

Lockerbie WWTW, Dumfries and Galloway: Archaeological Mitigation

Data Structure Report



by Liam McKinstry

issued 27th June 2016

on behalf of Scottish Water

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 Chartered Institute for Archaeologists' Standards and Policy Statements and Code of Conduct.

Signed  Date ..27th June 2016..

In keeping with the procedure of Rathmell Archaeology Limited this document and its findings have been reviewed and agreed by an appropriate colleague:

Checked  Date ..27th June 2016..

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Introduction

1. This Data Structure Report has been prepared to present the findings of archaeological monitoring of site investigation work on land that is used for the Lockerbie Wastewater Treatment Works (WWTW). The site investigation works were commissioned by Scottish Water. These archaeological works were designed to mitigate any adverse impact on the archaeological remains within the development area from the site investigation work.
2. Dumfries and Galloway Council advised a programme of archaeological works to be undertaken at the Lockerbie WWTW (Figures 3 and 4a) was appropriate. The Dumfries and Galloway Archaeology Service, who advise Dumfries and Galloway Council on archaeological matters, provided guidance on the structure of archaeological works required.
3. Rathmell Archaeology Limited were appointed by Scottish Water to undertake the development and implementation of archaeological mitigation for the site investigation work. The project works were defined by a Method Statement (Matthews 2016) that was agreed with the Dumfries and Galloway Archaeology Service.

Historical Background

4. The proposed development area is located to the west of Lockerbie; a long rectangular block of ground running S from the minor road that links the B7076 to Turnmuir Cottages. The WWTW, established on the E side of a mill lade, has progressively developed and expanded within this agricultural landscape since 1890s (Figure 1b).
5. The field to the immediate E contains the Scheduled Monument of Fairholm fort (SM2385, Canmore 66817, MDG 7169), a plough truncated multivallate enclosure presumably from later prehistory (Figure 5b). This site is now identifiable through aerial imagery, though in the mid 19th century it was still an upstanding earthwork (Figure 1a) that had also been mapped as early as 1752-5 by Roy – having been interpreted up to the mid-20th century as a Roman military structure. All of the known elements of this site lie within the Scheduled Monument designation that is wholly within the agricultural field. The HER site boundary impinges on the eastern side of the WWTW, informed by the potential for ancillary activity in proximity. Three metal objects were recovered by fieldwalking in 1987 within the field (Canmore 66886, MDG 7242) in proximity to the fort – and may be related.
6. Examination of the aerial imagery that depicts Fairholm fort shows another linear features that may be a significant archaeological ditch running NW to SE between the WWTW and the fort (Figures 2a & 2b – feature B). This ditch appears to have a rounded turn to the SW at its SE end. This form is suggestive of a Roman military enclosure – should this be the case, then the WWTW lies within the area enclosed. In context, there is a scheduled Roman Temporary Camp (Torwood SM4342) and Roman Fort (Ladyward SM13327) lying to the NW of the WWTW. As such there is the potential for the identification of annexes to these sites or enclosures from other phases of activity. This is a tentative identification and should be viewed as only a potential until additional supporting evidence is available.
7. While not subject to site investigation works, the hardstanding to the N of the public road is anticipated to be used within the development as a works compound and lay down area. This ground had modern buildings covering it in the 1980s (Figure 2b), and in part overlies the Dumfries to Lockerbie Railway (MDG 21009)(Figure 1b). The railway at this point was partly in cutting hence an area of fill at the back of this hardstanding should be expected.
8. The Study Area is shown on Figure 3.

Previous Archaeological work

9. Archaeological monitoring works were carried out by Rathmell Archaeology in 2006 (Shaw 2006) with respect to the construction of a pipeline from the WWTW to the River Annan. These works failed to identify the presence of any archaeological features other than 19th century or later agricultural features such as ceramic field drains.



