

**Ainville Farm Wind Turbine, Kirknewton,  
West Lothian:  
Archaeological Mitigation**

Data Structure Report

by Diane Gorman

issued 25<sup>th</sup> September 2012



**Rathmell**  
Archaeology Ltd

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## Introduction

1. This Data Structure Report has been prepared for Harperrig Wind Ltd in respect to the construction of one wind turbine at Ainville Farm, Kirknewton, West Lothian (Planning ref: 0809/FUL/11). The archaeological works were designed to mitigate the impact on the archaeological remains within their development area to the agreement of the West of Scotland Archaeology Service. Rathmell Archaeology Limited was appointed by Harperrig Wind Ltd to undertake the development and implementation of archaeological mitigation works.
2. The West of Scotland Archaeology Service who advises West Lothian Council on archaeological matters requested archaeological monitoring (through a targeted condition) to manage the potential impact on archaeological remains. They provided guidance on the structure of archaeological works required on this site during development works.
3. Rathmell Archaeology Limited has been appointed by Harperrig Wind Ltd to undertake the development and implementation of archaeological mitigation works at Ainville Farm, Kirknewton.
4. This Data Structure Report provides the detail of the works (monitoring, exclusion, excavation, post-excavation analyses and publication) for the mitigation pertaining to ground breaking and hence the direct physical impact on buried sediments.

### *Historical and Archaeological Background*

5. The development area lies in the most westerly enclosed field of Ainville Farm immediately below the eastern slopes of Corston Hill to the north of the A70. Roy's Military Survey of Scotland (1752-55) depicts this area as unenclosed arable ground in the vicinity of a village named Little Vantage (see Figure 1a). The exact location of this mid 18<sup>th</sup> century settlement is uncertain, but appears to be to the north-east of the development area based on this source. However, aerial imagery suggests a location further to the southeast (WoSAS Pin 18862).
6. Subsequently it is clear that the village was relocated and rebuilt on the south side of the road that will become the A90 (see 1<sup>st</sup> edition Ordnance Survey, Figure 1b). None of these mid-19<sup>th</sup> century structures are within the planning boundary, although they illustrate the development of a small ribbon settlement at this point on the road from Edinburgh to the southwest.
7. The ground at the development site is now within enclosed fields, presumably dating from the late 18<sup>th</sup> century. The recorded traces of rig and furrow (WoSAS Pin 18910 and 50303) in these fields most likely relates to the post-enclosure agricultural use of this land. A sandstone quarry is depicted (WoSAS Pin 18035 and 50304), which would subsequently become the capped refuse tip that underlies much of the development area.
8. The other key element to the immediate archaeological landscape is the inferred line of the Craiglockhart - Castle Greg - Castledykes Roman road (WoSAS Pin 18250) which is believed to run on a comparable course with the A90, but set slightly to the south. As this is an inferred line, and no trace is visible on the ground, there remains a residual potential for alternate alignments that could conflict with the development.

