

NORTHLIGHT HERITAGE

Ravenspark **Sandy Road** REPORT: 52

PROJECT ID: 4305161

Irvine

DATA STRUCTURE REPORT | North Ayrshire



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North Ayrshire NGR: NS 3094 4073

Data structure report relating to recovery of human remains and subsequent archaeological and historical record-based investigation *Prepared for*

Dundas Estates and Development Co Ltd.

Cover Plate: Sieving a spoil heap to recover disarticulated bones in December 2012

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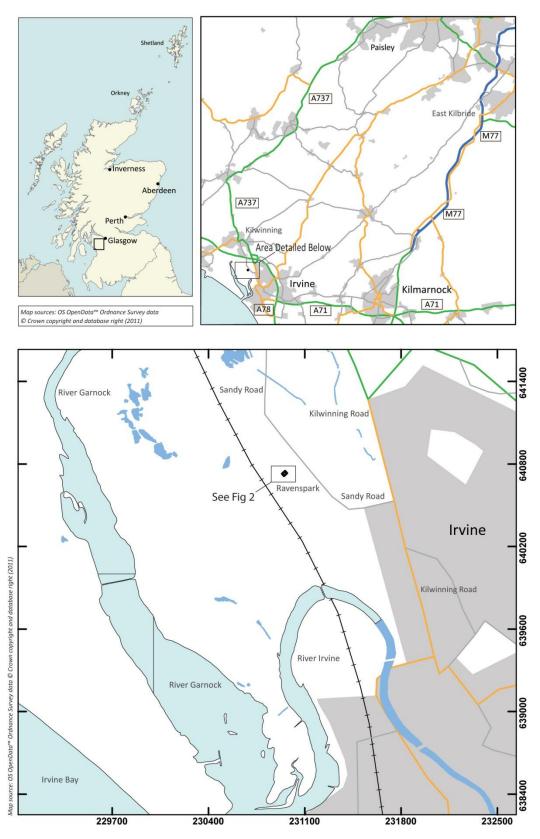


Figure 1: Site location

Abstract

Northlight Heritage undertook the recovery of human remains which had been disturbed during construction works at the site of the former Ravenspark Hospital, Irvine, North Ayrshire. This was followed by a controlled topsoil strip of the area which revealed the extent of the burials without further disturbance to in-situ graves, and a watching brief on ground disturbance works in the area to the east of the burials. The fieldwork was augmented by a rapid desk-based survey of the historical and map-based background to the site.

The fieldwork and research have shown that the area in question was used as an extension to an adjacent cemetery. The cemetery extension came into use in approximately 1910 with the final internment occurring in 1927. It is estimated that hundreds of individuals may be interred within this area, as over 80 graves were identified during topsoil stripping, and records for the institution indicate that the graveyard was re-used on a seven year cycle.

1. Introduction

1.1

This Data Structure Report (DSR) presents and orders the results of archaeological mitigation works and desk-based research undertaken by Northlight Heritage in December 2012 and January - February 2013. The project work was undertaken in response to the discovery of human bone, disturbed during construction works at the site of the former Ravenspark Hospital, Sandy Road, Irvine, North Ayrshire. The project was funded by the developer of the site, Dundas Estates and Development Co Ltd.

1.2

Initial police investigations, conducted with the assistance of Dr. Jennifer Miller (Forensic Archaeologist for Northlight Heritage) determined that the bones were not of criminal significance and so a program of archaeological work (termed 'Phase 1') was implemented to recover those human remains which had been disturbed, or partially disturbed, during their discovery (see section 6.1-6.4). Due to a desire to identify the extent and scale of the cemetery extension, a phase of archaeologically monitored topsoil/overburden removal (Phase 2.1) was subsequently implemented (see section 6.5-6.8), along with a rapid desk-based survey of historical records and maps (see section 3). An archaeological watching brief (Phase 2.2) was conducted on the mechanical excavation of material from the area adjacent to the cemetery extension and revealed no further burials.