Figure 1a: Extract from 1st Edition Ordnance Survey Map of 1862

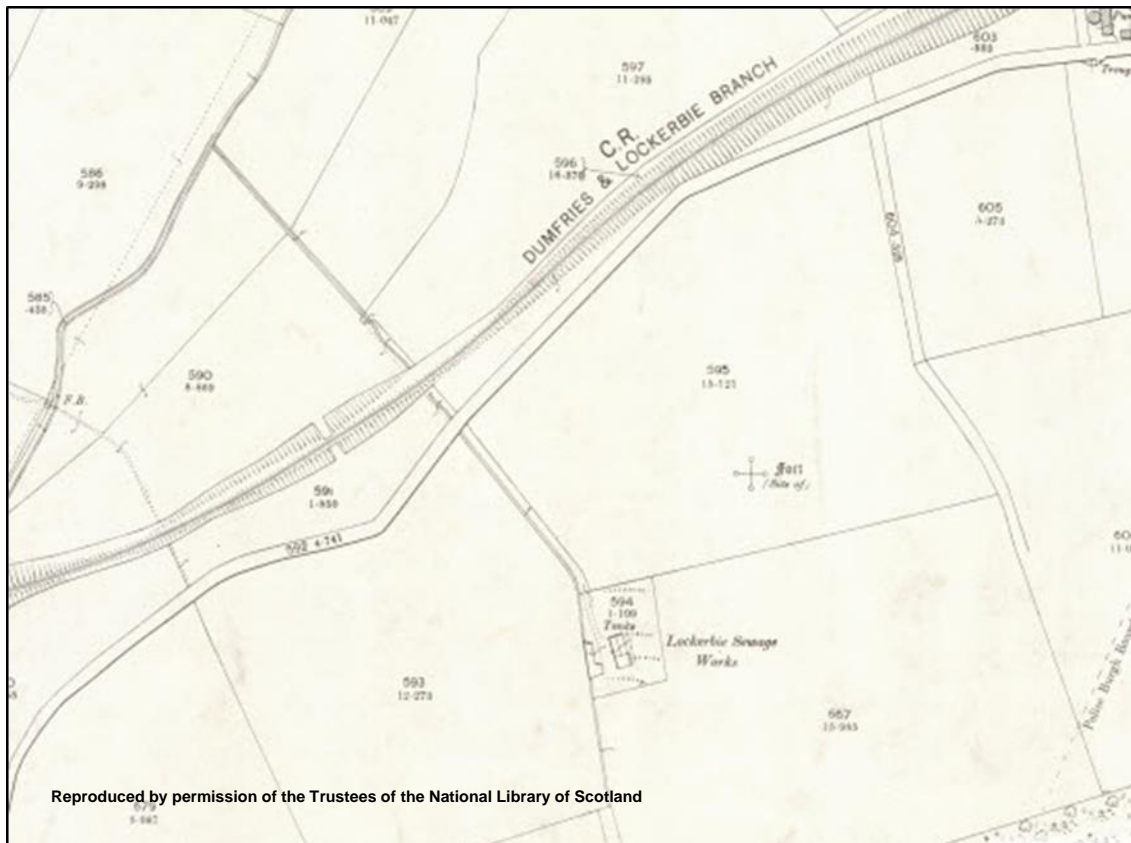


Figure 1b: Extract from 2nd Edition Ordnance Survey Map of 1899



Figure 2a: Aerial Image from 1983 (A: Fort, B: Linear Feature)



Figure 2b: Aerial Image from 1983 (A: Fort, B: Linear Feature)

