

**BLUESTONE SKY DOME, BLUESTONE RESORT,  
PEMBROKESHIRE  
ARCHAEOLOGICAL DESK BASED REVIEW  
(SN 06710 12926)**



Prepared by DAT Archaeological Services  
For Bluestone Resort Ltd



**DYFED ARCHAEOLOGICAL TRUST**

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Gan / By

Menna Bell

*Paratowyd yr adroddiad yma at ddefnydd y cwsmer yn unig. Ni dderbynnir cyfrifoldeb gan Ymddiriedolaeth Archaeolegol Dyfed Cyf am ei ddefnyddio gan unrhyw berson na phersonau eraill a fydd yn ei ddarllen neu ddibynnu ar y gwybodaeth y mae'n ei gynnwys*

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**BLUESTONE SKY DOME, BLUESTONE RESORT, PEMBROKESHIRE**  
**ARCHAEOLOGICAL DESK BASED REVIEW**

**SUMMARY**

*DAT Archaeological Services were initially commissioned by Bluestone Resort Ltd, to undertake a geophysical survey on the site of the proposed new Sky Dome on land west of the Blue Lagoon swimming pool at Bluestone Resort, Pembrokeshire. This work was commissioned following discussions with the Development Management section - Dyfed Archaeological Trust in their capacity as archaeological advisors to the planning authority, with the aim to determine the presence or absence of archaeological remains within the development area. It was intended that the results of this survey would be used to determine the requirement for any further archaeological mitigation. The geophysical survey was not possible due to unsuitable ground conditions and consequently, DAT Archaeological Services have provided an archaeological desk based review of the planning history, archaeological background and previous archaeological work undertaken within the vicinity of the development area, to provide the information required.*

*This desk based review has collated available information regarding the previous archaeological works undertaken at the Bluestone Resort which has been subject to an extensive programme of assessment and evaluation between 2002 and 2005. It has become evident that a number of the reports on the various phases of desk-based and evaluation work are missing from the Dyfed Historic Environment Record, although a summary document on these works is present.*

*The proposed Sky Dome area has not been subject to any previous archaeological investigation, but the area directly to the north was evaluated in 2003/4 by Foundations Archaeology. This identified medieval and post-medieval remains within the eastern side of the field close to Newton Farm and presumably associated earlier pre-cursors to it. Evaluation in the fields to the east (including the area occupied by the Blue lagoon) revealed no significant archaeological remains.*

*The proposed Sky Dome area was previously densely planted with willow for use as biomass fuel for the resort. The willow was planted in lines and regularly cut and harvested. The field was recently cleared of willow which occurred sometime before the geophysical survey was attempted on 20th of July 2017. Ground conditions were unsuitable due to remnants of tree stumps and vegetation debris across the area. The area was visited again on 23rd of August 2017 following clearance and levelling. This involved the removal of the remaining willow stumps and roots and it is estimated that these works will have disturbed the entire area to a depth of around 0.30m. Archaeology in the area evaluated to the north was found at a depth of between 0.24m and 0.36m.*

*It is concluded that the area of the proposed Sky Dome at Bluestone lies in an area of land which has been significantly disturbed by planting, harvesting and removal of willow for biomass fuel for most of the last decade. Previous archaeological works in the surrounding areas suggest that the proposed Sky Dome area has low archaeological potential. Archaeological remains were found in the northern part of Field 12 close to Newton House Farm, but no significant archaeological remains were found to the east during fairly extensive evaluation of the site of the Blue Lagoon and fields east of this. There is perhaps still a moderate archaeological potential within the northeastern part of the proposed Sky Dome area closest to Newton Farm, but any remains that may have been present will have been disturbed to some extent by the willow plantation, harvesting and clearance.*

## **1. INTRODUCTION**

### **1.1 Project Proposals and Commission**

- 1.1.1 DAT Archaeological Services were initially commissioned by Bluestone Resort Ltd, to undertake a geophysical survey on the site of the proposed new Sky Dome on land west of the Blue Lagoon swimming pool at Bluestone Resort, Pembrokeshire (centered on SN 06710 12926; Figure 1). This work was commissioned following discussions with the Development Management section at Dyfed Archaeological Trust in their capacity as the archaeological advisors to the planning authority, to determine the presence or absence of archaeological remains within the development area. It was intended that the results of this survey would be used to determine the requirement for any further archaeological mitigation.
- 1.1.2 A geophysical survey of the development area was attempted on the 20<sup>th</sup> June 2017 but was aborted owing to the difficult and unsuitable ground conditions within the development area. Consequently, DAT Archaeological Services offered to undertake a brief archaeological desk based review to include a summary of the planning history, archaeological background and previous archaeological work undertaken within the vicinity of the development area.

### **1.2 Scope of the project**

- 1.2.1 This assessment is a desk-based review of the Bluestone Sky Dome development area and the environs of the Bluestone Resort. The aim of this assessment is to collate existing information to identify and assess the archaeological potential within the proposed Sky Dome development area so that it may be used to inform future mitigation recommendations.
- 1.2.2 The report complies with the relevant sections of the Standard and Guidance for an Historic Environment Desk-Based Assessment (Chartered Institute for Archaeologists (CIfA), 2014) and abides by their Codes of Conduct (CIfA 2014).

### **1.3 Abbreviations used in this report**

- 1.3.1 All sites recorded on the regional Historic Environment Record (HER) are identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR). Sites recorded on the National Monument Record (NMR) held by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) are identified by their National Primary Record Number (NPRN). Scheduled Monuments (SMs) are recorded by a SM number. References to cartographic and documentary evidence and published sources will be given in brackets throughout the text, with full details listed in the sources section at the rear of the report.

### **1.4 Illustrations**

- 1.4.1 Printed map extracts are not necessarily reproduced to their original scale and are illustrative only.

## 1.5 Timeline

1.5.1 The following timeline is used within this report to give date ranges for the various archaeological periods that may be mentioned within the text (Table 1).

Period	Approximate date	
Palaeolithic –	c.450,000 – 10,000 BC	Prehistoric
Mesolithic –	c. 10,000 – 4400 BC	
Neolithic –	c.4400 – 2300 BC	
Bronze Age –	c.2300 – 700 BC	
Iron Age –	c.700 BC – AD 43	
Roman (Romano-British) Period –	AD 43 – c. AD 410	Historic
Post-Roman / Early Medieval Period –	c. AD 410 – AD 1086	
Medieval Period –	1086 – 1536	
Post-Medieval Period <sup>1</sup> –	1536 – 1750	
Industrial Period –	1750 – 1899	
Modern –	20th century onwards	

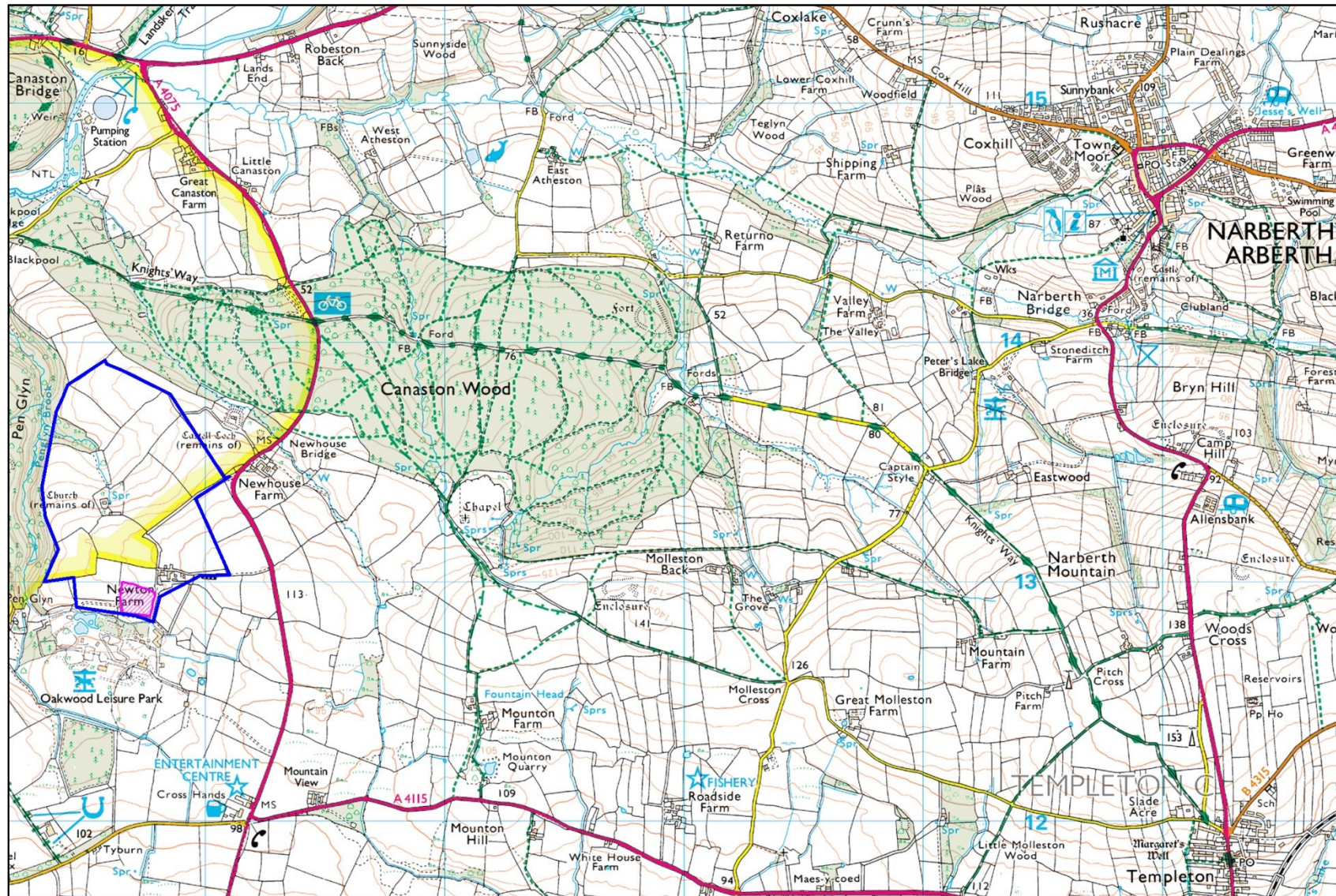
**Table 1:** Archaeological and Historical Timeline for Wales