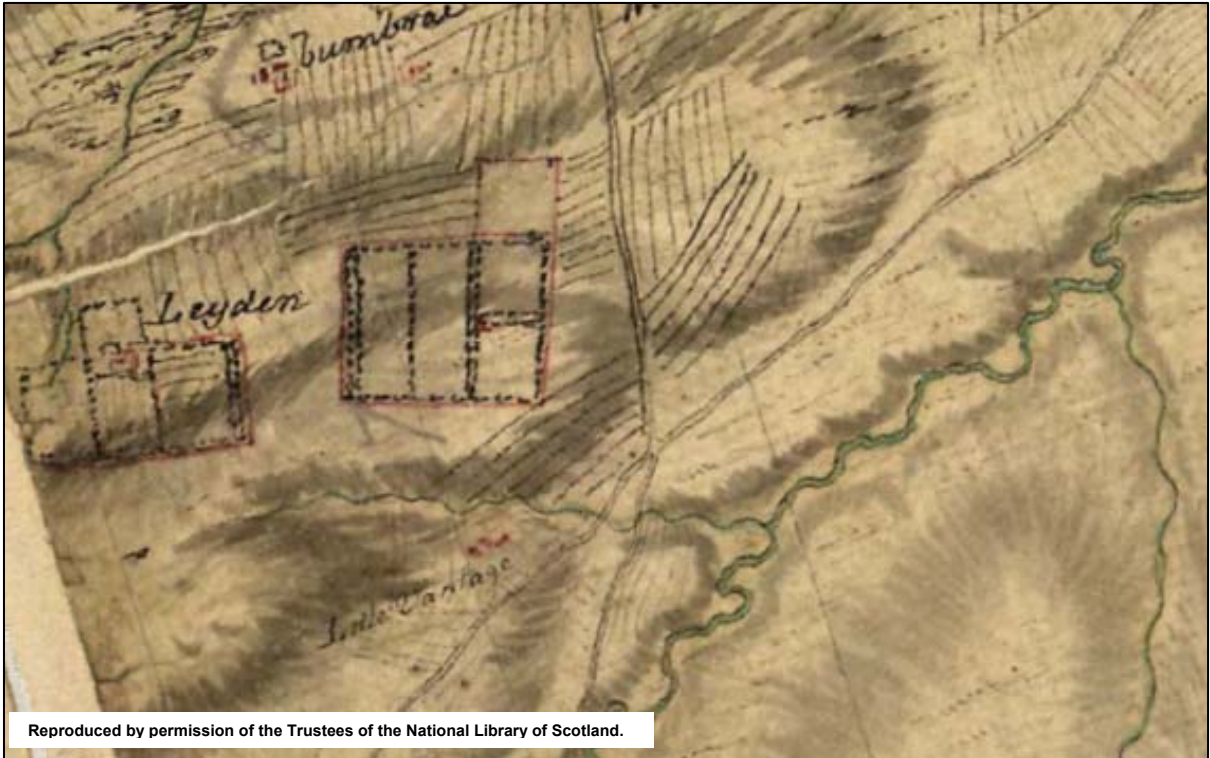


Figure 1a: Roy's Military Survey of Scotland (1752-55)

