir Edward Wingfield was in possession of the lands of 'Craige and Dissarte' which contained a 'Castle 72 Irish acres' (Simington 1938, 327).</p> <p>Fabric - A tower 19 feet [5.8m] by 13 feet [4m], inside; walls, 4½ feet [1.4m] thick. It is four stories high, with a barrel stair of sixty-eight steps north-west beside the door, the latter protected by a "murder-hole". The lower and third story are vaulted, with a closet in the wall on the second floor. The details are of the later fifteenth century. There are slight traces of a side wing and bawn [LI010-077001-], all much injured (O.S.L., 8, p. 17). The Ordnance Survey Letters for the parish of Robertstown describes the castle remains as, 'on level ground, measures nineteen feet [5.8m] by thirteen feet [4m] inside. It has four stories, the arches of two of which still remains. The walls are about fifty feet [15m] high and four and a half feet [1.4m] in thickness'.</p> <p>The ruins of Dysert Castle stands on low-lying pasture overlooking the wet floodplains of the Robertstown River to E. On 1840 ed. OS 6-inch map the castle is depicted standing in the centre of a sub-rectangular-shaped field or bawn (LI010-077001-)with poorly drained land on all sides except at W. Ringforts (LI010-075-/076-)- 165m to W and 210m to NNW respectively. Well preserved but ivy-covered castle built with limestone masonry and a high prominent base batter that has been robbed out on all corners. Four-storey rectangular tower (ext. dims. 8.85m N-S x 9.8m E-W) with partially destroyed garderobe tower on SW angle. Only a short section of the E wall of the garderobe tower survives projection out from the S wall of the castle and this tower appears to be the side wall and bawn described above by Westropp. The castle is entered via a flat-headed rectangular doorway (Wth 1.2m; H 2.3m) of roughly cut limestone with external chamfer in centre of W wall which leads to a lobby area off which the spiral stairs is accessed in NW angle. The stairs is accessed from the lobby via a round-headed doorway (Wth 0.6m; H 1.84m).</p> <p>Ground floor chamber (int. dims. 4.4m N-S x 5.85m E-W) entered through a pointed cut-stone doorway (Wth 0.8m; H 2m) in E wall of lobby area. The doorway has lightly punch-dressed external chamfered jambstones with drawbar socket (dims. 0.44m x 0.13m x D 1.1m) internally on either</p>

side. The lobby area is protected by overhead murder-hole (1.3m x 0.3m). This chamber with stone vaulted roof is lit by a single light slit opes in centre of N, E and S walls. These double-splayed windows have cut stone surrounds set into the centre of the wall and splay internally and externally given their distinctive double splay. The flat-headed windows have chamfered cut limestone surrounds and are set into poorly preserved window embrasures (H 0.9m; Wth 1m) . The stone vaulted roof has traces of plaster still visible on the underside of the roof and also visible on all four walls of the ground floor chamber. A hole (Wth 0.9m H 0.9m; D 0.52m) in the SE corner of the ground floor chamber reveals an intramural chute-like opening (dims. 0.5m x 0.43m) which runs down from the first floor in the thickness of the wall. There is no clear opening or exit hole for this chute which has the appearance of a possible secret mural chamber. A small circular iron-loop visible in E side of breach in wall may have been some sort of fixture for wooden floor.

The first floor is accessed via a pointed doorway off the spiral stairs (diam. 0.78m) in the NW angle which is lit by narrow flat headed slit opes (Wth 0.08m x H 0.8m). The pointed doorway (H 1.62m; Wth 0.7m) has lightly punch-dressed jambs with semi-circular shaped threshold stone visible. Internally the door has rebated jambs with drawbar socket (L 0.12m x Wth 0.15m x D 0.48m) visible on S side. Directly inside the doorway on N wall there is a recessed section (Wth 0.75m x D 0.2m) in the wall to accommodate the wooden door of the first floor. This chamber is lit by two large windows in the N, and S walls which are set large embrasures that are almost floor to ceiling high. The N window (H 2m x Wth 0.58m) is set into a slight segmental arched embrasure (H 2.2m x Wth 1.18m) while the S window (H 1.14m x Wth 0.17m) stands inside a flat-headed embrasure (H. 1.9m x Wth 1m). A flat headed window off centre to N in the E wall gives access to a mural passage from a doorway in the S wall of the window embrasure. This L-shaped mural passage (Wth 0.6m x H 2.06m x L 1.97m) runs S in the thickness of the E wall and turns W for a short distance forming an L-shaped plan. The end of this lintelled chamber is lit by a narrow slit window in the SE corner with stone lined hole (0.36m x 0.33m) in the floor of the passage which presumably gave access to the secret intramural chamber. An aumbry or wall-cupboard (H. 0.52m x Wth 0.73m X D 0.62m) is visible off centre to W in S wall c. 0.9m high above the floor level. A flat-headed breach in the W wall of the first floor unusually located 1.2m above the floor level gives access to the murder-hole chamber (L 2.5m x Wth 1m) over the lobby area. This murder-hole chamber is lit by a slit ope window in the W wall. Limestone corbels which supported the wall plate for a wooden floor over this chamber are visible in the N and S walls. There is evidence of wicker-centring on the underside of the arches of the window embrasures in the N and S walls.