<sup>1</sup> The post-medieval and industrial periods are combined as the post-medieval period on the Regional Historic Environment Record as held by Dyfed Archaeological Trust

## **2. SITE LOCATION AND TOPOGRAPHY**

- 2.1 Bluestone Resort is a holiday and activity center situated along the eastern fringe of Pen Glyn woods and is located approximately 4.7km south-west of the town of Narberth in south-eastern Pembrokeshire (Figure 1). The popular Oakwood Theme Park is situated immediately south of the resort and both are serviced by the A4075 road which runs to the east c.470m of the development area.
- 2.2 The Resort encompasses an area of approximately 59 hectares in size occupying the majority of land between Pen Glyn wood and Penglyn Brook to the west and the expansive Canaston Wood to the east. The northern extent of the resort is located within the Pembrokeshire Coast National Park (Figure 2). Bluestone resort comprises a large number of timber lodges located within the northern end of the resort which is serviced by a number of amenities including shops, restaurants and several activity centres including a large, undercover water activity venue located in the south-eastern end of the resort (Figure 3). A large artificial lake, fed by water diverted from the Pen Glyn Brook, has been created in the northern end of the resort as well as a large pond in the southern area which is situated immediately north-west of the development area (Figure 3). A number of footpaths and cycle routes weave through the resort and the neighbouring woods. Bluestone Resort has developed around the nucleus of the former Newton Farm which has since been subsumed into the resort. Newhouse Farm lies to the north-east of the proposed Sky Dome development area and is the likely to have medieval origins.
- 2.3 The development area for the proposed Sky Dome is located at the southern boundary of the resort and will encompass a field situated to the south and adjacent to an indoor activity centre (Figure 4).
- 2.4 The underlying solid geology is argillaceous rocks, sandstones and conglomerates of the Milford Haven Group. This is Sedimentary Bedrock formed approximately 407 to 423 million years ago during the Devonian and Silurian period (Source: British Geological Survey).

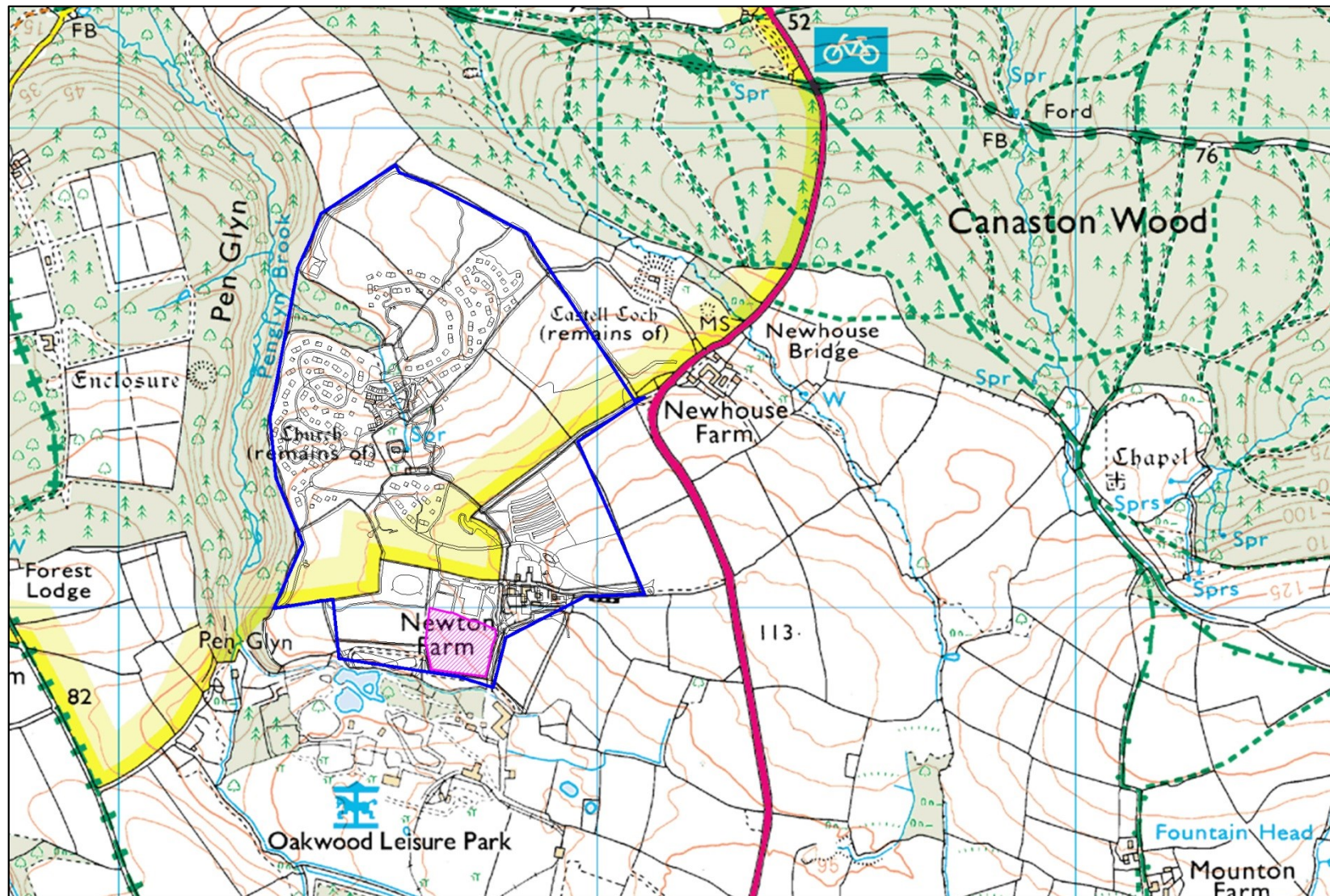




**Figure 1:** Location map showing the location of Bluestone Resort (outlined in blue) and the development area within the resort (shaded pink). NB; the OS mapping does not depict the extent of the resort.

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**Figure 2:** Location map showing the location of Bluestone Resort (outlined in blue) and the development area within the resort (shaded pink) included within the yellow boundary of the Pembrokeshire Coast National Park.

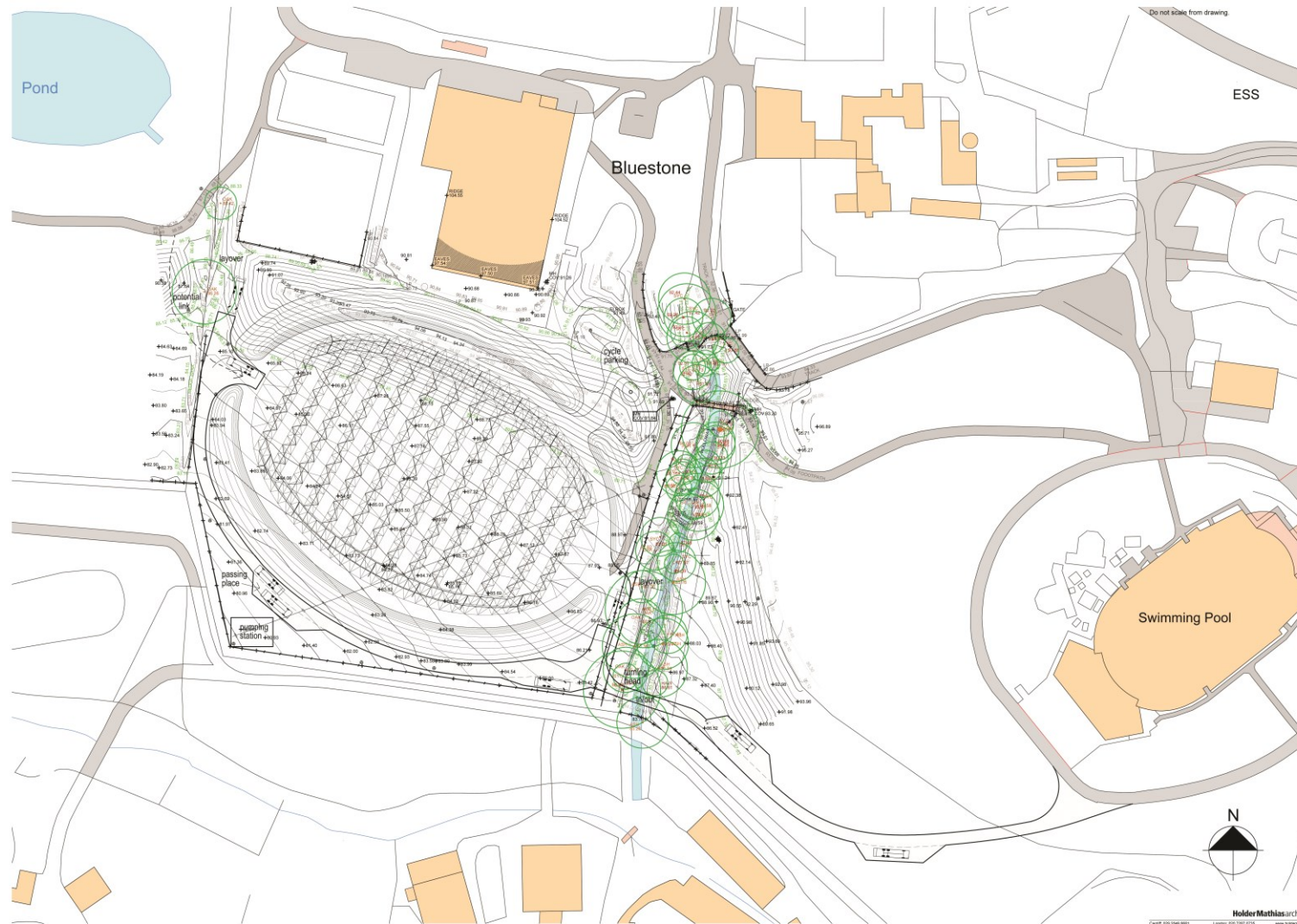
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**Figure 3:** A map of the Bluestone resort with the development area shown (in pink) in the southern end of the resort. Copyright Bluestone.





