

**Abbey Tower Lightning Protection,
Kilwinning, North Ayrshire:
Archaeological Mitigation**

Data Structure Report

by Claire Williamson

issued 6th July 2011



Rathmell

Archaeology Ltd

Quality Assurance

This report covers works which have been undertaken in keeping with the issued brief as modified by the agreed programme of works. The report has been prepared in keeping with the guidance of Rathmell Archaeology Limited on the preparation of reports. All works reported on within this document have been undertaken in keeping with the Institute of Field Archaeology's Standards and Policy Statements and Code of Conduct.

Signed

Date

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Checked

Date

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Introduction

1. This Data Structure Report has been prepared for North Ayrshire Council in respect to the upgrade of the lightning protection system at the Abbey Tower, Kilwinning in North Ayrshire. These archaeological works were designed to mitigate any adverse impact on the archaeological remains within the development area.
2. The Abbey Tower stands within the grounds of Kilwinning Abbey, which is a Scheduled Monument, protected under the terms of the Ancient Monuments and Archaeological Areas Act 1979. Any disruptive works in this area are subject to Scheduled Monument Consent issued by Historic Scotland on behalf of Scottish Ministers. North Ayrshire Council has been granted Scheduled Monument Consent for these works.
3. Rathmell Archaeology Limited has been appointed to undertake the development and implementation of archaeological mitigation works for the lightning protection works at the Abbey Tower, Kilwinning in North Ayrshire.

Historical Background

4. The burgh of Kilwinning is dominated by the twelfth century Tironensian Abbey, most likely founded by Richard De Moreville, Lord of Cunninghame. Portions of the nave and the cloistral range of the abbey are in the guardianship of the state, having been excavated and consolidated in the 1960s. A larger land holding including the Abbey Church (constructed 1775) and its churchyard are protected as a Scheduled Monument under the terms of the Ancient Monuments and Archaeological Areas Act 1979.
5. However, Kilwinning is believed to have been an established community prior to the twelfth century. The kil- element of the place name suggests long standing Christian presence in this area and MacGibbon and Ross propose the abbey was built on the site of the cell of St. Winning. *Segdoun*e may have been the original name of the settlement by the Garnock; whether this indicates another founder for the town is uncertain though Camerarius in 16th century attributes a well established church at Kilwinning by AD 640.
6. The first detailed post-reformation plan of Kilwinning is from 1747-55 (General Roy's Military Survey of Scotland; Figure 1a); it forms a cluster settlement forming from three locales along what is now Main Street. The central hub is located around the Abbey buildings, another is located immediately on the east side of the river Garnock near the Corsehill and the third to the west at Byres.
7. By the 1st edition Ordnance Survey (1856) Kilwinning had expanded to include a full street frontage on either side of Main Street (Figure 1b). This rigid streetscape has been progressively altered through the 19th and 20th century with the opening out of the 'square' area at the west end of the Main Street and clearance to form the entrance to the Old Parish Church (removing the original property given to the Freemasons for their Mother Lodge).
8. The Abbey Tower is a nineteenth century bell tower designed by David Hamilton, replacing one of the medieval Abbey towers. The foundation stone for the new tower was laid on the 21st December 1814, and the new structure was completed by the 12th November 1816. Cunninghame District Council, the precedent of the present North Ayrshire Council, carried out a refurbishment programme between 1993 and 1995 to enable the tower to house a Heritage Centre.

Project Works

9. The programme of works comprised the archaeological monitoring of four small pits located within 1m of the Abbey Tower on its west, south and east sides. The pits were hand dug to a depth of between 230 to 300mm.



Figure 1a: Detail from Roy's Military Survey of Scotland 1747-55



Figure 1b: Detail from 1st edition Ordnance Survey (1856)