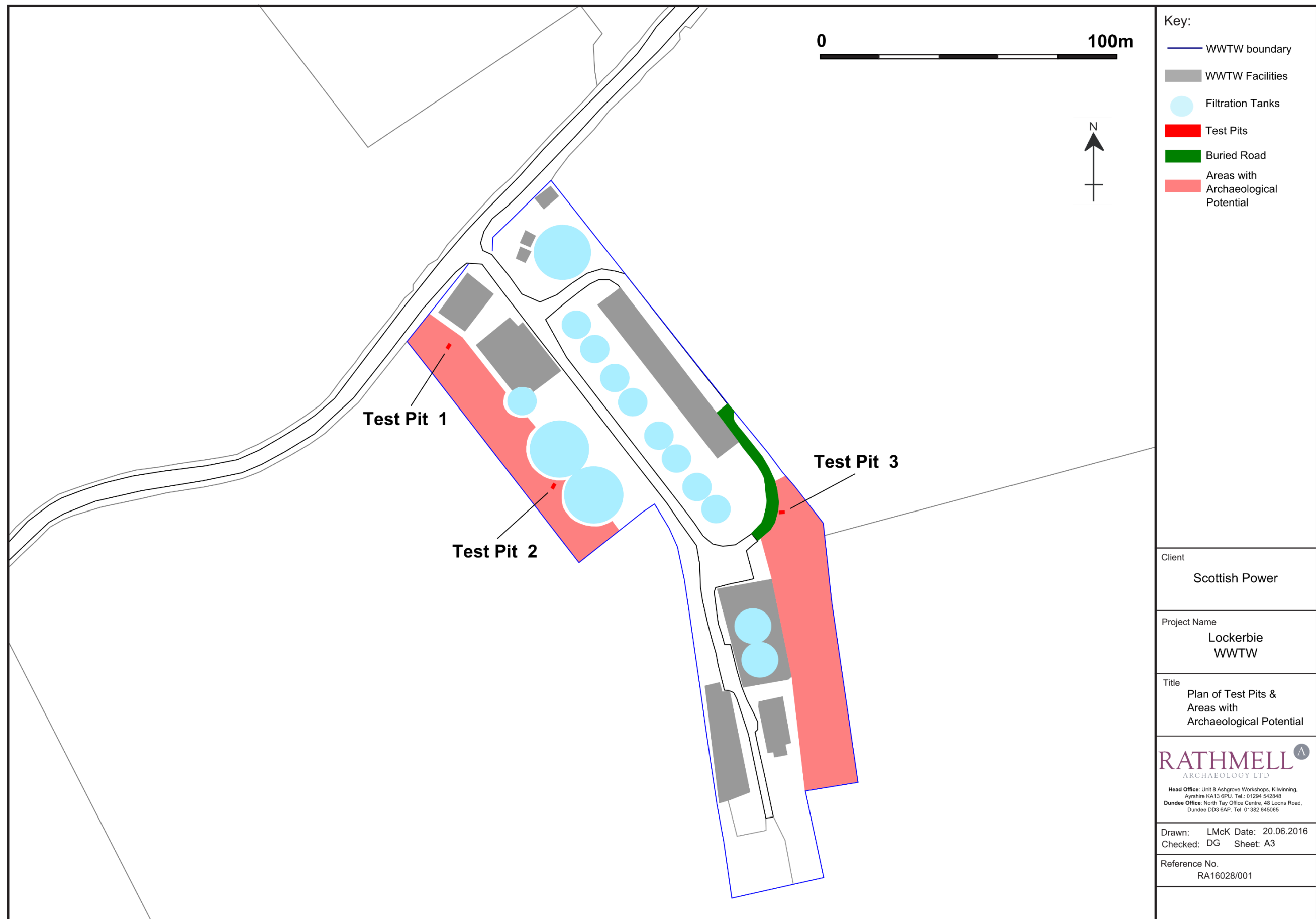


Figure 3: Plan of watching brief area

Project Works

10. Scottish Water were undertaking site investigation work at the Lockerbie WWTW in advance of a series of renovation and construction works to be carried out there. The site investigation works consisted of the excavation of three test pits at locations within the WWTW (Figures 3 and 4a). The excavation of these test pits was carried out under archaeological supervision.
11. Due to health and safety constraints two of the pits, Test Pit 1 and 3, were to be initially hand excavated to a depth of 1m (though Test Pit 3 was abandoned after the remains of a modern road/pavement were encountered) and completed to the full depth by a JCB 3CX. Test Pit 2 was excavated totally by hand as its location was difficult for a machine to access.
12. In compliance with the Method Statement (Matthews 2016), all potential archaeological features were investigated and recorded, with the on-site works taking place between the 31st May and the 8th June 2016. All works were conducted in accordance with the Chartered Institute for Archaeologists' Standards and Policy Statements and Code of Conduct and Historic Scotland Policy Statements.