2. Location, Geology and Topography

2.1

The proposed development site is located on the site of the former Ravenspark Hospital on Sandy Road, Irvine at NGR: NS 301 406 (Figure 1). The hospital was recently demolished as part of a redevelopment programme to construct housing on the site.

The site, at the time the fieldwork was conducted in December 2012 and January 2013, was fairly level brown-field, following the demolition of the hospital buildings. In the northern area, where the burials were discovered, a large excavation into underlying sand subsoil had been started, but discontinued at a depth of approximately 1.4 m below the ground surface (Figure 2 & Plate 1).



Plate 1: The burial area disturbed during construction works (area within police tape)

2.3

The underlying bedrock consists of 'Scottish Middle Coal Measures Formation', while the overlying superficial deposits are 'Raised Marine Deposits of Flandrian Age' (British Geological Survey). The overburden across the study area consisted of mixed topsoil and demolition materials up to 0.5 m thick. The natural subsoil consisted of fairly clean yellow sand.

3. Archaeological and Historical Context

by Dr. Anthony Russell

3.1

The Ravenspark Hospital on Sandy Road, Irvine began its existence as the Cunninghame Combination Poorhouse. ('Combination' refers to the fact that it served several North Ayrshire parishes and parochial boards). The original buildings were erected in 1857-58: there are no structures evident on the 1860 ordnance survey (OS) map, but the survey for that version was done in 1856. The first 4 'inmates' were admitted on 20 September 1858, and by the following year the poorhouse also received mentally disabled patients, with records indicating the first 'pauper lunatic' being admitted 28 March 1859. On the 1897 OS map several structures are indicated, including a lodge entrance.

The square enclosure in the northern corner of the grounds is not labelled as a cemetery at this time, although a report from General Superintendent of Poorhouses R.B. Barclay, following his visit in 1892, indicates the practice of burying unclaimed inmates in this walled-off space was long established. Despite the Superintendent's concerns about this state of affairs, the poorhouse management committee assured him this was standard practice for such institutions, that the area was separated from all other grounds on the premises, that the 508 square yards used for burial was of fine dry sand, and that they had received no complaints from relatives of the deceased or others. They further approved of expanding the area for burials if necessary and such expansion did occur in 1910. The 1911 OS map shows the original walled area now labelled as a Grave Yard, although as the survey for this version took place in 1908, no extension is evident.

3.3

In 1924 the facilities were re-named Cunninghame Home and in 1930 when control was transferred to the local authority, it was named Cunninghame Home and Hospital. It still appears to have performed a similar range of functions, containing a 106-bed hospital, elderly ward, mentally defective unit and separate asylum block.

3.4

In both the 1911 and 1947 OS maps, the graveyard is separated from the main conglomeration of buildings by a field and a rail line. The death register for the poorhouse indicates the last inmate to be buried on the grounds was on 3 August 1927. Thereafter, deceased are listed as either claimed by family or friends, or assigned to a specific cemetery plot in Irvine. This is corroborated by the minutes of both directors meetings, and meetings of the financial sub-committee, where all unclaimed bodies were reported to be buried at Knadgerhill Cemetery (Bannock Street, Irvine) per agreement between the institution and Irvine Town Council. In this arrangement, the institution was granted a section of the Knadgerhill Cemetery containing approximately 150 lairs. There was no charge for this use, other than "the usual internment dues."

3.5

The death register for the lunatic asylum is less informative, and does not include information on the deposition of the deceased, but as the committee meeting minutes speak of 'unclaimed dead' in general, it seems logical that no one was buried on the premises after August 1927. There were far fewer inmates in the asylum than in the poorhouse. For example, in 1912, 94 residents of the poorhouse died, 55 of which were buried on the property. In that same year, only one asylum inmate is recorded as having died. The ages for the deceased in that year range from 6 months to 96 years. The burial practice was to fill up the space allotted on a cycle of every seven years. In 1892, the initial enclosure was said to have been "gone over" twice during the current Governor's term of office. Such a palimpsest has been confirmed in our recovery fieldwork, where bodies have been found vertically aligned as much as 3-deep.