**Figure 4:** The proposed plans for the Sky Dome at Bluestone Resort (Copyright Holder Mathias Architects).

### **3. METHODOLOGY**

#### **3.1 Archaeological Desk Based Review**

3.1.1 This Archaeological Desk Based review has been prepared using the following sources of information:

- Dyfed Archaeological Trust Historic Environment Record data
- Identification of any Scheduled Ancient Monuments, Listed Buildings, Conservation Areas or Historic Landscape Areas within or in the vicinity of the site area from information held by Dyfed Archaeological Trust, CADW
- A review of the planning history and previous archaeological work undertaken within the Resort:
- Site visits;
- Assessment of the archaeological potential of the area.

3.1.3 The report complies with the relevant sections of the Standard and Guidance for an Historic Environment Desk-Based Assessment (CIfA 2014).

## 4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

### 4.1 Recorded Archaeology

#### Scheduled Ancient Monuments

4.1.1 There are three Scheduled Monuments (SMs) located within immediate proximity to the Bluestone Resort (Figure 5; Table 2). Of these SMs, the Scheduled remains of Newtown North Church (PE270; PRNs 60075, 3611 & 46844) are located within the centre of the resort (Figure 4).

SM No	SM Name	Period	NGR	Distance to development area (m)
PE270	Newton North Church	Medieval/Post Medieval	SN0658213326	309.34m
PE433	Minwear Ringwork	Medieval	SN0617913483	639.2m
PE053	Castell Coch	Medieval	SN0715713665	740.80m

**Table 2:** Scheduled Monuments within immediate proximity to the development area within Bluestone Resort (Figure 5).

4.1.2 PE270 Newton North Church comprises a small medieval church with a possible 12<sup>th</sup> century chancel arch and a 14<sup>th</sup> century west door, a small south transept and tower. It became redundant in the 19<sup>th</sup> century and left to ruin.

4.1.2 PE433 Minwear Ringwork (PRN 3613) is a small circular earthwork defended enclosure scheduled by Cadw as a medieval ringwork. The monument has previously been recorded by the OS and in the HER as an Iron Age enclosure.

4.1.3 PE053 Castell Coch (PRNs 3616 & 60074) is 14<sup>th</sup> century semi-fortified, unvaulted first floor Hall House situated within a moated enclosure. A late medieval fish pond lies to the east of the house. The house itself was the centre of the Manor of Newhouse and was occupied until the late 17<sup>th</sup> century. It is likely that the present post-medieval buildings of Newhouse Farm located to the south-east of the monument has either contemporaneous origins or is a successor to the abandoned dwelling.

#### Non-designated archaeological assets

4.1.4 The Historic Environment Record (HER) maintained by the Dyfed Archaeological Trust was searched for sites of archaeological interest within 500m of the development area. A total of 13 records were returned (Figure 6; Table 3).

4.1.5 Nearest to the development area are PRNs 28047 and 4445 situated some 207m to the north-east and refer to a post-medieval settlement of Newhouse and Skerry Back Iron Age defended enclosure respectively. Both PRNs are ambiguous as PRN 28047 is most likely in reference to Newhouse Farm located further to the north-east whilst the latter is an earthwork alleged to have been identified from a 1955 aerial photograph although no such site has been identified on the ground.

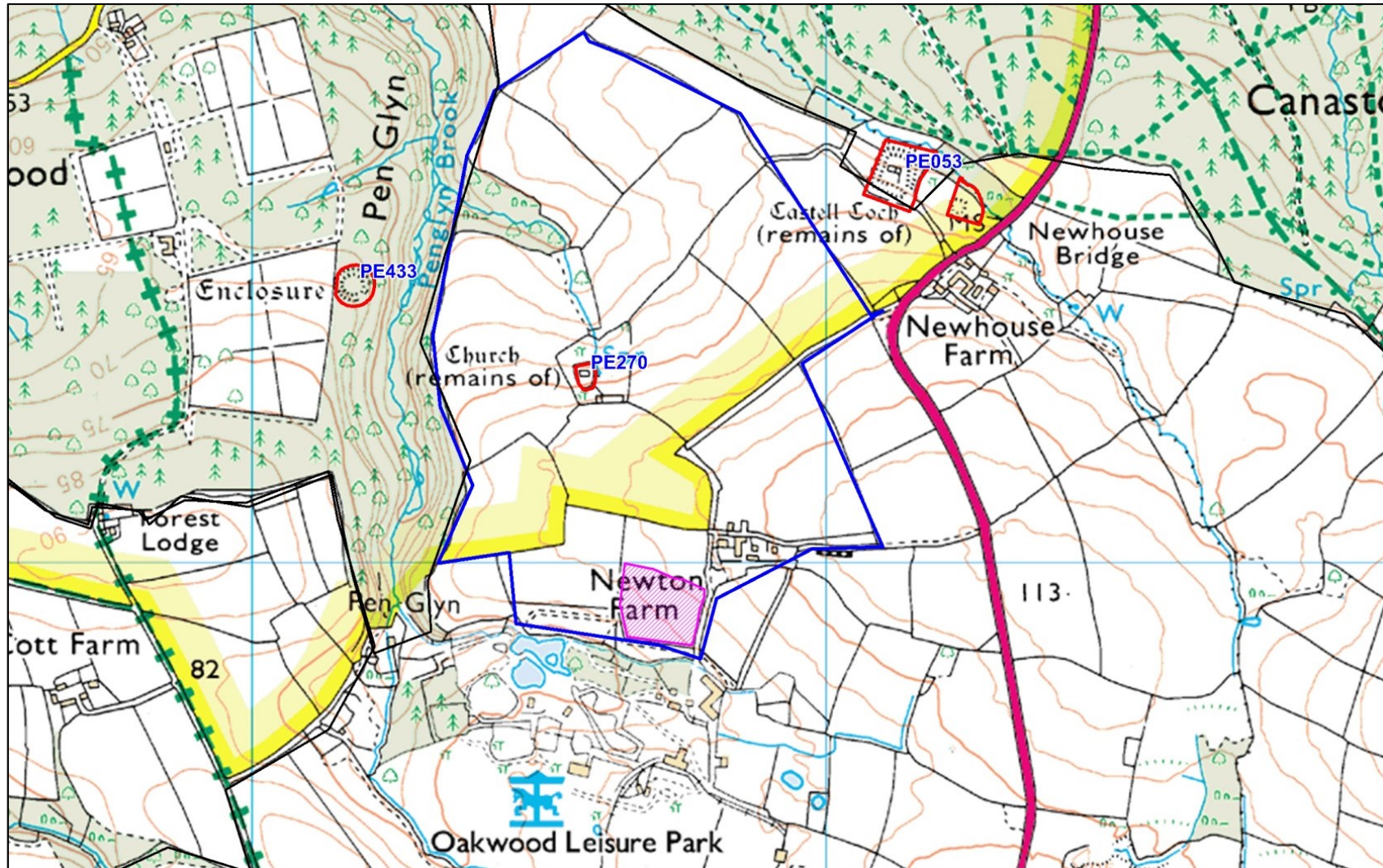
4.1.6 PRNs 17061, 17065 and 100172 refer to two post-medieval limekilns and a ruinous post medieval building located over 210m west and south west of the development area and beyond the boundary of the resort.

4.1.7 The main car park for the resort is situated within a field some 200m north of the development area. This field is named in the tithe schedule as "Cross" and has been allocated PRN 7992 although it is not thought to be in reference to antiquity such as a former medieval cross site. A hoard of



Roman coins (PRN 46047 dating from the later third century A.D. was found in 1999 some 250m east of the car park field and may be associated with another hoard found within the vicinity during the mid-nineteenth-century.