Findings

13. There were three test pits excavated within the grounds of the WWTW (Figure 3 and 4a) landscaped areas away from the areas of hard standing and the WWTW's facilities. Test Pit 1 (Figure 6a) was located to the southwest of the main entrance of the WWTW (NY 12451 81611). The test pit measured 1.5m by 0.6m and had a maximum depth of 2.95m. Test Pit 2 (Figure 6b) was located to the southeast of Test Pit 1, behind a set of two large filtration tanks (NY 12491 81558). The test pit measured 0.8m by 0.6m and had a maximum depth of 0.98m. Test Pit 3 was located close to a series of smaller filtration tanks close to the north eastern boundary of the WWTW (NY 12568 81546). The test pit measured 1.5m by 0.65m and had a maximum depth of 0.21m.
14. The topsoil within the landscaped areas consisted of loose to moderately compacted, mid brown/grey-brown sandy silt with frequent small to medium stone and occasional CBM inclusions. The topsoil had a thickness range within the grounds of between 0.21-0.39m. Underlying the topsoil in Test Pits 1 and 2 was a layer of naturally occurring subsoil, (002). This layer consisted of moderately compacted, mid brown-orange/red sandy silt with moderate small to medium stone inclusions (though the stone inclusions within Test Pit 1 were more frequent). The thickness range of the layer within the two test pits was between 0.31-0.36m. Beneath layer (002) was another layer of naturally occurring subsoil, (003), which consisted of moderately compacted, light to mid orange sandy silt with frequent to very frequent small to medium sized rounded stone and occasional larger stone inclusions. The layer had a thickness range of between 0.23-0.45m (though the layer was not fully excavated within test pit 2). Within Test Pit 1 a final layer of naturally occurring subsoil, (004), was identified due to the depth the pit was excavated to (3m by JCB 3CX). The layer consisted of moderate to firmly compacted, light to mid red-orange silty sand with moderate to frequent small to medium sized rounded stone inclusions. A thickness of 1.91m was excavated of the layer within Test Pit 1.
15. The only anthropic feature to be identified within the programme of test pitting was a modern surface, (005), located within Test Pit 3. This surface consisted of a very compact, dark grey tarmac layer with possible concrete kerbing/slabbing present in it. The full extent and thickness of the layer was unclear as the pit was abandoned as it could not be further excavated by hand.
16. No other features or artefacts of archaeological significance were identified during the archaeological supervision of the programme of test pitting.



Figure 4a: View of the grounds & facilities within the WWTW. From the SE.



Figure 4b: View of northern end of strip of land running along the eastern edge of the WWTW. From the W.



Figure 5a: View of buried 'modern' road/pavement, (005). From the S.



Figure 5b: View of enclosure 'Fairholm Fort' in the field adjacent to the WWTW. From the NW.



Figure 6a: Post excavation view of Test Pit 1. From the S.



Figure 6b: Post excavation view of Test Pit 2. From the W.

Discussion

18. The excavation of the three test pits within the grounds of the Lockerbie WWTW failed to produce any significant archaeological features or artefacts. Apart from Test Pit 3 the pits failed to produce even post medieval or modern features or artefacts which would suggest that the landscaped areas tested within the WWTW grounds were either relatively untouched by the construction process of the WWTW facilities or much of grounds was cut into and these landscaped areas utilised soil brought into the grounds from an outside source or possibly from up cast from the excavation of the filtration tanks.
19. The tarmac surface, (005), identified within the abandoned Test Pit 3 seems to represent the buried remains of a road or associated pavement (Figure 5a). The line of this road/pavement could be seen, even though it was covered by a topsoil layer, branching off from the main WWTW road where it turned to the north and northwest towards where a series of disused drying beds were situated.
20. The test pits showed that in the landscaped areas of the WWTW grounds there were no signs of archaeological features present be that significant or otherwise. This does not mean that there is no possibility of archaeology being present within the grounds. The area where Test Pits 1 and 2 were excavated and a long strip of ground (running along the inside of the eastern boundary wall/fence for the WWTW) (Figure 4b) to the immediate southeast of Test Pit 3 appeared to be have been relatively untouched by the construction of the WWTW and it is possible that archaeological features may still survive in these areas (Figure 3).

Recommendations

21. Though there was no significant archaeology identified within the three test pits excavated in the grounds of the Lockerbie WWTW, the excavated pits did show that certain areas within the grounds appeared to have been relatively untouched by the original construction of the WWTW facilities. This is based on the absence of construction material within the underlying subsoil, (002), and only occasional inclusions within the topsoil, (001).
22. It is recommended that any future ground breaking works within these limited areas that retain archaeological potential (see Figure 3) should be carried out under archaeological supervision. The archaeological potential predominantly related to the possibility that archaeological features relating to the enclosure 'Fairholm Fort' and other features visible as cropmarks in the adjacent eastern field could extend into this area and still be present.
23. The appropriateness and acceptability of our recommendations rest with the Dumfries and Galloway Archaeological Service.