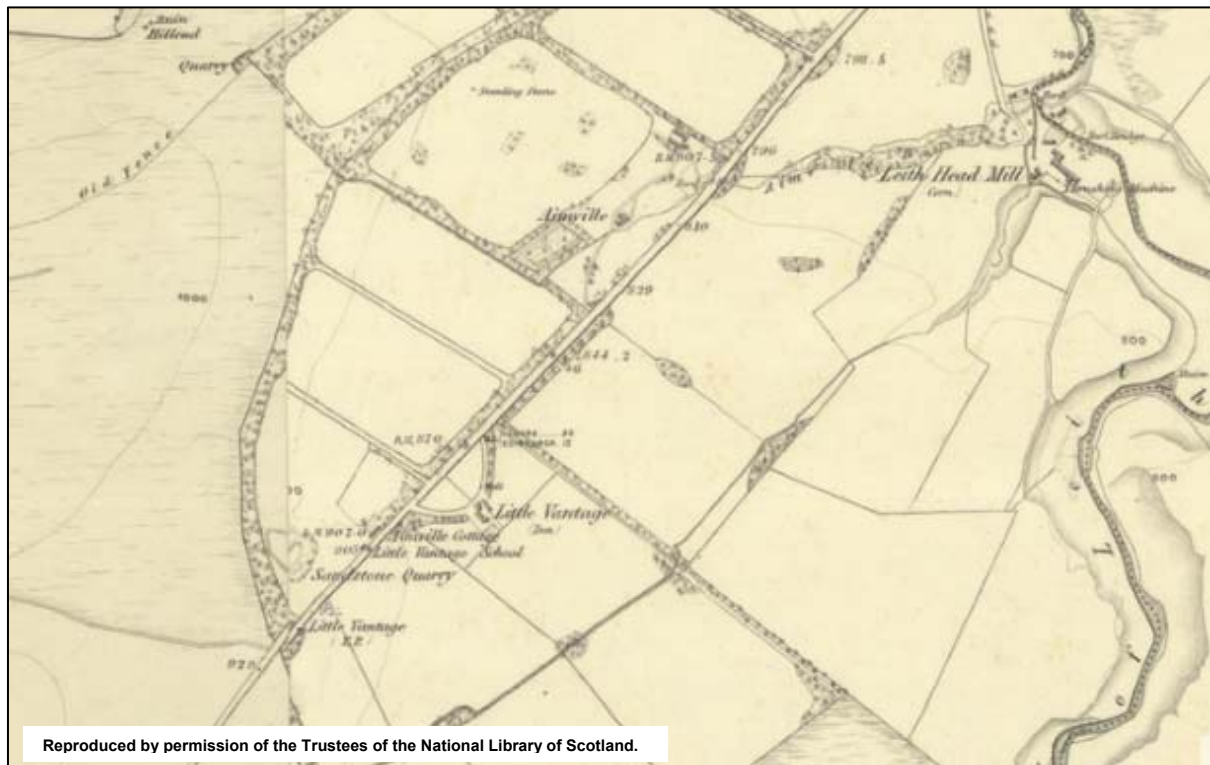


Figure 1b: 1<sup>st</sup> Edition Ordnance Survey (1853)

## Project Works

9. The programme of mitigation consisted of archaeological monitoring of the ground reduction for the construction of the turbine base, two adjacent crane pads and a road leading off these to the south-west (see Figure 2).
10. The development included works with the potential to impact on archaeological remains within areas not previously disturbed. Specifically: the access track, crane pads and turbine base for the new wind turbine. However, a significant portion of the redline area overlies the reinstated Little Vantage Quarry which is a capped refuse pit (see Figure 2). This ground does not retain a credible archaeological potential and no archaeological works were appropriate within this area.
11. Works undertaken by Rathmell Archaeology Ltd were consistent with the terms described in the Method Statement (Rees, 2012). Monitoring, recording and excavation were carried out in the conjunction with the terms of this document.
12. Archaeological monitoring works were undertaken on the 20<sup>th</sup> September 2012. These consisted of monitoring ground reduction, in advance of the construction of the wind turbine and the adjacent crane pads, in addition to the access road leading off these. Excavations were carried out by 360° mechanical excavator. Any potentially significant archaeological features, structures or deposits were recorded by the on-site archaeologist, using Rathmell Archaeology Ltd standard method. All contexts, small finds and environmental samples were given unique numbers.
13. All works complied with the West of Scotland Archaeology Service standard conditions, the Institute for Archaeologists' Standards and Policy Statements and Code of Conduct and Historic Scotland Policy Statement.

## Findings

14. The area of the wind turbine base and the crane pads was located on sloping ground within enclosed green-field (Figure 3a). An area roughly square in plan measuring 133m<sup>2</sup> in total area was reduced to the level of subsoil, to accommodate the construction of the wind turbine base and the two adjacent crane pads. The area was reduced through topsoil (001) which varied from 0.1 to 0.2m in thickness, depending on position within the slope. Topsoil (001) consisted of mid brown slightly sandy clay containing frequent natural coal, frequent rootlets, and rare small stones with a line of turf above.
15. Below the topsoil, lay either subsoil (002) or (003). Subsoil (002) was a light orange (mottled light grey and brown) slightly sandy clay, with frequent inclusions of bedrock fragments, in addition to the frequent natural coal pieces. This subsoil was exposed further down the slope, probably indicating less able drainage of the land in this area (Figure 3b).
16. Subsoil (003) was a light brown to light grey sandy clay, with frequent bedrock fragments, frequent angular stones, frequent degraded stone areas and frequent natural coal inclusions.
17. In addition to the ground reduction in the main area, a further area was stripped running to the south-west, to necessitate the construction of an access road. This measured 135m<sup>2</sup>, and came down onto (003). No archaeological features were found within the subsoil during ground reduction within either of these areas.
18. A further area was reduced, following on from the west and south-west of this, which revealed only made-up ground (Figure 4a, 4b). This was a linear strip, 3m wide by 8m long, covering a total area of 24m<sup>2</sup>, and was reduced only to the required depth for the construction of the access road. This area was reduced to a maximum of 0.15m thickness, and revealed only deposit (004). This was a mixture of modern rubbish such as bricks and plastic, within a deposit of (001), with a layer of turf above.
19. No further groundbreaking works were undertaken on this site.