The stone vaulted second floor is accessed off a pointed doorway (H 1.18m; Wth 0.7m) from the spiral stairs in NW corner. Traces of wicker-centring are visible on the partially destroyed stone vaulted roof. This chamber is lit by three windows, one in each of the N, E and S walls that are set into tall floor to ceiling embrasures. The base of the S window embrasure unusually extends down to serve as the lintel of the window of the first floor below. A doorway in the centre of the W wall leads into a mural chamber which is not accessible. This probably gave access to the garderobe in the SW angle. A series of small holes in the wall to E of N

	<p>window appear to be nesting boxes for pigeons suggesting that the interior was converted into a dovecote in the post-medieval period.</p> <p>The third floor (int. dims. 7.3m E-W x 4.3m N-S) above the stone vaulted second floor was accessed through a pointed doorway (H 1.7m; Wth 0.7m) accessed off the spiral stairs in the NW angle. A recessed section (0.83m x 0.1m) of the wall directly inside the doorway to S in W wall was built to accommodate the internal wooden doorway. This floor had a stone vaulted roof the springers of which are all that survive and are now visible in the W wall. A large breach off centre to E in the N wall was probably a broken out window embrasure. A twin-light ogee-headed window with internally rebated jambs set into a large flat-headed embrasure (H 2.7m x Wth 1.7m) is visible in the centre of the E wall. A single light ogee-headed window with probable slop-stone beneath set into a large flat-headed window embrasure is visible off centre to E in the S wall. A gap or hole in the wall is visible off centre to E in S wall close to SE corner.</p> <p>The spiral stairs in the NW angle rises above the third floor possibly to a destroyed fourth floor or attic and / or wall-walk level.</p> <p>Salter (2004, 80) recorded the following details about Dysert Castle; 'Jason Gould held this 14.5m high tower at his death in 1600. Measuring 9.1m by 6.8m and having a projection with a latrine-chute at the west end of the south wall, it contains a barrel-vaulted cellar with three double splayed loops, two further levels under a pointed vault, and a thinly walled fourth storey which is arched over at the west end. The second storey has a latrine in the SE corner and a mural room with a machicolation covering the entrance'.</p> <p>According to Begley (1906, 375) in 1586 this castle was in the possession of Edmund MacPhilip who was probably descended from Maurice Fitzphilip. Castle not depicted on The 1658 Down Survey map of Connello Barony as these lands were unforfeited. The Civil Survey of 1654-56 recorded that Sir Edward Wingfield was the owner of Craige and Dysert on which there was 'a Castle 72 Irish acres' (Simington 1938, 327).</p>
REFERENCE	www.archaeology.ie/ SMR file

SMR NO.	LI010-077001
RMP STATUS	Scheduled for inclusion in the next revision of the RMP
TOWNLAND	Dysert
PARISH	Robertstown
BARONY	Shanid
I.T.M.	528564,650581
CLASSIFICATION	Bawn
DIST. FROM DEVELOPMENT	c. 367m south
DESCRIPTION	Westropp (1906-7) recorded the following details about Dysert also known as Díseart Muirdeabhair; ' A tower [LI010-077----] 19 feet [5.8m] by 13 feet [4m], inside; walls, 4½ feet [1.4m] thick. It is four stories high, with a barrel stair of sixty-eight steps north-west beside the door, the latter protected by a "murder-hole". The lower and third story are vaulted, with a closet in the wall on the second floor. The details are of the later fifteenth century. There are slight traces of a side wing and bawn

	<p>[LI010-077001-], all much injured (O.S.L., 8, p. 17).</p> <p>The Ordnance Survey Letters for the parish of Robertstown describes the castle remains as, 'on level ground, measures nineteen feet [5.8m] by thirteen feet [4m] inside. It has four stories, the arches of two of which still remains. The walls are about fifty feet [15m] high and four and a half feet [1.4m] in thickness'.</p> <p>No surface remains visible of bawn wall mentioned in the Ordnance Survey Letters. A river to SE of tower house may have been flanked by a bawn as there is a lot of stone lying on the ground. A low scarp (approx. L 35m) is visible from SE-S of the castle which may mark the outline of the levelled bawn wall. The 1840 ed. OS 6-inch map shows the castle standing in the centre of a sub-rectangular shaped field (approx. dims. 80m N-S x 60m E-W) which may represent the outline of the castle bawn. The fields around the castle have been levelled.</p>
REFERENCE	<p>www.archaeology.ie/ SMR file</p>

Appendix 5.2: Geophysical Survey Report (Leigh 2021)

GEOPHYSICAL SURVEY

REPORT

Aughinish East,
County Limerick.