Conclusion

24. A programme of archaeological monitoring works was required by Scottish Water for site investigation works carried out in advance of a programme of renovation and construction at the Lockerbie WWTW, Dumfries and Galloway. These archaeological works were designed to mitigate any adverse impact on any archaeological remains within the development area.
25. The works consisted of a series of three small test pits which were excavated within the grounds of the WWTW. The test pits revealed no significant archaeological features or artefacts but they also demonstrated that certain areas within the grounds had been left relatively untouched by the construction of the WWTW. The possibility that unknown archaeological remains or remains relating to the nearby enclosure 'Fairholm Fort' and associated cropmarks may still be present in these relatively untouched areas cannot be ruled out.

Acknowledgements

26. The author is grateful to the Scottish Water who gave their support and guidance for these archaeological works. Thanks also go to Douglas Gordon for editing this report.

References

HM Government, 1997, Planning (Listed Buildings and Conservation Areas) (Scotland) Act, HMSO

Matthews, A. 2016 Lockerbie WWTW, Dumfries and Galloway: Archaeological Mitigation, Method Statement, unpublished commercial report by Rathmell Archaeology Ltd.

Museum of London, 1994, Archaeological Site Manual

Museums and Galleries Commission, 1992, Standards in the Museum Care of Archaeological Collections

RCAHMS Aerial Photography, 1983, Catalogue Number SC380862

Scottish Government, 2008, Treasure Trove in Scotland: A code of Practice

Scottish Government, 2010, *Scottish Planning Policy*

Scottish Government, 2011, Planning Advice Note 2/2011: Planning & Archaeology

Shaw, R. 2006 Lockerbie WWTW, Dumfries and Galloway: Archaeological Monitoring, Data Structure Report, unpublished commercial report by Rathmell Archaeology Ltd.

Watkinson & Neal, 1998, *First Aid for Finds*

Cartographic

Roy, W. 1752-55. Roy's map of the Lowlands

Ordnance Survey, 1862, 6-inch 1st edition, Dumfriesshire Sheet LI.NW

Ordnance Survey, 1900, 6-inch 2nd edition, Dumfriesshire Sheet LI

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	1-3	Deposit	Loose to moderately compacted, mid brown/grey-brown sandy silt with frequent small to medium stone and occasional CBM inclusions. Thickness range of 0.21-0.39m.	Topsoil within the grounds
002	1-2	Deposit	Moderately compacted, mid brown-orange/red sandy silt with moderate small to medium stone inclusions (more frequent stone inclusions in Test Pit 1). Thickness range of 0.31-0.36m.	Upper layer of naturally occurring subsoil within the site.
003	1-2	Deposit	Moderately compacted, light to mid orange sandy silt with frequent to very frequent small to medium sized rounded stone and occasional larger stone inclusions. Thickness range of 0.23-0.45m.	Naturally occurring subsoil within the site.
004	1	Deposit	Moderate to firmly compacted, light to mid red-orange silty sand with moderate to frequent small to medium sized rounded stone inclusions. Thickness 1.91m.	Naturally occurring subsoil within the site.
005	3	Deposit	Very compact, dark grey tarmac surface with possible concrete kerbing/slabbing present. Thickness unknown. Full extent unknown.	Remains of modern road associated with defunct area within the WWTW

Photographic Register

Image No.	Digital	Description	From	Date
01	0001	View of the WWTW	SE	31/05/16
02	0002	View of the WWTW	SE	31/05/16
03	0003	View of bore holing in progress close to the location of Test Pit 3	SW	31/05/16