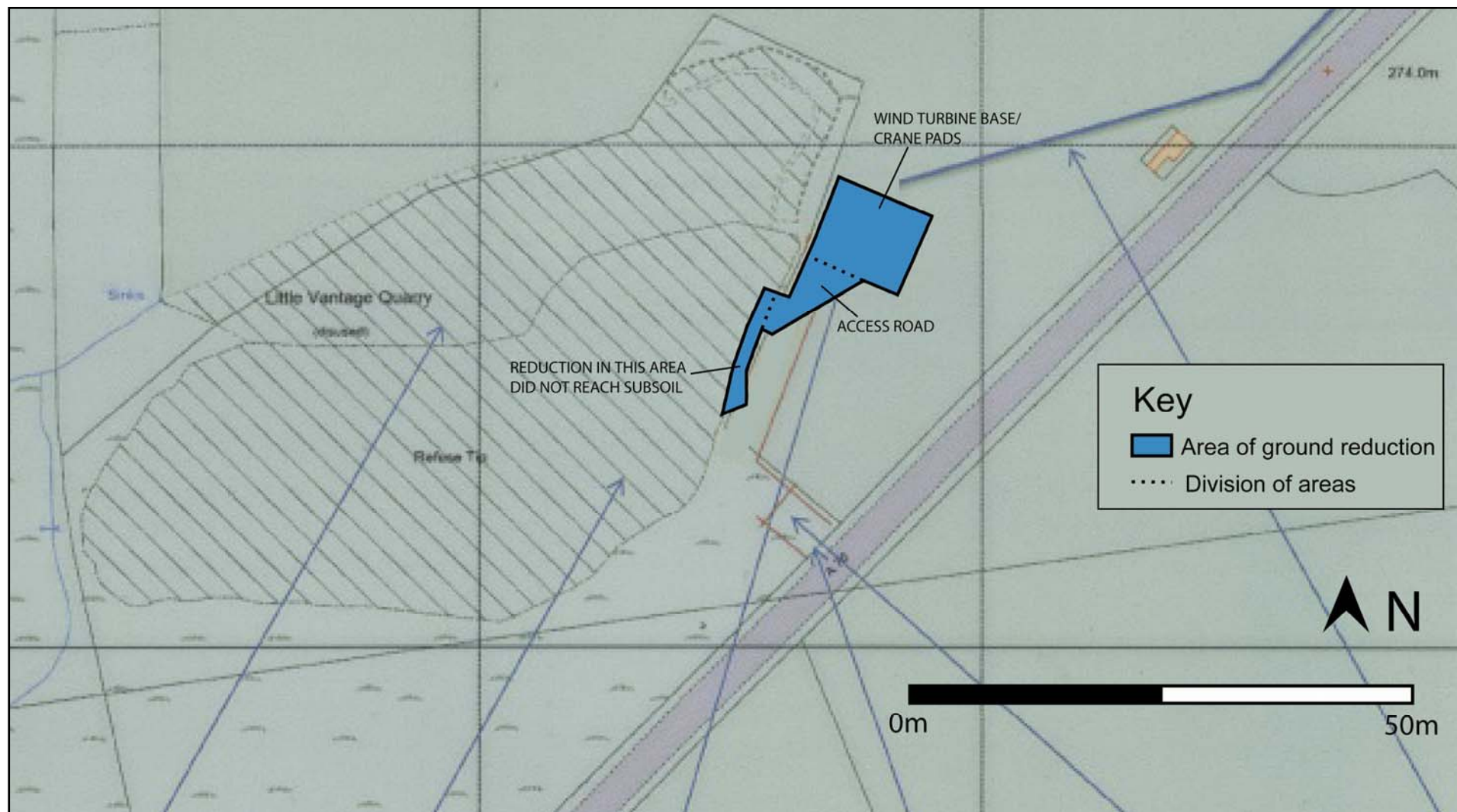


Figure 2: Site Plan



Figure 3a: Location shot, ground reduction (area of Crane Pads/Turbine base)