- 4.1.8 The remaining PRNs are associated with the medieval Newton North Church (PRNs 3611 and 60075), its churchyard (PRN 46844) and holy well (PRN 3612) situated to the east of the church building. The holy well was visited in 2011 as part of the Cadw funded Holy Wells Project and was described as being fenced off within the remains of the church and obscured by thick undergrowth.



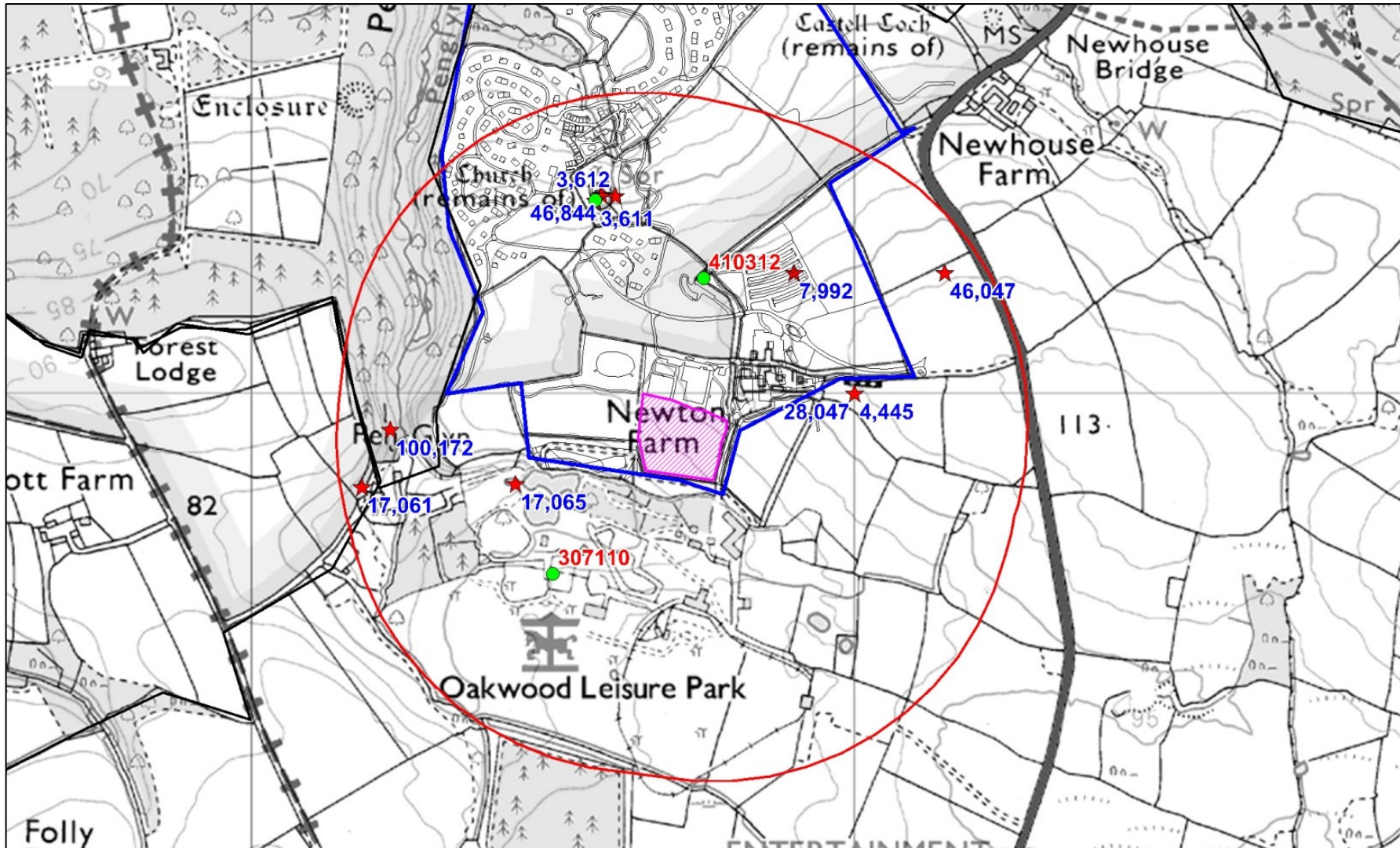
**Figure 5:** Map showing the location of the Scheduled Monuments (outlined in red) within immediate proximity to Bluestone Resort.

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PRN	NPRN	Name	Summary	NGR
3611	300429	Newton North Church; Llys Prawst	A ruined medieval church with a possible 12th century chancel arch and a 14th century west door, a small south transept and tower. Redundant in the 19th century. Although deteriorating it retains some medieval architectural features and is valuable as an unrestored small medieval church. H James March 2000 after Cadw's Listing and Scheduling descriptions	SN06571332
3612		Newton North	Site of a holy well shown on the historic Ordnance survey maps of 1889 and 1907 to the east of Newton North church (M.Ings, from various sources, 2011).	SN0660313327
4445		Skerry Back	Crossley identified a small, earthwork enclosure at this location from aerial photographs. No other information is provided, just a six figure grid reference and a photograph reference. On 1955 aerial photographs an earthwork is shown at SN07261306, which is too distant to be an 8 figure reference for Crossley's site. Nothing is visible in the 1955 photographs at the location indicated by Crossley. This site was not visited during the 2006-07 defended enclosure project. K Murphy 5 February 2007	SN070130
7992		Cross	Place-name only. May not refer to an antiquity. NDL 2003 A Tithe Schedule field name; no trace of an antiquity noted by OS in 1965. HJ May 2000	SN069132
17061		No Name	Shown as LK on 1st edition 6 inch 28SE of 1887. HJ May 2000	SN0618312845
17065		No Name	Not shown on 1st edition 6 inch 28SE of 1887, north of 'old quarries' - now subsumed within Oakwood Leisure Park. HJ May 2000	SN0643812850
28047		Newhouse	No description	SN0713
46047		No Name	Findspot for twenty-nine Roman coins from the later third century A.D. PR 2002 based on Besly, E.M, 1999.	SN07151320
46844		Newton North Parish Church; Llys Prawst	Early medieval D site, ie. possible early medieval origins. Churchyard occupied by the medieval Newton North parish church (PRN 3611), which is now redundant and ruinous. The church was mentioned in the early 12th century. The small, polygonal/subrectan	SN06581333
60075		Newton North Church	Grade II listed church	SN0658113328
100172		No Name	A small square building of unknown function recorded on the 1889 1st edition and 1907 2nd edition Ordnance Survey maps. Shown as a possible ruin on modern mapping.	SN06231294
	410312	Bluestone Holiday Village	No description – the existing holiday park	SN06751319
	307110	Oakwood Theme Park	No description – the existing theme park	SN065127

**Table 3:** Non designated archaeological assets within 500m of the development area in Bluestone Resort (Figure 6).





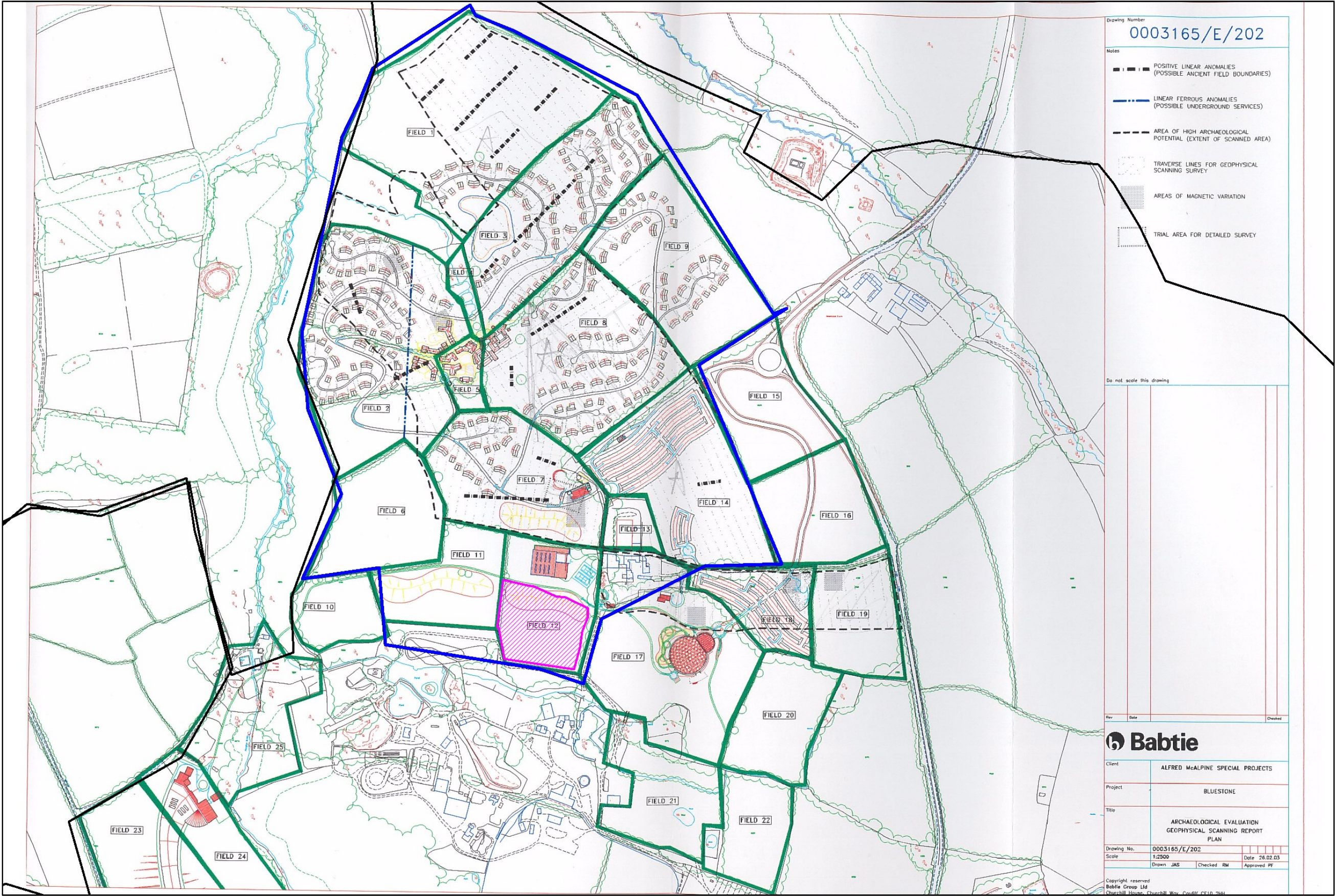
**Figure 6:** Map showing the non-designated sites within 500m of the development area recorded in HER.