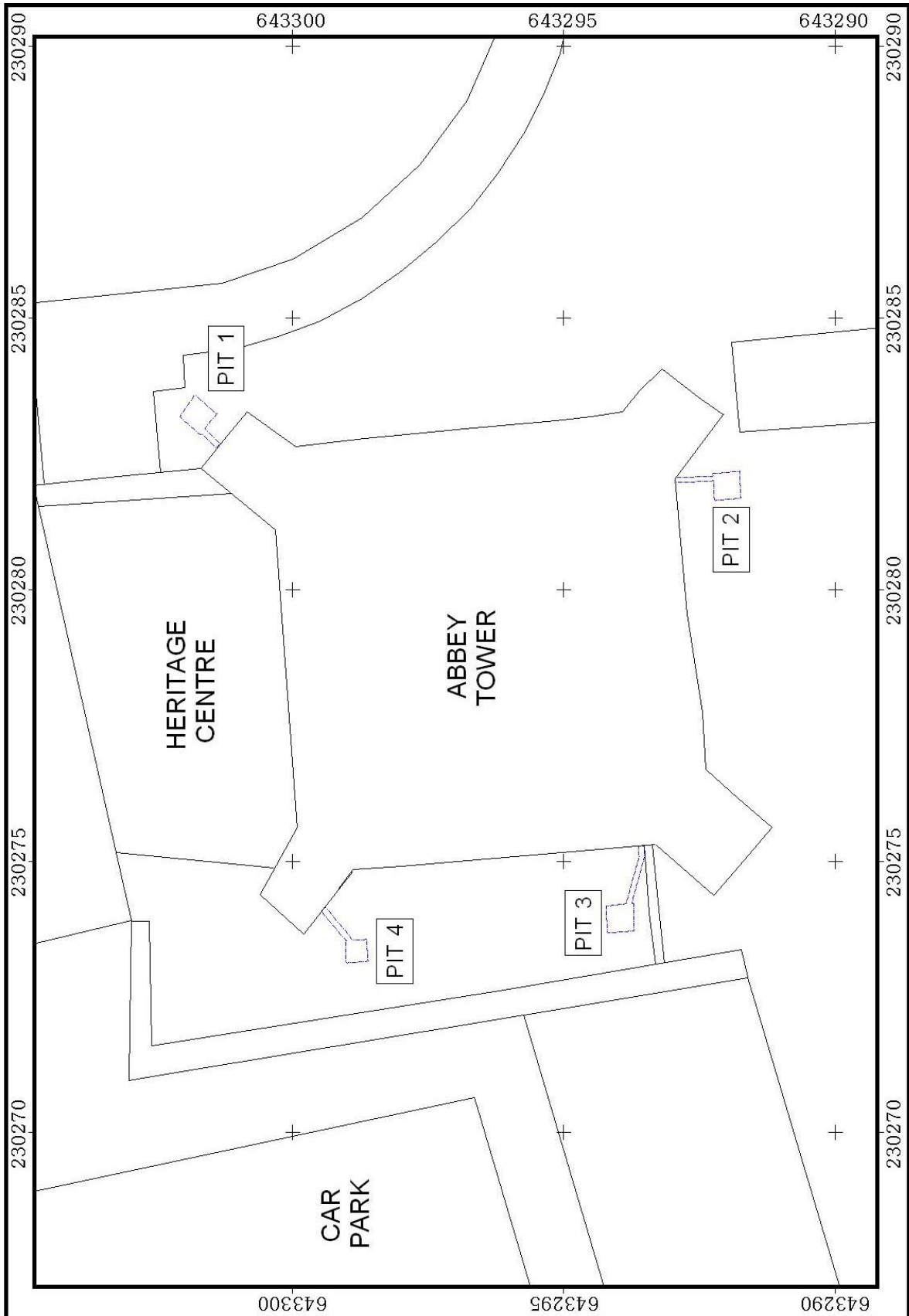


Figure 2: Plan showing locations of groundbreaking works

10. All groundbreaking works were continuously monitored by an archaeologist with all spoil checked thoroughly including scanning by metal detector for archaeological material. All sections and surfaces were hand cleaned and investigated for any archaeological features which may have survived.
11. Recording was done by Rathmell Archaeology Limited standard method. All contexts, small finds and environmental samples were given unique numbers with bulk finds collected by context. Digital photographs were taken throughout the works with significant features also recorded by transparency and print photographs. An overall site plan was recorded at 1:500 and sample sections were noted and drawn if they were seen to show anything significant.
12. Any potential archaeological features were investigated and recorded, with the on-site works taking place on the 30th June 2011. All works were conducted in accordance with the Institute for Archaeologists' Standards and Policy Statements and Code of Conduct and Historic Scotland Policy Statements.

Findings

13. The development area was located within the immediate surroundings of the Abbey Tower, with each of the four pits measuring on average 0.5m square in area. Each of the pits also had a small channel measuring approximately 100mm wide by 100mm maximum depth running back towards the walls of the Tower which allowed for the placement of copper stripping running into the pits.