Date:
30/04/2021

Licence: 21R0086

J. M. Leigh Surveys Ltd.
124 Oaklawn West
Leixlip
County Kildare
www.jmlsurveys.com
01 615 4647



J. M. Leigh Surveys Ltd.
124 Oaklawn West,
Leixlip, Co. Kildare
Tel: 01 615 4647
Mobile: 0879062729
www.jmlsurveys.com

GEOPHYSICAL SURVEY SUMMARY SHEET
AUGHINISH EAST, FOYNES, COUNTY LIMERICK

Site Name	Aughinish, Co. Limerick	Ref No.	21017
Townland	Aughinish East	Licence No.	21R0086
County	Limerick	Licence Holder	Joanna Leigh
ITM (centre)	E528240, N652380	Purpose	Pre-planning
Client	IAC Ltd.	Reference No.	N/A

Ground Conditions Survey was conducted within two small fields located to the west of the L1234 and within a wooded nature trail. Both fields comprised of meadow and ground conditions were excellent.

Survey Type Detailed gradiometer survey totalling c.1.4 hectares.

Summary of Results

The geophysical survey has successfully identified the location and extent of the recorded enclosure (LI010-108). The enclosure presents as a sub-rectangular ditched feature (c.40m x 32m) with a likely entranceway to the south. Few responses are identified within the enclosure. A linear response extends from its north-eastern corner, perhaps suggesting an associated boundary feature.

To the south of the likely entranceway there is an area of increased magnetic response. This may represent a spread of associated material. However, there is no clear pattern, and this may equally represent more recent activity.

Field Staff Joanna Leigh

Report Date 30/04/2021

Report Author Joanna Leigh

Contents

1. Introduction	1
2. Survey ground conditions and further information	1
3. Survey Methodology	2
4. Data Display	2
5. Survey Results	3
6. Conclusion	4
7. Technical Information	5

Geophysical Survey Report

Aughinish East, County Limerick

1 Introduction

- 1.1 A geophysical survey has been conducted by J. M. Leigh Surveys Ltd. at a site in the townland of Aughinish East, Co. Limerick. The survey was requested by IAC Ltd. on behalf of Aughinish Alumnia Ltd. (AAL). The survey forms part of a wider archaeological investigation to assess the impact, if any, on the archaeological, architectural and cultural heritage resource of a proposed development within the overall landholding of AAL, on Aughinish Island.
- 1.2 The survey area is contained within two small fields located to the west of the L1234 and within a wooded nature trail area. Figure 1 presents the survey location at a scale of 1:2,500.
- 1.3 A recorded enclosure site (RMP LI010-108) is located within the survey area. The recorded enclosure is depicted in historic OS 6inch mapping as a sub- rectangular feature, measuring c.30m x 27m. There are no visible traces of the enclosure on site. The location of the enclosure, as depicted in historic mapping, is presented in Figure 1.
- 1.4 The survey has been requested to investigate the possible nature and extent of a recorded enclosure site (RMP LI010-108). It was the objective of the survey to identify any further geophysical responses of potential archaeological interest that may be associated with the recorded enclosure.
- 1.5 The detailed gradiometer survey was conducted under licence 21R0086 issued by the Department of Housing, Local Government and Heritage.

2 Survey ground conditions and further information

- 2.1 Ground conditions were suitable for survey. The survey area was contained within two small fields comprising of young meadow. Brambles and dense hedgerows bound the two fields. Along the western extent of the survey area is a nature trail trackway and tall metal fencing.

3 Survey Methodology

- 3.1 A detailed gradiometer survey detects subtle variations in the local magnetic field and measurements are recorded in nano-Tesla (nT). Some archaeological features such as ditches, large pits and fired features have an enhanced magnetic signal and can be detected through recorded survey.
- 3.2 Data was collected with a Bartington Grad 601-2 instrument. This is a specifically designed gradiometer for use in archaeological prospection. The gradiometer operates with a dual sensor capacity making survey fast and effective.
- 3.3 The instrument is calibrated in the field to ensure a constant high quality of data. Extremely sensitive, these instruments can detect variations in soil magnetism to 0.01nT, affording diverse application throughout a variety of archaeological, soil morphological and geological conditions.
- 3.4 Data was collected with a sample interval of 0.25m and a traverse interval of 1m, providing 6400 readings per 40m x 40m grid. The survey grid was set out using a GPS VRS unit. Survey tie-in information is available upon request.
- 3.5 The survey methodology, data presentation and report content adhere to the European Archaeological Council (EAC) (2016) 'Guidelines for the use of Geophysics in Archaeology'.