3.6

On the 1947 OS map a rectangular, walled enclosure immediately adjacent to the original graveyard on its southwest side is clearly marked as a Grave Yard (figure 2). The following year the NHS took

over operations of the facility, and in 1958 it was re-named Ravenspark Hospital. The 1967 OS map shows a similar arrangement of buildings, although there is no rail line on the grounds anymore, and the graveyard enclosures are no longer labelled, perhaps an indication that they had not only ceased functioning in this capacity, but that memory of its prior function was also on the wane. In this last incarnation Ravenspark operated as an elderly care unit and psychiatric ward, until it was finally closed in 1996.

4. Summary Objectives

4.1

The objective of the Phase 1 works (Appendix 2) was to recover any disarticulated human remains disturbed by the construction works. This included the recovery of material from the up-cast spoil as well as the excavation of burials which had been partially disturbed.

4.2

The Phase 2.1 works (Appendix 3) sought to identify and record the location of graves within the area thought to represent the cemetery extension through the removal of overburden from the site (the extents of which were as defined in the 1947 OS map). This also included the recovery of disarticulated skeletal material and the production of a drawing which provided a layout of the grave-cuts and identifies the likely extents of the cemetery extension (Figure 3).

4.3

Historical research was undertaken through visits to the library of the University of Glasgow and the Ayrshire Archives. A rapid search for material relating to the site was undertaken and sources were assessed and compiled for inclusion in this report. Historic ordnance survey maps were also consulted.

5. Methodology

Detailed methodologies can be found within the Project Design (Appendix 2) and Method Statement (Appendix 3) for Phases 1 and 2.1 respectively.

Phase 1 Methodology

5.1

The archaeological works began with a systematic walkover of the graveyard area (using the boundary marked upon the 1947 map as a search area, Figure 2) to recover disarticulated human remains from the site. Up-cast material disturbed from the area in which human remains were encountered was checked for human remains by sieving. Full excavation was undertaken of those burials which had been partially disturbed, but of which some part remained *in-situ*. Skeletons were excavated, photographed *in situ* and recorded by means of a *pro-forma* Skeleton Recording Sheet. The main area of machine disturbance was cleaned using hand tools to identify all affected inhumations. This recovery fieldwork was conducted between 10 and 19 December 2012.

Phase 2.1 Methodology

5.2

To identify the location of grave-cuts in the cemetery extension a systematic removal of topsoil/overburden was conducted under the supervision of a professional archaeologist(s). This revealed the surface of the sand into which the burials have been made and grave-cuts were located by measured survey. A mechanical excavator, fitted with a flat-bladed ditching bucket, systematically moved across the site, removing the topsoil/overburden in spits to the upper level of the sand subsoil, or to the point at which the supervising archaeologist could confirm the presence or absence of grave-cuts, whichever came first. Excavations were kept as shallow as possible, whilst still allowing for the identification of grave-cuts. The stripped area was archaeologically cleaned using hand-tools, where necessary, to define the location of grave-cuts. The Phase 2.1 work was undertaken between 16 and 22 January 2013.

Phase 2.2 Methodology

5.3

An area of sandy subsoil to the east of the graveyard extension was excavated using mechanical plant under the supervision of an archaeologist, following the methodology set out for Phase 2.1. The Phase 2.2 work was undertaken on 4 February 2013.

General Fieldwork Methodology

5.4

Recording during fieldwork was by means of written descriptions, scale drawings and photographs, where appropriate. No site plans were created, beyond two surveys of the area during Phase 1 and Phase 2.1. The surveys were made using a Leica 705 Total Station, and were used to produce a georeferenced drawing.