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## **4.2 Planning Background and Previous Archaeological Work**

- 4.2.1 The Event Records of the Historic Environment Record maintained by the Dyfed Archaeological Trust were searched for information regarding the planning history and any previous archaeological work undertaken at the Bluestone Resort prior to its opening in 2008. It is clear that the Events record for archaeological works at Bluestone is incomplete and thus it cannot be certain whether all elements of proposed archaeological mitigation were ever undertaken.
- 4.2.2 The development of the Bluestone Resort has been subject to an extensive programme of assessment and archaeological mitigation from 2002 to 2005. An Environmental Scoping Report; Consultation Document (ERN 45101) was undertaken by the Babbie Group consultancy in August 2002. This scoping report (Babbie 2002) formed the first phase of an Environment Impact Assessment (EIA) and was intended to identify environmental impacts and enhancement opportunities early in the design and planning application process. Consultations were made with statutory consultees and other organisations which included representatives from architectural, engineering and environmental bodies.
- 4.2.3 The Scoping Report recognised "Sites of Cultural Heritage Interest" to be a "Key Environmental Issue" and identified the need for further environmental surveys within the full EIA to include archaeology and recommended the following:
- Desktop assessment of the historic landscape including archaeological research and aerial photographs,
  - That a desk study would recommend an archaeological evaluation to include trial-trenching and/or and geophysical survey near to the Scheduled Monuments to provide details of any unknown archaeological resource.
  - A basic condition survey of Newtown Church (PE270) to include a photographic record.
- 4.2.4 The report states that Cambria Archaeology (now Dyfed Archaeological Trust) was approached to prepare a brief for an archaeological desktop assessment. It states that Cambria Archaeology did prepare and return this brief in July 2002. However, there is no record of such a desk based assessment being submitted to the HER although it does appear that the project was undertaken.
- 4.2.5 A Geophysical scanning survey was carried out as part of Archaeological Evaluation Works by the Babbie Group in February 2003 (Babbie 2003a). The report states that this work formed part of an ongoing programme of intrusive and non-intrusive surveys and was designed to examine the potential for detailed geophysical survey and to provide a basis for the location of detailed survey blocks.
- 4.2.6 This report refers to a Cultural Heritage Assessment (presumably this is the resultant desk based assessment referred to in the earlier scoping report) which identified areas of high archaeological potential. These areas were subject to a geophysical scanning survey using a Geometrics G-858 caesium gradiometer.
- 4.2.7 The areas of high archaeological potential encompassed the majority of the northern area of the resort; now occupied by the resort lodges (Figure 7). The present development area comprised the southern half of Field 12 located at the southern boundary of the resort. This field was not surveyed.



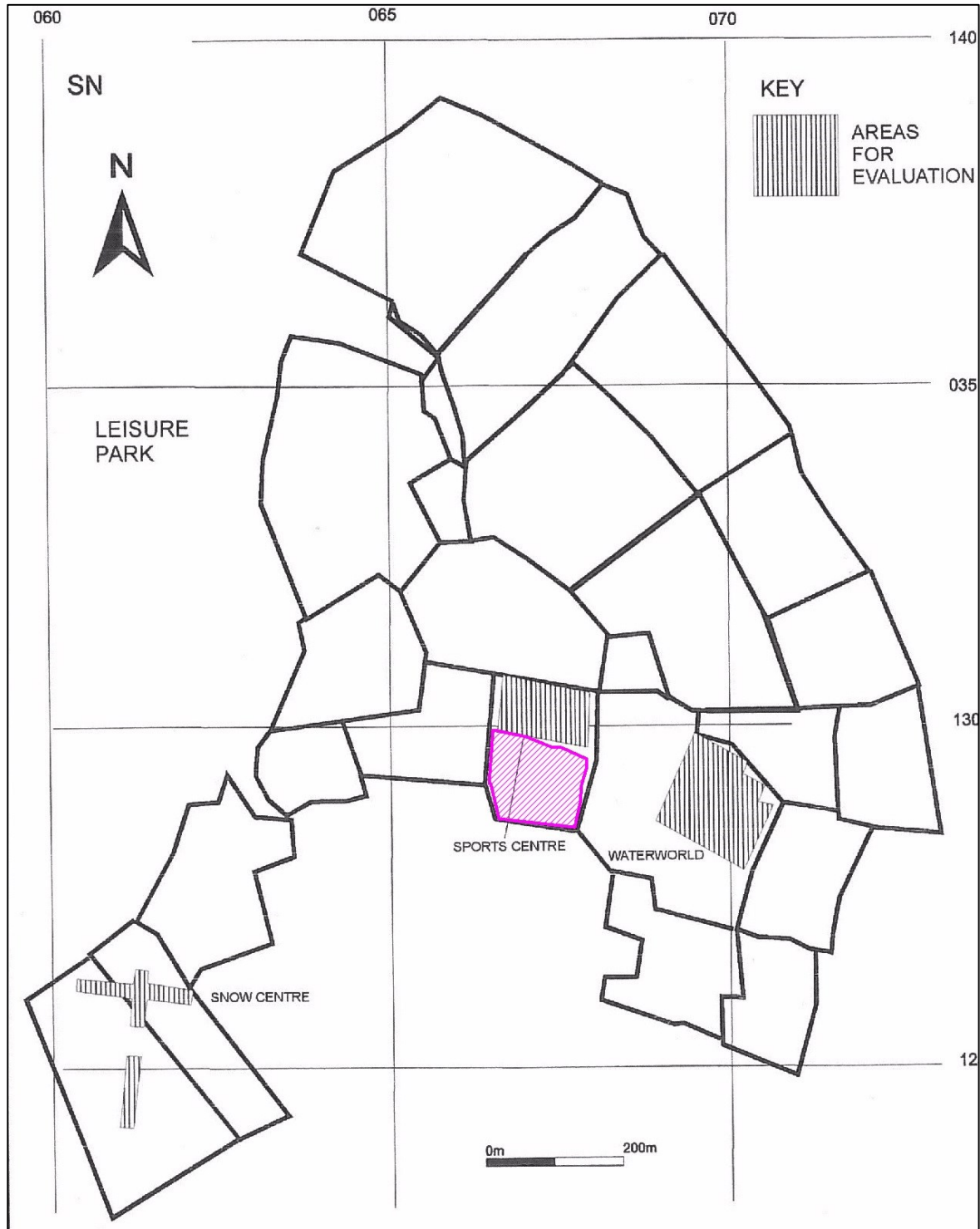


**Figure 7:** Map showing the study area and fields surveyed during the geophysics scanning (ERN 47285) undertaken in 2003. The development area is shaded pink (© Babbie).