Figure 3b: As above, exposing subsoil (002)





Figure 4a: Location shot



Figure 4b: Location shot; made-up ground area

## Discussion

20. No significant archaeological features were found during the course of this programme of archaeological monitoring works. Ground reduction in the main area of the site, reduced to accommodate the wind turbine base and the two crane pads, revealed only natural subsoil, either (002) or (003). Subsoil (002) seems to indicate areas of less efficient drainage than the areas where (003) was found. The area stripped for the access road to the south-west of this revealed only subsoil (003). No archaeological features were encountered within these areas.
21. The area to the west and south-west of this was not stripped down to natural subsoil, but only to the depths required for construction of the access road in this area. Ground reduction in this area exposed only modern rubbish deposit (004); this seems most likely to relate to use of the surrounding area as a landfill refuse tip.

## Recommendations

22. The archaeological mitigation works did not recover any significant archaeological material from within the development area and as such no further works are recommended as a direct consequence of this programme of archaeological monitoring works.
23. The appropriateness and acceptability of our recommendations rest with West Lothian council and their advisors, the West of Scotland Archaeology Service.

## Conclusions

24. Archaeological monitoring was carried out on 20<sup>th</sup> September 2012 on behalf of Harperrig Wind Ltd, in respect to the construction of one wind turbine at Ainville Farm, Kirknewton, West Lothian.
25. The archaeological works were designed to monitor the ground reduction required for the construction of a wind turbine base and two associated crane pads. Works also included the ground reduction of the access road adjacent to the turbine and crane pads. In the course of these works the majority of material exposed was natural sterile drift geology, containing no significant archaeological deposits. The remainder of what was found appeared to relate to the use of the surrounding land in recent times as a landfill refuse tip.
26. No significant archaeological deposits, structures or features were found during the course of the archaeological monitoring.

## References

### *Documentary*

Rees, T, 2012, *Ainville Farm Wind Turbine, Kirknewton, West Lothian: Archaeological Mitigation, Method Statement* unpublished commercial report by Rathmell Archaeology Ltd

### *Cartographic*

Roy, William	1752-1755	Roy's Military Survey of Scotland
Ordnance Survey	1853	1 <sup>st</sup> Edition Ordnance Survey

## Appendix 1: Registers

Within this appendix are all registers pertaining to the intrusive evaluation works.

### *Context Register*

Context No.	Area/Trench	Type	Description	Interpretation
001		Deposit	Brown slightly sandy clay with frequent roots, occasional coal, rare small stones and modern white glaze pottery. The deposit is between 0.1m and 0.2m thick.	Turf and topsoil.
002		Deposit	Light orange/mottled light grey/brown slightly sandy clay with frequent volcanic bedrock and coal inclusions.	Natural Subsoil.
003		Deposit	Light brown/light grey sandy clay with frequent black volcanic bedrock, angular stones, degraded stones and coal inclusions.	Natural Subsoil.
004		Deposit	Mix of modern rubbish within topsoil (001) with turf above. Abundant inclusions of bricks and plastic. Excavation did not reach the subsoil but may have been mixed with the subsoil also.	Modern Rubbish Deposit.

### *Photographic Register*

Image No.	Print		Slide		Digital	Description	From	Date
	Film No.	Neg. No.	Film No.	Neg. No.				
001					001	Ground reduction subsoil (002).	NW	20/09/2012
002					002	Landscape shot.	NE	20/09/2012
002					003	General, ground reduction shot.	NE	20/09/2012
004					004	Proximity to quarry (left of photo).	WSW	20/09/2012
005					005	General shot.	NW	20/09/2012
006					006	Landscape shot.	NW	20/09/2012