5.5

All fieldwork was undertaken in a manner to ensure that (where possible) further inhumations were not disturbed and the complete remains of any disturbed burial were recovered. Prescribed procedure for the treatment of human remains as set out within Historic Scotland's 'The Treatment of Human Remains in Archaeology' (2006) was followed throughout.

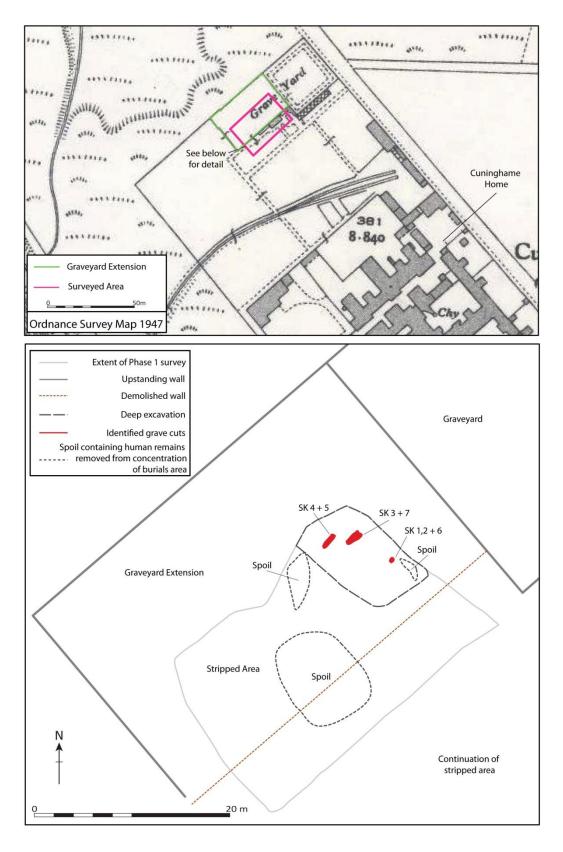


Figure 2: OS map published in 1947 (but surveyed in 1938), and site plan of *Phase 1* works

6. Results

Phase 1: Recovery

6.1

The recovery operation recovered a large quantity of human bone from the site, primarily from the sieving of a large spoil heap which comprised material disturbed by a mechanical excavator prior to the identification of human remains. Further specialist analysis will establish the number of individuals recovered (see section 8). An initial sweep of the area recovered human bone, focused around the spoil heap and stripped area (Figure 2). Within the eastern, deepest, part of the stripped area a total of eight partially disturbed burials and associated grave-cuts were identified.

6.2

Three partially disturbed burials (SK 1, 2 & 6) were identified in the northern section face of the disturbed area (Figure 2 & Plate 2). All three of these individuals had been disturbed from the pelvis down by the machine. Two of these individuals (SK 2 & 6) had been interred within a single grave cut. The second body (SK2) had been laid directly on top of the first (SK6), both in a supine position. A later grave cut was them made in this location, effectively re-opening the grave to the level of the top of SK2) and the third individual (SK 1) was then buried in a supine position.



Plate 2: SW facing section of SK1, 2 & 6

Two graves (SK 3 & 7) were identified side by side at the bottom of the deepest area of machine disturbance. SK 3 appeared to be the earlier of the two burials, although both had been significantly machine-disturbed from the pelvis down, making interpretation of this relationship difficult. SK3 was buried in what appears to be a supine position and was noted to have a somewhat abnormal skull with small facial features, perhaps an indication of Down's Syndrome (specialist analysis would be required to confirm this). SK 7 was located immediately to the SE of SK 3 and appears to have been interred within a coffin, as staining of the sand was noted.