4 Data display

- 4.1 A summary greyscale image and accompanying interpretation diagram are presented in Figures 2 and 3, at a scale of 1:1,000.
- 4.2 Numbers in parenthesis in the text refer to specific responses highlighted in the interpretation diagram (Figure 3).
- 4.3 Isolated ferrous responses highlighted in the interpretation diagram most likely represent modern ferrous litter and debris and are not of archaeological interest. These are not discussed in the text unless considered relevant.
- 4.4 The raw gradiometer data is presented in archive format in Appendix A1.01. The raw data is displayed as a greyscale image and xy-trace plot, both at a scale of 1:500. The archive plots are used to aid interpretation of the results and are used for reference only. The archive plots are available as PDF images upon request.
- 4.5 The display formats referred to above and the interpretation categories are discussed in the summary technical information section at the end of this report.

5 Survey Results

- 5.1 Clear rectilinear responses (1) form a rectilinear pattern. The responses are indicative of a significant rectilinear ditched feature which measures c.40m x 32m. This ditched feature is the recorded enclosure site (LI010-108).
- 5.2 Within the enclosure the background magnetic response appears 'quiet' compared to the rest of the data set and few responses are recorded. Within the south of the enclosure, faint responses (2) are evident. However, there is no clear pattern or form and their possible association with the enclosure is unclear.
- 5.3 The ditched enclosure has a likely entranceway (3) along its southern perimeter. This is evident as a 'gap' in the ditch response (1). To the south-east of the entrance there is a spread of increased magnetic response (4) and two broad responses (5). Although it is possible that these represent more recent ground disturbance, an archaeological interpretation must be considered. It is possible that the increased magnetic response represents a spread of burnt material and the isolated responses (5) represent broad pit-type features. These responses may represent activities associated with the enclosure.
- 5.4 A broad ferrous response (6) is located at the north-eastern corner of the enclosure. Extending from this is a faint linear response (7). Although the ferrous response is typically interpreted as modern, its location at the corner of the enclosure is curious. A ferrous object maybe located within the ditch of the enclosure. The linear response (7) may represented a ditched boundary feature and is most likely associated with the enclosure.
- 5.5 Faint curvilinear trends and isolated responses (8) are evident throughout the data. Although it is possible that these represent ephemeral archaeological features, interpretation is cautious. There is no clear archaeological pattern, and these may represent natural variations in the sub-soil.
- 5.6 Broad magnetic disturbance resulting from a tall metal fence is evident along the western extent of the data sets. In addition, the data appears disturbed (9) and (10) in places. This is not considered to be of archaeological interest and may result from more recent ground disturbance.

6 Conclusion

- 6.1 A clear rectilinear response representing the recorded enclosure site (RMP LI010 - 108) has been recorded. This is identical in form to the recorded enclosure site, although the responses suggest the site is larger, measuring c. 40m x32m.
- 6.2 There are limited responses within the enclosure itself and the background response here appears 'quiet' compared to the rest of the data set. The rectilinear response of the enclosure is indicative of a substantial ditched feature and may suggest this is a moated site.
- 6.3 A gap along the southern perimeter of the enclosure most likely represents the entranceway into the site.
- 6.4 Further responses of interest were recorded. To the south of the entrance to the enclosure there is an area of increased magnetic response and two broad isolated responses. It is possible that these represent a spread of burnt material and two broad pit-type features. This is speculative but must be considered.
- 6.5 A linear response appears to extend from the north-east corner of the enclosure. This most likely represents an associated ditched boundary feature.
- 6.6 Consultation with a licensed archaeologist and with the Department of Housing, Local Government and Heritage is recommended to establish if any additional archaeological works are required.

7 Technical Information Section

Instrumentation & Methodology

Detailed Gradiometer Survey

Detailed gradiometer survey can either be targeted across a specific area of interest or conducted as a blanket survey across an entire application area, often as a standalone methodology.

Sampling methodologies can vary but a typical survey is conducted with a sample interval of 0.25m and a traverse interval of 1m. This allows detection of potential archaeological responses. Data is often collected in grids measuring 40m x 40m, with the data displayed accordingly. A more detailed survey methodology may be applied where archaeological remains are thought likely. This can sometimes produce results with a more detailed resolution. A survey with a grid size of 20m x 20m and a traverse interval of 0.5m will provide a data set with high resolution.