Image No.	Digital	Description	From	Date
04	0004	View of Fairholm enclosure to the rear of the WWTW	W	31/05/16
05	0005	View of the field to the SW of the WWTW	NE	31/05/16
06	0006	View of the field to the SW of the WWTW	NE	31/05/16
07	0007	View of the field to the SW of the WWTW	NNW	31/05/16
08	0008	View of Fairholm enclosure	NW	31/05/16
09	0009	View of Fairholm enclosure	NW	31/05/16
10-46	-	Voided	-	-
47	0001	Pre excavation view of Test Pit 3 area	SW	07/06/16
48	0002	Pre excavation view of Test Pit 2 area	SSE	07/06/16
49	0003	Pre excavation view of Test Pit 1 area	SE	07/06/16
50	0004	Working shot near Test Pit 3	NE	08/06/16
51	0005	Post excavation view of Test Pit 3	ENE	08/06/16
52	0006	Post excavation view of Test Pit 3	SE	08/06/16
53	0007	Post excavation view of Test Pit 3	ENE	08/06/16
54	0008	Working shot of Test Pit 1	E	08/06/16
55	0009	Working shot of Test Pit 1	E	08/06/16
56	0010	Working shot of Test Pit 1	E	08/06/16
57	0011	Topsoil removed from Test Pit 1	ESE	08/06/16
58	0012	Topsoil removed from Test Pit 1	ESE	08/06/16
59	0013	Topsoil removed from Test Pit 1	ESE	08/06/16
60	0014	Test pit 1 excavated to a depth of 0.7-0.7m	ESE	08/06/16
61	0015	View of Scottish power pit within WWTW grounds	S	08/06/16

Image No.	Digital	Description	From	Date
62	0016	View of Test Pit 1 fully excavated (at 3m)	ESE	08/06/16
63	0017	View of Test Pit 1 fully excavated (at 3m)	ENE	08/06/16
64	0018	View of Test Pit 1 fully excavated (at 3m)	ENE	08/06/16
65	0019	Working shot of Test Pit 2	E	08/06/16
66	0020	Topsoil removed from Test Pit 2	E	08/06/16
67	0021	Working shot of Test Pit 2	ENE	08/06/16
68	0022	View of Test Pit 1 fully excavated (at 0.98m)	ENE	08/06/16
69	0023	View of Test Pit 1 fully excavated (at 0.98m)	ENE	08/06/16

Appendix 2: Discovery & Excavation in Scotland

LOCAL AUTHORITY:	Dumfries and Galloway
PROJECT TITLE/SITE NAME:	Lockerbie WWTW
PROJECT CODE:	RA16028
PARISH:	Dryfesdale
NAME OF CONTRIBUTOR:	Liam McKinstry
NAME OF ORGANISATION:	Rathmell Archaeology Limited
TYPE(S) OF PROJECT:	Watching brief
NMRS NO(S):	None
SITE/MONUMENT TYPE(S):	None
SIGNIFICANT FINDS:	None
NGR (2 letters, 8 or 10 figures)	NY 1252 8156
START DATE (this season)	31 st May 2016
END DATE (this season)	8 th June 2016
PREVIOUS WORK (incl. DES ref.)	Monitoring of a pipeline from the River Annan to the Lockerbie WWTW in 2005. (RA06027)
MAIN (NARRATIVE) DESCRIPTION: (may include information from other fields)	<p>A programme of archaeological monitoring works was required by Scottish Water for site investigation works carried out in advance of a programme of renovation and construction at the Lockerbie WWTW, Dumfries and Galloway. These archaeological works were designed to mitigate any adverse impact on any archaeological remains within the development area.</p> <p>The works consisted of a series of three small test pits which were excavated within the grounds of the WWTW. The test pits revealed no significant archaeological features or artefacts but they also demonstrated that certain areas within the grounds had been left relatively untouched by the construction of the WWTW. The possibility that unknown archaeological remains or remains relating to the nearby enclosure 'Fairholm Fort' and associated cropmarks may still be present in these relatively untouched areas cannot be ruled out.</p>
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS:	None
SPONSOR OR FUNDING BODY:	Scottish Water
ADDRESS OF MAIN CONTRIBUTOR:	Unit 8 Ashgrove Workshops, Kilwinning, Ayrshire KA13 6PU
E MAIL:	contact@rathmell-arch.co.uk
ARCHIVE LOCATION (intended/deposited)	Report to The National Trust for Scotland, West of Scotland Archaeology Service and archive to HES Collections

Contact Details

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

Rathmell Archaeology Ltd
Unit 8 Ashgrove Workshops
Kilwinning
Ayrshire
KA13 6PU

www.rathmell-arch.co.uk

t.: 01294 542848

f.: 01294 542849

e.: contact@rathmell-arch.co.uk

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