Plate 3: SK 3 (left) and SK 7 (right) during excavation

6.4

Two further skeletons (SK 4 & 5) had been interred within a single grave at the western end of the area of machine disturbance. As with the burials SK2 & 6, it appears that one body was laid directly on top of the other. The outline of a coffin was visible as staining in the sand (Plate 4) although it is unclear whether both individuals had been interred in a single coffin, or whether one coffin had been laid on top of another in the same grave.



Plate 4: Coffin staining revealed after the removal of SK 4 & 5

Phase 2.1: Topsoil Strip and Survey - Cathy MacIver

6.5

During the topsoil strip 78 negative cut features were identified, each likely to represent graves (making a total of 81 graves identified across Phases 1 & 2.1). These features varied in size from 1.9 m by 0.45 m up to 2.1 m by 0.7 m in plan, and were broadly arranged in five main rows running the length of the graveyard extension from north to south. The graves were oriented NE/SW. A further 4 large negative cut features were also identified, likely to represent pits, and perhaps used for multiple burials. These ranged from 2 m by 4 m up to 6 m by 6 m, and were situated around the edges of the graveyard. Some of the smaller grave-cuts were also arranged around the edges of the graveyard. Grave-cuts were visible after approximately 1.4-1.5 m of overburden had been removed from the northern end of the site, while at the southern end graves became visible at approximately 1.2 m below the current ground surface. A small quantity of disarticulated human remains was collected from the layers above this.

6.6

Across the site were a series of linear channels, probable cultivation furrows, running roughly northwest-southeast and filled with topsoil. These were directly overlying the graves and had truncated the upper layers of some of them. An earlier phase of cultivation furrows was evident in the centre of the graveyard which some graves were cut into. This indicates there may have been an initial phase of cultivation, followed by the site's use as a graveyard, which in turn was followed by a second phase of cultivation after the graveyard went out of use.

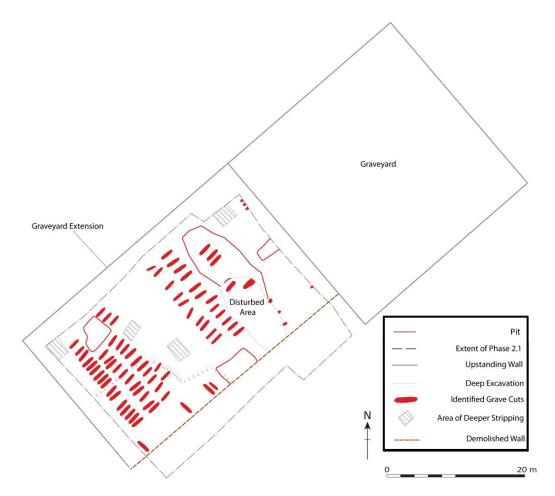


Figure 3: Phase 2.1 survey of graveyard following topsoil strip

The stripped area was extended 4-6 m, where possible, across the foundations of the graveyard wall to the southeast of the site to ascertain if there were any graves immediately on the other side of the wall. Only four small pieces of disarticulated human remains were found, all within cultivation furrows, demonstrating that some disturbance of graves has taken place in the past. However no grave cuts were identified in this strip to the south of the extension wall so it seems likely that this material has been disturbed from the graveyard itself

6.8

The stripped area fell short of the interior edges of the graveyard wall on the SW, NE and NE sides by approximately 2-3 m in places (see Figure 3) due to wall instability and the presence of an electrical cable round the edge of the site. As a result some of the grave cuts identified were partial and appeared to extend outside the edge of the stripped section. Due to the pattern of grave cuts it is likely there are further grave cuts not yet identified in an outer row along the edges of the graveyard.