Bartington GRAD 601-2

The Bartington Grad 601-2 instrument is a specifically designed gradiometer for use in archaeological prospection. The gradiometer operates with a dual sensor capacity making survey very fast and effective. The sensors have a separation of 1m allowing greater sensitivity.

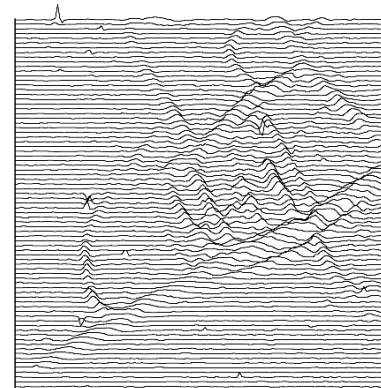


Frequent realignment of the instruments and zero drift correction ensure a constant high quality of data. Extremely sensitive, these instruments can detect variations in soil magnetism to 0.1nT, affording diverse application throughout a variety of archaeological, soil morphological and geological conditions.

Gradiometer Data Display & Presentation

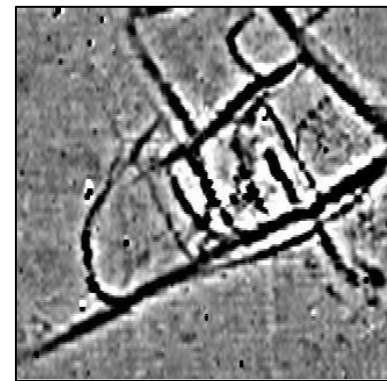
XY Trace

The data are presented as a series of linear traces, enabling a semi-profile display of the respective anomalies along the X and Y-axes. This display option is essential for distinguishing between modern ferrous materials (buried metal debris) and potential archaeological responses. The XY trace plot provides a linear display of the magnitude of the response within a given data set.



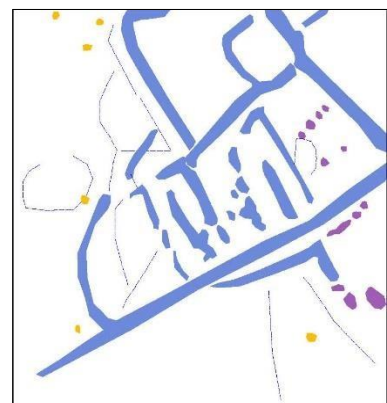
Greyscale*

As with dot density plots, the greyscale format assigns a cell to each datum according to its location on the grid. The display of each data point is conducted at very fine increments, allowing the full range of values to be displayed within the given data set. This display method also enables the identification of discrete responses that may be at the limits of instrument detection. In the summary diagrams processed, interpolated data is presented. Raw un-interpolated data is presented in the archive drawings along with the xy-trace plots.



Interpretation

An interpretation of the data is made using many of the plots presented in the final report, in addition to examination of the raw and processed data. The project managers' knowledge and experience allow a detailed interpretation of the survey results with respect to archaeological potential.



**XY Trace and raw greyscale plots are presented in archive form for display of the raw survey data. Summary greyscale images of the interpolated data are included for presentation purposes and to assist interpretation. The archive plots are provided as PDF images upon request.*

Glossary of Interpretation Terms

Categories of responses may vary for different data sets. The list below are the most used categories for describing geophysical responses, as presented in the summary interpretation diagrams.

Archaeology

This category refers to responses which are interpreted as of clear archaeological potential and are supported by further archaeological evidence such as aerial photography or excavation. The term is generally associated with significant concentrations of former settlement, such as ditched enclosures, pits, and associated features.

?Archaeology

This term corresponds to anomalies that display typical archaeological patterns where no record of comparative archaeological evidence is available. In some cases, it may prove difficult to distinguish between these and evidence of more recent activity also visible in the data.

Area of Increased Magnetic Response

These responses often lack any distinctive archaeological form, and it is therefore difficult to assign any specific interpretation. The resulting responses are site specific, possibly associated with concentrations of archaeological debris or more recent disturbance to underlying archaeological features.

Trend

This category refers to low-level magnetic responses barely visible above the magnetic background of the soil. Interpretation is tentative, as these anomalies are often at the limits of instrument detection.

Ploughing/Ridge & Furrow

Visible as a series of linear responses, these anomalies equate with recent or archaeological cultivation activity.

?Natural

A broad response resulting from localised natural variations in the magnetic background of the subsoil; presenting as broad amorphous responses most likely resulting from geological features.