- 4.2.8 The report concluded that the scanning survey demonstrated that the sub-surface archaeology was detectable by gradiometry. A number of features identified during the survey corresponded with those identified during the desk based assessment whilst there were five localised areas of strong magnetic anomalies. These areas of strong magnetic variation were located in Field 2 in the north-western area of the resort, and also in Fields 17, 18 and 19. Field 17 was located adjacent to Field 12; the current development area (see Figure 7).
- 4.2.9 The authors of the report concluded that where linear anomalies corresponding to features already identified from aerial photographs were observed, that these were almost certainly the remains of earlier field boundaries. Furthermore, they state that where the regions of magnetic variation were not strong enough to suggest that they were the result of specific archaeological activity. However, they also cautioned that it was possible that their variation from the background magnetism was too weak to allow for positive identification of individual features.
- 4.2.10 Finally, the report recommended that a minimum sample of 25% of the resort should be subject to detailed geophysical survey to enable the known features to be better defined and identified whilst also verifying the existence of anomalies exhibiting magnetic variations too weak to have been identified during the scanning survey (Babtie *ibid*).
- 4.2.11 There is no evidence that a report on this next stage of geophysical survey was submitted to the HER, but a report summarising the results of trial trenching was found (a loose report which had not been recorded on the HER) but is associated with pre-planning application App 02/900. The report by the Babtie Group (Babtie 2003b) documents the Statement of Result of trial trenching undertaken by Foundations Archaeology as part of the archaeological evaluation works.
- 4.2.12 A total of 32 evaluation trenches were excavated in three areas in the southern end of the resort known as the "Snow Centre" (Field 23), "Sports Centre" (Field 12) and "Waterworld" (Field 17) (Figure 8). The proposed Sky Dome development area is located within the southern half of the "Sports Centre" evaluation area (Field 12); in effect occupying all of the non-evaluated remainder of the field. Seven trenches were opened within the Sports Centre evaluation area; Trenches 9 to 15 (Figure 9).
- 4.2.13 The majority of the 32 evaluation trenches were devoid of archaeology. None of the linear features identified during the geophysical survey were present in the trenches which instead appeared to represent variations in the underlying natural deposits and probable variations in the topsoil. Archaeology however, was present within 4 trenches within the Sports Centre evaluation area (Field 12); Trenches 9, 10, 13 and 14.
- 4.2.14 Trench 9 was located in the south-eastern corner of the evaluation area and yielded a possible wall base of probably early post-medieval date, a small medieval pit and a possible trackway. Pottery dating from the 12<sup>th</sup> and 16<sup>th</sup> centuries was recovered from the fills of these features. An odd linear feature comprising a shallow ditch surrounded on either side by root holes was cautiously interpreted as being a ditched field boundary. However, this was acknowledged as not being in keeping with field boundaries in Pembrokeshire.
- 4.2.15 A second, small medieval pit was revealed in Trench 10 located along the centre of the eastern side of the evaluation area (see Figure 9). In addition to the pit, a small assemblage of medieval and post medieval pottery was recovered from the eastern end of the trench. The report

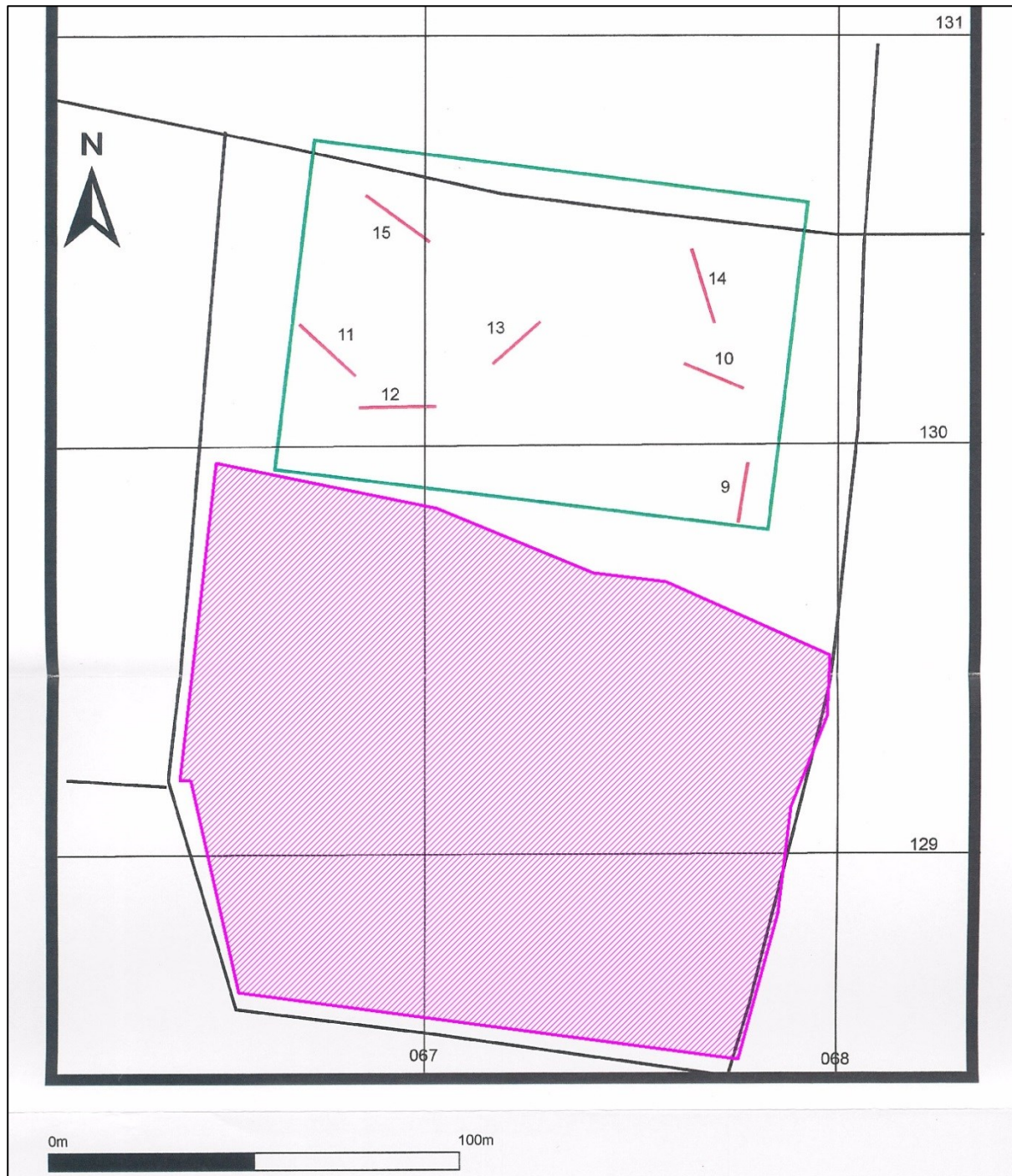
considers this assemblage to be of significance owing to the scarcity of artefactual evidence from the other trenches during this phase of evaluation. Furthermore, it is suggested that this assemblage may have been representative of a midden or similar feature which may have been within the vicinity and disturbed by modern ploughing.



**Figure 8:** Site plan from the 2003 trail trenching evaluation report showing the three areas evaluated. The current development area is shaded pink. (© Foundations Archaeology).

4.2.16 A small gully and a ditch terminus were excavated in Trench 14 located in the north-eastern corner of the evaluation area, but neither contained artefactual evidence.

4.2.17 Finally, a linear stone feature was revealed in Trench 13 located in the centre of the evaluation area although this two did not yield any artefactual evidence.



**Figure 9:** Site plan showing the 2003 evaluation trenches within the "Sports Centre Field". The current development area is shaded pink (© Foundations Archaeology).

- 4.2.18 The areas of magnetic variation identified in Fields 17 now occupied by the Blue Lagoon directly east of the Sky Dome development site (as well as Fields 18 and 19) during the geophysical scanning were subject to a detailed geophysical survey but it was agreed that following discussions with Cambria Archaeology that there were no major geophysical anomalies identified. Furthermore, trial trenches opened in Field 17 contained no archaeological remains. It was determined that any future trial trenching undertaken in Fields 18 and 19, directly east of Field 17, could be done post-determination on the proviso that it would be done at the earliest opportunity to inform the design process of the resort (Babtie *ibid*).
- 4.2.19 The results of a further stage of evaluation in 2003 within Fields 1, 2, 15, 16 and 18 were presented in a report produced by Foundations Archaeology (Foundations Archaeology 2004). This report has not been recorded on the HER, but a copy of it was found during a search of the DAT offices. Of direct relevance to the proposed Sky Dome site are the results of the trenching from Fields 15, 16 and 18 which lie closest to the east. Fields 15 and 16 revealed no archaeological remains and only a single probable drainage ditch was recorded in Field 18. The trench locations can be seen on Figure 10.
- 4.2.20 In 2004, Jacobs Engineering Group bought Babtie Group, forming Jacobs Babtie. This was subsequently rebranded in 2007 as Jacobs UK Limited. Nonetheless, an Overarching Archaeological Mitigation Proposals for Bluestone Holiday Village, was produced by Jacobs Babtie in February 2005; ERN 49677 (Jacobs Babtie 2005).
- 4.2.21 Along with mitigation proposals, this extensive report summarises the results of the previous evaluation works described above. The report also describes the results of field walking surveys undertaken in Fields 2, 3 and 8 which are situated around the west, north and eastern areas of Newton North Church (PE270) (Figure 10). The field walking produced two sherds of Roman pottery in the centre of Field 8, located east of the Church and approximately 400m north-west of the Roman hoard findspot (PRN 46047). Medieval pottery dating from the 12<sup>th</sup> – 14<sup>th</sup> centuries was found to be concentrated immediately east of the Church and a small number of sherds were found in the fields to the north. Post medieval pottery and a variety of building materials including brick and tile were also found in concentration to the east of the Church.
- 4.2.22 The report goes on to summarise the results of a second and third phase of trial trenching, events have not been recorded in the HER and any subsequent reports are missing. The summary presented in this report is much abbreviated but it appears that the Phase 2 trenching comprised 86 trenches, which included the 32 noted above in Foundations Archaeology report of 2004 and a further 51 trenches for which no report has been found. The Phase 3 evaluation comprised a further 27 trenches. The three phases of evaluation trenches are shown on Figure 10. No further evaluation work was undertaken in the proposed Sky Dome development area.
- 4.2.23 Numerous evaluation trenches were opened in Fields 2, 3, 8 and 7, evaluating an area 360° around Newton North Church. Charcoal retrieved from a small pit or post hole excavated in Field 2, west of the church yielded radio carbon dates between 891 and 1149 AD (Jacobs and Babtie *ibid*). Medieval features comprising shallow linear features, possible ditches and post holes were found to the east, west and south of the church in Fields 5, 7 and 8.