Lightning Protection Works

14. Four small square pits were excavated for the installation of earthing rods surrounding the Abbey Tower within close proximity to its walls (Figure 2). Each pit also had a small channel excavated which ran back to the walls of the Tower to allow for a connecting copper strip to join with the aluminium stripping present on the side of the building.
15. The first pit (1) (Figure 3a) was placed close to the northeast corner of the Tower and measured 0.5m square by 300mm deep with a connecting channel running southwest measuring 0.1m wide, 0.4m long and 80mm deep. Prior to excavation, the area to the east of the tower where pit 1 was placed was covered by a modern gravel surface (001) which measured a minimum of 300mm deep. Pit 1 did not reach the base of this deposit and failed to reveal any significant archaeological features.
16. Pit 2 (Figure 3b) was then excavated close to the east end of the south side of the tower measuring 0.5m square by 230mm deep with a small channel running NNE towards the Tower which measured 0.1m wide, 0.7m long and 100mm deep.
17. The area to the south where pit 2 was placed was initially covered by a layer of gravel in clayey sand (002) which comprised the current ground surface. This was revealed to be 60mm in depth and underlying this was a layer of mid brown silty sand (003). The full depth of this layer was not revealed. This deposit is likely to have been redeposited due to the large amount of disturbance which would have occurred in this area from the work carried out in the 1960s by the Ministry of Public Buildings and Works (MoPBW). Their aim was to prepare the site of the Abbey for public access and display and their works included extensive excavations across most of the Abbey grounds. Pit 2 did not uncover any significant archaeological features.
18. Pits 3 and 4 were both located along the west side of the Tower. Pit 3 (Figure 4a), which sat at the south end, measured 0.5m square by 270mm deep with a channel running southeast measuring 0.1m wide, 1.1m long and 70mm deep. Pit 4 (Figure 4b), which sat at the north end, measured 0.4m square by 250mm deep with a channel running northeast measuring 0.1m wide, 0.75m long and 100mm deep.



Figure 3a: Pit 1 from the northeast



Figure 3b: Pit 2 from the south-south-west



Figure 4a: Pit 3 from the west-north-west



Figure 4b: Pit 4 from the southwest

19. The area to the west of the tower where pits 3 and 4 were located was covered by a layer of dark brown sandy clay topsoil (004) with frequent gravel inclusions. This measured a minimum of 270mm deep but its full depth was not revealed by either pit. While this area may be a reflection of the original ground level in the area it is likely that this deposit represents an area which has been heavily disturbed during the construction of surrounding structures including the new heritage centre to the north of the Tower and also the carpark which sits on the other side of the retaining wall to the west. Indeed pit 4 was also placed in the same position as an earlier earthing rod which has been robbed out in recent times. Neither pit revealed any significant archaeological features.

Discussion

20. No significant archaeological features or deposits were uncovered during the groundbreaking works. The area to the east of the Tower has been covered by a modern gravel surface which the pit on this side failed to reach the base of, while the area to the south has likely been heavily truncated by the excavation works carried out during the 1960s excavations by the MoPBW.
21. The area to the west of the Tower may well represent an original ground level but it is likely to have been heavily disturbed in recent times during the construction of the Heritage Centre to the north of the Tower and also during the installation of the carpark retaining wall which sits to the west. Indeed pit 3 was already known to be sitting in previously disturbed ground as it was located to replace an earlier earthing rod which had been robbed out.
22. As well as the modern disturbance, the likelihood of meeting significant archaeological features would also have been minimised by the small nature of the groundbreaking works which never reached more than 300mm in depth. It is highly possible that archaeological features are still present within the development area at a lower depth than this current phase of works reached.

Recommendations

23. The lightning protection works carried out at Kilwinning Abbey Tower will have added greatly to the maintenance of the Tower's structure and should hopefully negate the need for future works to be carried out on the lightning protection in this area for some time to come.
24. The area immediately surrounding the Tower has been heavily disturbed during the twentieth century and the monitoring works carried out during the upgrade of the lightning protection system failed to identify any significant archaeological features. As a result no further works are recommended as a direct consequence of this phase of monitoring.
25. However, it is highly likely that the lack of archaeological features identified is merely a reflection of the insufficient depths of the works which, at a maximum of 300mm, failed to reach the full depth of the modern disturbance. There is a high potential that significant archaeological features still survive at lower depths below the levels of this disturbance, and so any further groundbreaking works in the area should still be subject to archaeological works.

Conclusion

26. Archaeological monitoring works were carried out in respect to the upgrade of lightning protection at the Abbey Tower in Kilwinning, North Ayrshire. The archaeological works were designed to mitigate the impact on the archaeological remains within their development area.
27. The monitoring failed to identify any significant archaeological features during the groundbreaking works. The upper layers of the area immediately surrounding the Tower have been heavily disturbed by modern ground surfaces, twentieth century

archaeological excavations and modern construction works in the area. The minimal nature of the works failed to reach below the levels of this disturbance, under which archaeological features relating to earlier phases of the Tower and the surrounding Abbey may still be present.

References

Cartographic

- | | | |
|-----------|-----------------|---|
| 1747-1755 | Roy | Military Survey of Scotland |
| 1855 | Ordnance Survey | 1 st edition Ordnance Survey Town Plan, Ayrshire |

Appendix 1: Registers

Within this appendix are all registers pertaining to works on-site during the watching brief.