Ferrous Response

These anomalies exhibit a typically strong magnetic response, often referred to as 'iron spikes,' and are the result of modern metal debris located within the topsoil.

Area of Magnetic Disturbance

This term refers to large-scale magnetic interference from existing services or structures. The extent of this interference may in some cases obscure anomalies of potential archaeological interest.

Bibliography

European Archaeological Council (EAC) (2016) '*Guidelines for the use of Geophysics in Archaeology*' by Armin Schmidt, Paul Linford, Neil Linford, Andrew David, Chris Gaffney, Apostolos Sarris and Jörg Fassbinder.

English Heritage (2008) '*Geophysical guidelines: Geophysical Survey in Archaeological Field Evaluation.*' Second Edition.

Gaffney, C. Gater, J. & Ovenden, S. (2006) '*The use of Geophysical Techniques in Archaeological Evaluations.*' IFA Paper No. 6.

Gaffney, C & Gater, J (2003). '*Revealing the buried past: Geophysics for Archaeologists.*' Tempus Publishing Limited.

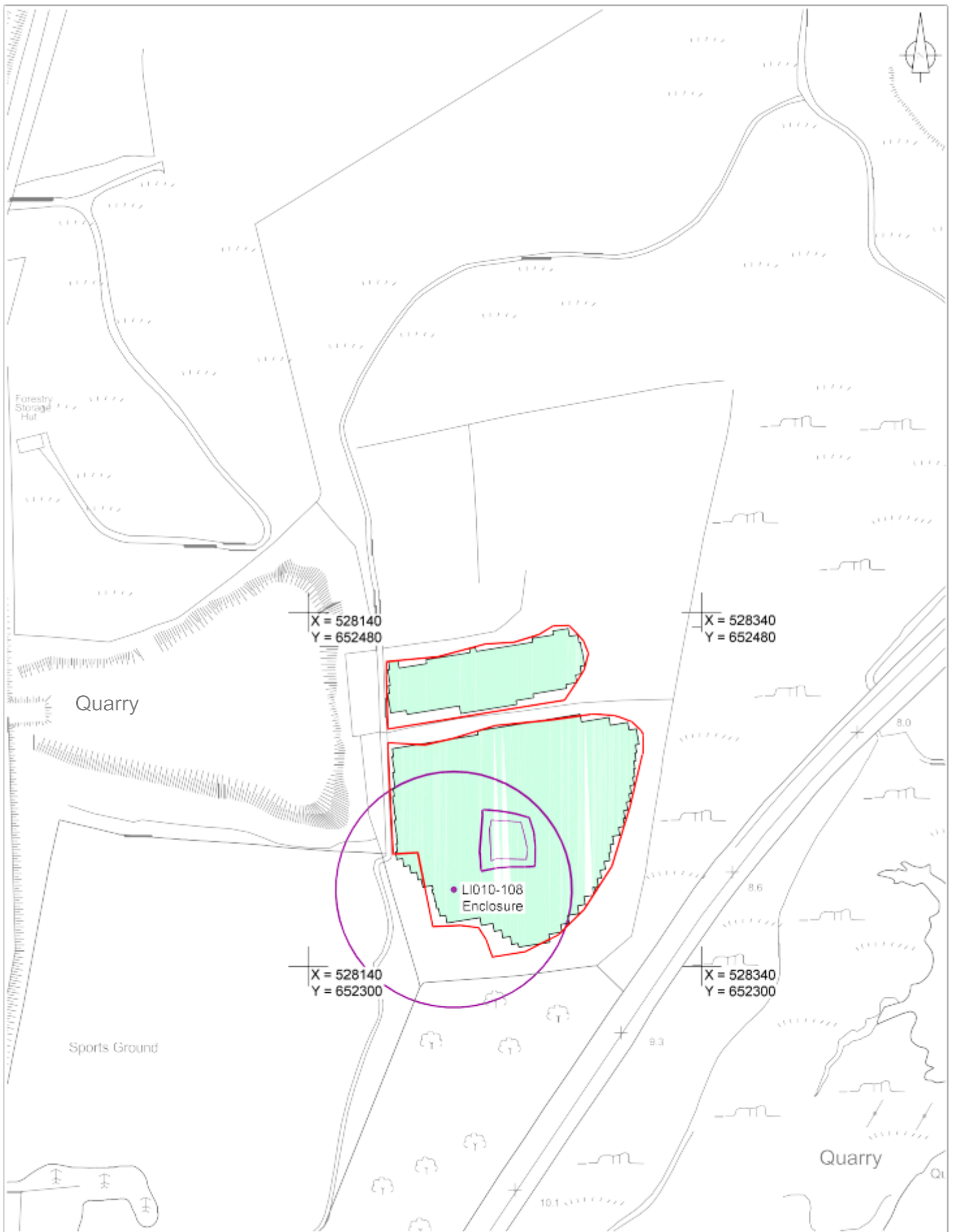
National Soil Survey of Ireland (1980) *General soil map second edition (1:575,000)*. An Foras Taluntais.