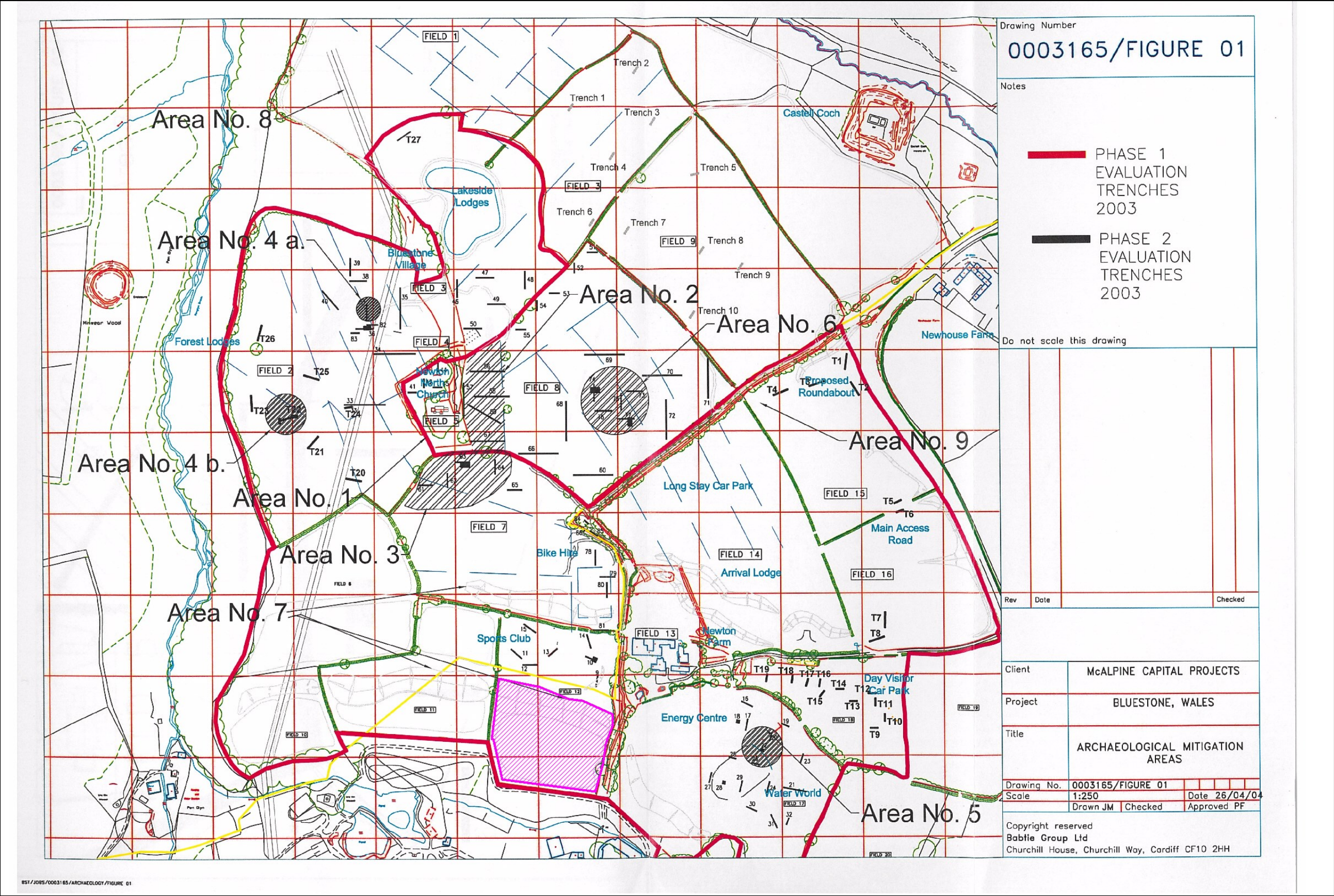


- 4.2.24 Medieval features were found in Field 8 immediately east of Newton North Church and mainly comprised south-north aligned ditches, running down the slope from the south and contained medieval pottery. One of these ditches ran parallel with the existing churchyard boundary and the authors suggested that it may have represented an earlier boundary of the church. Furthermore, a number of postholes were recorded and large features partially revealed in two of the trenches may have been substantial ditches of corn-dryers. Indeed, the remains of floor of a post-medieval building were recorded in one of those trenches.
- 4.2.25 A shallow, undated ditch and a well-defined pit or ditch terminus were recorded in trenches towards the centre of Field 8 to the east of the Church. No artefactual evidence was found but these features were located in the vicinity of the Roman pottery recovered during the field walking survey.
- 4.2.26 As noted above, the Foundations Archaeology report also indicates that evaluation targeted areas of low archaeological potential located in the south-eastern area of the resort in Fields 15, 16 (east of Blue Lagoon) and also in Fields 1 and 2 to the north and north-west of the Church. These were largely sterile save for a small number of undated features located in a trench to the far west of Field 2.
- 4.2.27 A final, fourth phase of evaluation trenching, again not recorded in the HER, targeted Fields 3 and 9 located to the north and south-east of the artificial lake north of the Church and totalled 10 trenches altogether.
- 4.2.28 The areas of trenches were scanned with a metal detector prior to the start of excavation where after the stripped areas and spoil tips were also scanned but to no avail. Archaeological features recorded in only two of the trenches were interpreted as a drainage ditch and possible former field boundary.
- 4.2.29 The report concludes the summary of the evaluation works by identifying two distinct areas of archaeological activity within the resort area. The immediate area around Newton North Church is a foci for medieval archaeology and there is a discrete focus the field to the west of the Church. It can also be said that evaluation undertaken to the north of the proposed Sky Dome within Field 12 demonstrated a concentration of archaeology located within the eastern part of the area closest to Newton Farm (which is likely to have medieval origins).
- 4.2.30 The report goes on to propose a detailed and integrated archaeological mitigation strategy which includes further evaluation work, supervised hand clearance of rubble and debris from Newton North Church in an effort to enhance the monument followed by a Level 4 Building recording, watching briefs and areas for preservation *in situ*. Finally, the mitigation strategy also includes a detailed Environmental Management Plan and Strategy. No further information is recorded in the HER and it is not known if such mitigation proposals were implemented.
- 4.2.31 Since its opening in 2008 the resort has continued to develop and improve its facilities. An area of new lodges called 'Preseli View' were recently built within Field 8 of the development site, prior to which an archaeological watching brief was undertaken by Dyfed Archaeological Trust Field Services (now DAT Archaeological Services) during groundworks (Wilson 2010). The development area lies in proximity to the Roman sherds findspot, and the general area itself was identified as an area for preservation in situ owing to its sensitivity (Jacobs and Babbies 2005; 15). The watching brief was agreed as appropriate mitigation with the

archaeological advisor to the planning authority, by way of a condition on planning permission, as evidently it was deemed that preservation *in-situ* was not necessary. The watching brief identified a series of possible drainage ditches crossing the field as well as possible evidence for charcoal burning. No other significant archaeological remains were identified. It is likely that more significant archaeology lies on the western side of the area closer to the area of Newton North Church.

- 4.2.32 The northern half of the current development area (Field 12) was developed and is currently the site of an indoor "Wild Wood Adventure Centre" (see Figure 3) whilst the southern half of the field and the adjacent western, linear field were planted with willow. This was harvested and used as biomass to generate the energy to fuel the adventure centre and nearby, under cover, "Blue Lagoon" swimming centre. It is not known if any further archaeological mitigation was implemented prior to the construction of the 'Wild Wood Adventure Centre'.







### **4.3 Attempted 2017 geophysical survey (By Alice Day)**

- 4.3.1 DAT Archaeological Services attended the proposed development site on 20th June 2017 in order to start the geophysical survey. Upon arrival they were warned that the field was 'rough' and that it had been a willow plantation that had recently been harvested and was re-growing.
- 4.3.2 DAT Archaeological Services staff walked over the field and observed that the willow had been planted in rows, and that some had regrown to a height of approximately 1.0m, with tree stumps c.0.2m in height. There were also stands of nettles which were especially thick to the south of the site. In addition, about ten mounds of soil were distributed across the field (Photos 1 & 2).



**Photo 1:** The condition of the development area on the 20th of July, facing south-west towards Oakwood Theme Park (DAT Photo 111124\_0003).

- 4.3.4 Bluestone staff were available to strim the nettle patches while a more thorough examination of the field was made by DAT Archaeological Services to assess whether geophysical survey would be appropriate and safe.
- 4.3.5 It became clear that there were dead tree branches scattered throughout the site and hidden dips, which, along with the rows of tree stumps would have made it very difficult to the maintain the steady walking pace required for an effective survey to take place without the occurrence of potentially serious trips and falls. Furthermore, it became apparent that the ground had been much more disturbed by the willow plantation groundworks than initially thought. The stumps were on average 0.25m in diameter and would have had substantial roots, and in many places the ground had been churned up, probably by vehicles when it was wet and muddy. Because of this ground disturbance it was thought likely that any archaeological remains near the surface would already have been disturbed.



- 4.3.6 In light of the above factors it was concluded that the site was unsuitable for geophysical survey with a gradiometer, and the survey was abandoned.