Context Register

Context No.	Area/Trench	Type	Description	Interpretation
001	1	Deposit	Compact grey gravel. Located on east side of Tower.	Modern gravel surface.
002	2	Deposit	Compact gravel sitting in a mid brown clayey sand matrix. Measures 60mm thick. Located on south side of Tower.	Modern gravel surface.
003	2	Deposit	Compact mid brown silty sand with occasional small stone inclusions.	
004	3,4	Deposit	Compact dark brown sandy clay with frequent small gravel inclusions. Located on west side of Tower.	Topsoil; modern build up of material on higher ground to west side of Tower.

Photographic Register

Image No.	Print		Slide		Digital	Description	From	Date
	Film No.	Neg. No.	Film No.	Neg. No.				
1	-	-	-	-	1	Pit 1 – working shot	SE	30/06/11
2	-	-	-	-	2	Pit 1 – working shot	NE	30/06/11
3	-	-	-	-	3	Pit 1 – general shot	NE	30/06/11
4	-	-	-	-	4	Pit 1 – post ex shot	E	30/06/11
5	-	-	-	-	5	Pit 2 – working shot	S	30/06/11
6	-	-	-	-	6	Pit 2 – post ex shot	S	30/06/11
7	-	-	-	-	7	Pit 2 – post ex shot	S	30/06/11
8	-	-	-	-	8	Pit 3 – working shot	S	30/06/11
9	-	-	-	-	9	Pit 3 – post ex shot	N	30/06/11
10	-	-	-	-	10	Pit 3 – post ex shot	N	30/06/11

Image No.	Print		Slide		Digital	Description	From	Date
	Film No.	Neg. No.	Film No.	Neg. No.				
11	-	-	-	-	11	Pit 4 – working shot	SW	30/06/11
12	-	-	-	-	12	General shot of area of pit 4	S	30/06/11
13	-	-	-	-	13	Pit 4 – post ex shot	S	30/06/11
14	-	-	-	-	14	Pit 3 – post ex shot	W	30/06/11
15	-	-	-	-	15	Pit 4 – post ex shot	NW	30/06/11
16	-	-	-	-	16	Pit 4 – post ex shot	SW	30/06/11
17	-	-	-	-	17	Pit 3 – post ex shot	WNW	30/06/11
18	-	-	-	-	18	Pit 2 – post ex shot	SSW	30/06/11

Appendix 2: Discovery & Excavation in Scotland

LOCAL AUTHORITY:	North Ayrshire
PROJECT TITLE/SITE NAME:	Abbey Tower Lightning Protection
PROJECT CODE:	RA11019
PARISH:	Kilwinning
NAME OF CONTRIBUTOR:	Claire Williamson
NAME OF ORGANISATION:	Rathmell Archaeology Limited
TYPE(S) OF PROJECT:	Watching brief
NMRS NO(S):	NS34SW 90
SITE/MONUMENT TYPE(S):	Clock Tower, Tower
SIGNIFICANT FINDS:	None
NGR (2 letters, 8 or 10 figures)	NS 30278 43296(centred on)
START DATE (this season)	30 th June 2011
END DATE (this season)	30 th June 2011
PREVIOUS WORK (incl. <i>DES</i> ref.)	MoPBW (1962a) 'Kilwinning Abbey, Ayrshire', <i>DES</i> , MoPBW (1963) 'Kilwinning Abbey, Ayrshire', <i>DES</i>
MAIN (NARRATIVE) DESCRIPTION: (may include information from other fields)	<p>Archaeological monitoring works were carried out in respect to the upgrade of lightning protection at the Abbey Tower in Kilwinning, North Ayrshire. The archaeological works were designed to mitigate the impact on the archaeological remains within their development area.</p> <p>The monitoring failed to identify any significant archaeological features during the groundbreaking works. The upper layers of the area immediately surrounding the Tower have been heavily disturbed by modern ground surfaces, twentieth century archaeological excavations and modern construction works in the area. The minimal nature of the works failed to reach below the levels of this disturbance, under which archaeological features relating to earlier phases of the Tower and the surrounding Abbey may still be present.</p>
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS:	None
SPONSOR OR FUNDING BODY:	North Ayrshire Council
ADDRESS OF MAIN CONTRIBUTOR:	Unit 8 Ashgrove Workshops, Kilwinning, Ayrshire KA13 6PU
E MAIL ADDRESS:	contact@rathmell-arch.co.uk
ARCHIVE LOCATION (intended/deposited)	Report to Historic Scotland, West of Scotland Archaeology Service HER and archive to RCAHMS Collections.

Contact Details

28. Rathmell Archaeology can be contacted at our Registered Office or through the web:

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29. Historic Scotland can be contacted at their office or through the web:

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Edinburgh	
EH9 1SH	

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