List of Figures

Figure	Description	Paper Size	Scale
Figure 1	Site & survey location diagram with depiction of enclosure LI010-108.	A4	1:2,500
Figure 2	Summary greyscale image	A4	1:1,000
Figure 3	Summary interpretation diagram	A4	1:1,000

Archive Data Supplied as a PDF Upon Request

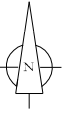
A1.01	Raw data Greyscale image and XY-Trace plot	A1	1:500
-------	--	----	-------



<p>Client</p> <p>IAC Ltd.</p>	<p>Project</p> <p>Geophysical Survey Aughinish East, County Limerick</p>	<p>Title</p> <p>Site & Survey Location</p>
-------------------------------	--	--

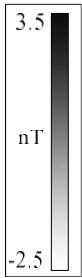
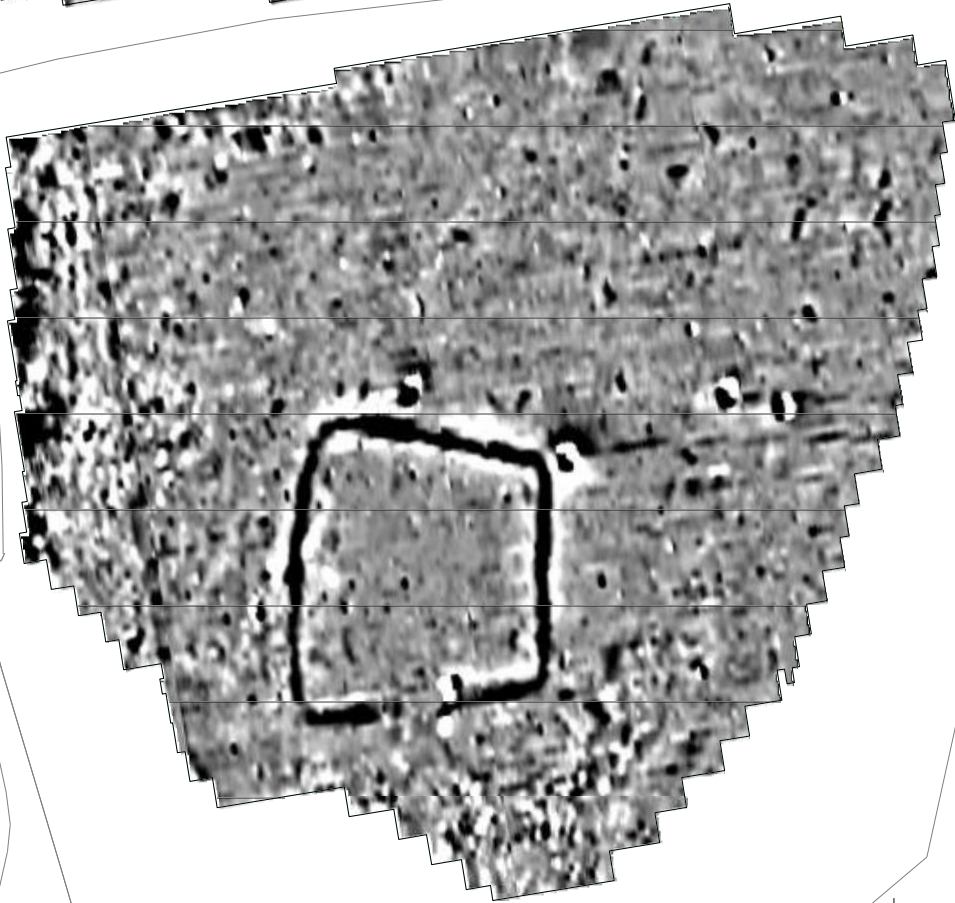
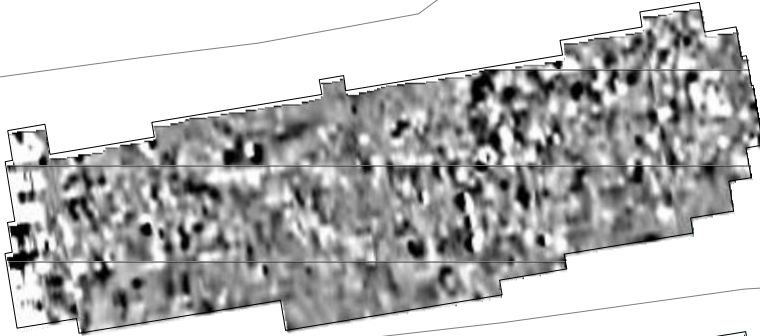