**Photo 2:** The condition of the development area on the 20th of July, facing south-east towards Oakwood Theme Park (DAT Photo 111124\_0005).

#### **4.4 Site Visit 23.08.17**

- 4.4.1 Following the failed geophysical survey the Bluestone Resort staff cleared the development area of debris and removed the willow stumps and roots. The site was visited in late August by Dyfed Archaeological Services to assess the condition of the survey area as part of a revised programme of work to determine more about the archaeological potential of the proposed Sky Dome site.
- 4.4.2 The survey area and adjacent linear field had effectively been deep ploughed and rolled creating a level, freshly turned soil (Photos 3 & 4).
- 4.4.3 Personal communication with Bluestone Resort staff described the process of removing the willow roots and stumps had probably disturbed the soil to an average depth of 30cm depth. Unfortunately, this intrusive process, added to the unknown disturbance incurred during the planting and harvesting of the willow is likely to have adversely impacted upon any surviving archaeology located within the development area. The results of the evaluation trenches in Field 12, directly north of the development area describe the natural geology being encountered at depths between 0.37m and 0.22m and sealed by shallow subsoil.





**Photo 3:** The survey field within the development area on the 23th August 2017 after clearance. The rides in Oakwood Theme Park can be seen behind the southern boundary of the area (DAT Photo 111124\_0006).



**Photo 4:** The adjacent field to the development area on the 23th August 2017 after clearance. The rides in Oakwood Theme Park can be seen behind the southern boundary of the area (DAT Photo 111124\_0009).

## **5. CONCLUSIONS**

- 5.1 This archaeological desk based review has collated the available information regarding the archaeological and previous mitigation background regarding the development of Bluestone Resort. The resort has been subject to an extensive programme of assessment and archaeological evaluation undertaken between 2002 and 2005. However, it seems that the reports on the results of this programme of work have not all been recorded in the Dyfed Historic Environment Record and some proposed phases of archaeological mitigation absent altogether, creating gaps in the planning and archaeology background of the development. The reason for these gaps is uncertain and may be due to the reports not being submitted to the archaeological advisors to the planning authority (Development Management – Dyfed Archaeological Trust). This has thus led to some difficulty in adequately assessing the archaeological potential of the proposed Sky Dome area.
- 5.2 An initial scoping study (ERN 45101) identified the need for a full desk based assessment addressing the archaeology of the area. Field numbers were designated to the areas of the site which have been referred to within this document. The proposed Sky Dome lies within Field 12. A Cultural Heritage Assessment was undertaken but is absent from the HER and planning background. This was followed by a programme of fieldwalking during which sherds of Roman pottery were recovered in a field located in the western area of the resort. This event and its results are also absent from the HER/planning record.
- 5.3 The majority of the area to the north of the current development area within the resort was subject to extensive geophysical scanning designed to examine the potential for detailed geophysical survey and to provide a basis for the location of detailed survey blocks (ERN 47285). Areas of high archaeological potential were identified in the northern area of the resort; now occupied by the resort lodges. The present development area comprised the southern half of Field 12 located at the southern boundary of the resort and was not subject to survey.
- 5.4 Following scanning, areas of high archaeological potential (based on high magnetic variation) were subject to detailed geophysical survey. The results of this survey are also absent from the HER but it appears that these results were used to target trenches in the first of four phases of evaluation trenching. This detailed survey did not occur within the area of the proposed Sky Dome in the southern half of Field 12.
- 5.5 The northern half of Field 12 with of the current development area was evaluated and trenches revealed archaeological features of medieval date concentrated along the eastern boundary of the field. This is likely to have been associated with a medieval pre-cursor of the existing Newton farm which lies to the northeast of the proposed Sky Dome area. Subsequent phases of trenches summarised that there was also a concentration of medieval archaeology immediately around the Scheduled Monument of Newton North Church (PE270). There were also discrete foci of medieval archaeology to the west of the Church and undated archaeology within the vicinity of Roman pottery to the east of the Church.
- 5.6 Archaeological Mitigation proposals (ERN 47285) produced in 2005 summarised the full extent of the archaeological evaluation undertaken and proposed a detailed mitigation strategy and environment management plan outlining future works in face of the development of the resort. The area of archaeological sensitivity to the west of Newton North Church (PE270) was initially outlined as an area of preservation *in situ* but this

area has subsequently been developed. An archaeological watching brief undertaken during groundworks within this area revealed an area of possible charcoal burning activity and drainage ditches, and no other significant archaeological remains were revealed.

- 5.7 The proposed Sky Dome development area is situated in the southern half of Field 12. The northern half of this field was previously archaeologically evaluated and has subsequently been developed as the site of an indoor "Wild Wood Adventure Centre". Archaeological remains of medieval date were recorded on the eastern side of this area close to, and probably associated with, Newton Farm. The remainder of the field to the south has since been planted with willow for biomass recovery to generate energy for the "Wild Wood Adventure Centre" and nearby undercover "Blue Lagoon" swimming area. The willow plantation was laid out in numerous lines aligned east to west across the field and presumably involved the field being initially ploughed (or de-turfed in some way) before the willow was laid out. The willow has been regularly harvested for bio-mass before being finally cut to prepare the area for the development.
- 5.8 A geophysical survey was attempted on the 20<sup>th</sup> of July 2017 but abandoned owing to the unsuitable and difficult condition of the survey area following the cutting of the willow.
- 5.9 The survey area was visited again on the 23<sup>rd</sup> of August 2017 following further clearance of the area where loose branches, tree stumps and roots were removed. The area is said to have been disturbed to a depth of around 12 inches (0.30m) when the roots and stumps were removed. Archaeological investigations in the northern half of Field 12 indicated that the topsoil and subsoil measured between 0.24 and 0.36m in depth.
- 5.10 Consequently, it is determined that the area of the proposed Sky Dome at Bluestone lies in an area of land which has been significantly disturbed by the process of planting, harvesting and removal of willow for biomass fuel for most of the last decade. Previous archaeological works in the area suggest that the area has a relatively low archaeological potential. Archaeological remains were found in the northern part of Field 12 close to Newton House Farm, but no significant archaeological remains were found within the fields to the east of the proposed Sky Dome area during fairly extensive evaluation of the site of the Blue Lagoon and fields east of this. There is perhaps still a moderate archaeological potential within the northeastern part of the proposed Sky Dome area closest to Newton Farm, but any remains that may have been present will have been disturbed to some extent by the willow plantation, harvesting and clearance.
- 5.11 This document can be used by the archaeological advisors to the planning authority, to determine an appropriate level of archaeological mitigation within the area of the proposed Sky Dome. It is suggested that this might take the form of a watching brief, concentrated within the area closest to Newton Farm where there is a possibility of the remains of medieval activity associated with earlier precursor to the existing farm.



## **6. SOURCES**

Babtie, 2002. Bluestone Environmental Scoping Report: Consultation Document, Babtie Project No., 0003165 (PRN 45101)

Babtie, 2003a. Archaeological Evaluation Works: Geophysical Scanning, Babtie Project No. 0003165 (PRN 47285)

Babtie, 2003b. Archaeological Evaluation Works: Trial Trench (Part); Statement of Result, Babtie Project No. 0003165 (No PRN)

Foundations Archaeology, 2004. Archaeological Evaluation, Report No. 346 (No PRN)

Jacobs Babtie, 2005: Bluestone Holiday Village, Pembrokeshire: Overarching Archaeological Mitigation Proposals, Document Ref 0003165/L14/72005/001 (PRN 49677)

Wilson, H, 2010. PHASE 2A, Bluestone Holiday Village, Canaston Bridge, Pembrokeshire: Archaeological Watching Brief, DAT Report No. 2010/67 (PRN 100383)

### **Database**

Dyfed Archaeological Trust Historic Environment Record, housed with Dyfed Archaeological Trust in The Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire, SA19 6AE.

### **Websites**

Coflein: The Royal Commission on the Ancient and Historic Monuments of Wales: <http://coflein.gov.uk/>

## **BLUESTONE SKY DOME, BLUESTONE RESORT, PEMBROKESHIRE**

(SN 06710 12926)

ARCHAEOLOGICAL DESK BASED REVIEW

### **DYFED ARCHAEOLOGICAL TRUST**

**RHIF YR ADRODDIAD / REPORT NO. 2017/57**  
**RHIF Y DIGWYLLIAD / EVENT RECORD NO. 111124**

Medi 2017  
September 2017

Paratowyd yr adroddiad hwn gan / This report has been prepared by:

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Swydd / Position: Archaeologist DAT Archaeological Services

Llofnod / Signature .....  ..... Date: 05/09/2017

Mae'r adroddiad hwn wedi ei gael yn gywir a derbyn sêl bendith  
This report has been checked and approved by

**Fran Murphy**

ar ran Ymddiriedolaeth Archaeolegol Dyfed Cyf.  
on behalf of Dyfed Archaeological Trust Ltd.

Swydd / Position: Project Manager DAT Archaeological Services

Llofnod / Signature .....  ..... Date: 05/09/2017

*Yn unol â'n nôd i roddi gwasanaeth o ansawdd uchel, croesawn unrhyw sylwadau  
sydd gennych ar gynnwys neu strwythur yr adroddiad hwn*

*As part of our desire to provide a quality service we would welcome any  
comments you may have on the content or presentation of this report*