Image No.	Print		Slide		Digital	Description	From	Date
	Film No.	Neg. No.	Film No.	Neg. No.				
007					007	General shot.	WNW	20/09/2012
008					008	General shot.	W	20/09/2012
009					009	Road Reduction (S of fence).	WSW	20/09/2012
010					010	Road Reduction (S of fence).	WNW	20/09/2012
011					011	General shot.	WSW	20/09/2012
012					012	General shot.	WSW	20/09/2012
013					013	General shot.	SW	20/09/2012
014					014	General shot.	W	20/09/2012
015					015	Car park area (not to be reduced).	SSE	20/09/2012
016					016	Area near quarry reduced (004).	NW	20/09/2012
017					017	Area near quarry reduced (004).	W	20/09/2012
018					018	General.	NW	20/09/2012

## Appendix 2: Discovery & Excavation in Scotland

<b>LOCAL AUTHORITY:</b>	West Lothian
<b>PROJECT TITLE/SITE NAME:</b>	Ainville Farm Wind Turbine, Kirknewton, West Lothian
<b>PROJECT CODE:</b>	RA12052
<b>PARISH:</b>	Kirknewton (West Lothian)
<b>NAME OF CONTRIBUTOR:</b>	Diane Gorman
<b>NAME OF ORGANISATION:</b>	Rathmell Archaeology Limited
<b>TYPE(S) OF PROJECT:</b>	Monitoring
<b>NMRS NO(S):</b>	None
<b>SITE/MONUMENT TYPE(S):</b>	None
<b>SIGNIFICANT FINDS:</b>	None
<b>NGR (2 letters, 8 or 10 figures)</b>	NT 10266 63086
<b>START DATE (this season)</b>	20 <sup>th</sup> September 2012
<b>END DATE (this season)</b>	20 <sup>th</sup> September 2012
<b>PREVIOUS WORK (incl. <i>DES</i> ref.)</b>	None
<b>MAIN (NARRATIVE) DESCRIPTION:</b> (may include information from other fields)	<p>Archaeological monitoring was undertaken in respect of the construction of one wind turbine at Ainville Farm, Kirknewton, West Lothian.</p> <p>The archaeological works were designed to monitor ground reduction in targeted areas prior to the construction of a wind turbine base, two adjacent crane pads, and the construction of an access road.</p> <p>The monitoring failed to identify any significant archaeological features during the excavation of soft sediment works. The majority of works revealed shallow geology, and natural sterile drift geology, indicating that the footprint of the wind turbine and the associated infrastructure covers archaeologically sterile land.</p> <p>The remainder of what was exposed was material which can be attributed to use of the area as a landfill refuse tip.</p>
<b>PROPOSED FUTURE WORK:</b>	None
<b>CAPTION(S) FOR ILLUSTRS:</b>	None
<b>SPONSOR OR FUNDING BODY:</b>	Harperrig Wind Ltd
<b>ADDRESS OF MAIN CONTRIBUTOR:</b>	Unit 8 Ashgrove Workshops, Kilwinning, Ayrshire KA13 6PU
<b>E MAIL:</b>	contact@rathmell-arch.co.uk
<b>ARCHIVE LOCATION (intended/deposited)</b>	Report to West of Scotland Archaeology Service and archive to RCAHMS Collections.

## Contact Details

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

Rathmell Archaeology Ltd	<a href="http://www.rathmell-arch.co.uk">www.rathmell-arch.co.uk</a>
Unit 8 Ashgrove Workshops	
Kilwinning	t.: 01294 542848
Ayrshire	f.: 01294 542849
KA13 6PU	e.: <a href="mailto:contact@rathmell-arch.co.uk">contact@rathmell-arch.co.uk</a>

28. The West of Scotland Archaeology Service can be contacted at their office or through the web:

West of Scotland Archaeology Service	<a href="http://www.wosas.org.uk">www.wosas.org.uk</a>
Charing Cross Complex	
20 India Street	t.: 0141 287 8332/3
Glasgow	f.: 0141 287 9259
G2 4PF	e.: <a href="mailto:enquiries@wosas.glasgow.gov.uk">enquiries@wosas.glasgow.gov.uk</a>

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