<p>Scale @ A4: 1:2,500</p> <p>Figure: 1</p> <p>Licence No.: 21R0086</p> <p>Issue Date: 30.04.2021</p>



X = 528160
Y = 652480


X = 528300
Y = 652480




X = 528160
Y = 652300

X = 528300
Y = 652300

0 metres 40


Client: <p>IAC Ltd.</p>	Project: Geophysical Survey Aughinish East, County Limerick	Title: Summary greyscale image	 <p>J.M. Leigh Surveys Ltd. www.jmlsurveys.com</p>	Scale @ A4: 1:1,000 Figure: 2 Licence No.: 21R0086 Issue Date: 30.04.2021
----------------------------	--	-----------------------------------	---	--





 Archaeology - Enclosure LI010-108

 ?Archaeology

 Trend

 Area of increased magnetic response

 Modern magnetic disturbance

 ?Modern ground disturbance

 Modern ferrous

0 metres 40

Client
IAC Ltd.

Project
Geophysical Survey
Aughinish East,
County Limerick

Title
Summary interpretation


J.M. Leigh
Surveys Ltd.
www.jmlsurveys.com

Scale @ A4: 1:1,000
Figure: 3
Licence No.: 21R0086
Issue Date: 30.04.2021

Appendix 5.3: Legislation 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 Department of Housing, Local Government and Heritage (DoHLGH)) 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.

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.

Limerick County Development Plan

7.5.2 Archaeological Heritage Objectives

Developers should take into account the archaeological provisions of the Development Management Guidelines. The following objectives are set by the Planning Authority:

Objective EH O25: Preservation of the Archaeological Heritage It is the objective of the Council to seek the preservation (in situ, or at a minimum, preservation by record) of all known sites and features of historical and archaeological interest. This is to include all the sites listed in the Record of Monuments and Places as established under Section 12 of the National Monuments (Amendment) Act 1994.

Objective EH O26: Preservation of the unrecorded/newly discovered archaeological heritage It is the objective of the council to protect and preserve (in situ, or at a minimum, preservation by record) all sites and features of historical interest discovered subsequent to the publication of the Record of Monuments and Places.

Objective EH O27: Protection of the setting of archaeological monuments It is the objective of the council to ensure that any proposed development shall not have a negative impact on the character or setting of an archaeological monument.

Objective EH027A: Preservation of the Underwater Archaeological Heritage It is the objective of the Council to seek the preservation (in situ, or at a minimum, preservation by record) of all known and all previously unrecorded sites and features of historical and archaeological record in riverine, lacustrine, estuarine and or marine environments.

Objective EH O28: Sarsfield's Rock It is an objective of the Council to protect and preserve Sarsfield's Rock and its setting as a Historic Site and to ensure that any proposed development shall not have a negative impact on the character or setting of this historic site. Sarsfield's Rock has been added because of its excellent views of the north eastern part of the County. In addition the proximity of the Templebraden Church, its historic context and its attractive setting to the rock adds to the amenity value of the Rock.

Objective EH O29: Assessment and recognition of archaeological landscapes. It is an objective of the council to designate archaeological landscapes as part of an ongoing appraisal for Historic Landscape Characterisation of the County.

Objective EH O30: Raise public awareness and encourage active participation It is an objective of the Council to generally raise public awareness of the archaeological and historic heritage and to assist and encourage active participation by the public following consultation with National Monuments Service, in the conservation, consolidation and presentation of landmark sites, where this is appropriate and subject to available resources.

Appendix 5.4: 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 5.5: Mitigation Measures and the Cultural Heritage 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 can be defined as ‘a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site on land, inter-tidal zone or underwater. The records made and objects gathered during fieldwork are studied and the results of that study published in detail appropriate to the project design’ (CiFA 2014b).

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, inter-tidal zone or underwater. If such archaeological remains are present field evaluation defines their character, extent, quality and preservation, and enables an assessment of their worth in a local, regional, national or international context as appropriate’ (CiFA 2014b).

Archaeological Monitoring can be defined as ‘a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive (CiFA 2014c).

Underwater Archaeological Assessment consists of a programme of works carried out by a specialist underwater archaeologist, which can involve wade surveys, metal detection surveys and the excavation of test pits within the sea or riverbed. These assessments are able to access and assess the potential of an underwater environment to a much higher degree than terrestrial based assessments.