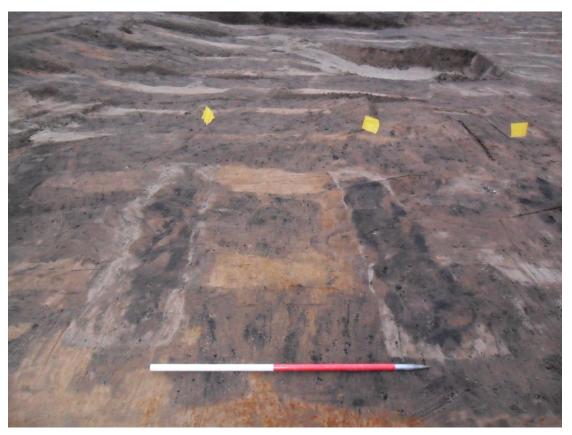


Plate 5: Graves uncovered during the Phase 2.1 topsoil strip

Phase 2.2: Watching Brief - Aoife Gould

6.9

Phase 2.2

On Monday the 4th of February 2013, an area measuring c. 20m x 5m adjacent to the SE of the cemetery extension was stripped of overburden under archaeological supervision. This area was stripped to the surface of the natural sand in order to investigate the potential for the presence of any skeletal remains or grave cuts relating to the previously identified cemetery. The overburden consisted of rubble from previous demolition on the site, and contained various items of iron and plastic. An additional single bucket-width trench was also excavated to the SE. During this stripping, no human remains or evidence for further grave cuts were identified.

7. Discussion

7.1

It is clear from the results of the Phase 1 & 2.1 fieldwork and the historical research that the area marked as part of the graveyard on the Ordnance Survey map of 1947 was indeed an extension to the known graveyard in the northern corner of the development site. The records suggest that hundreds of individuals were interred here between 1910 and 1927 (55 in 1912 alone!), and this figure is to some degree borne out by the fieldwork.

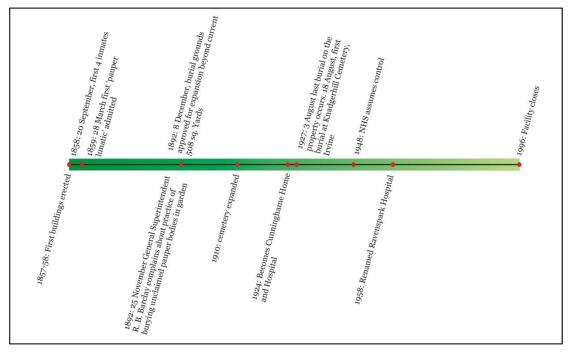


Figure 4: Ravenspark timeline

7.2

Whilst further excavation would be required to determine whether or not the large pits identified during the Phase 2.1 survey were indeed used for multiple burials and, if so, what number of individuals had been interred within each feature, the combination of obscured grave cuts, possible burial pits, and the identification during Phase 1 of multiple burials in one cut, indicate that the number of individuals buried in the graveyard is indeed likely to be higher than the 81 identified graves suggest.

7.3

The suggested practice of re-digging the cemetery every seven years (see paragraph 3.5) was not clearly identified during the fieldwork. Whilst the Phase 1 fieldwork identified re-cutting of graves in a single location, the Phase 2.1 fieldwork identified a relatively organised graveyard where no intercutting graves were evident. One possible explanation of this might be that the locations of the graves were known fairly exactly. They may have been marked in some way on the ground to allow an individual lair to be re-opened. The large pits may also have a part to play in the re-use of the area for burial, although without further excavation it is impossible to demonstrate this.

The use of this second walled area as a graveyard represents the last period in which burial is taking place at Ravenspark, a practice that seems to have been stopped by 1927. This does not rule out the possibility of further burials in the broader area (either earlier or later) but does suggest that such burials would be unlikely.

7.4

The Phase 2.1 topsoil strip identified the presence of cultivation marks, shallow furrows which crossed the area and were likely related to the growing of crops. As some graves had been cut through cultivation furrows we know that some cultivation occurred on the site before or during the time that graves were dug here. The discovery of further cultivation marks which actually cut through earlier graves shows that cultivation also took place during or after the period in which graves were being dug here. One interpretation of all this could be as follows:

Table 1: Cultivation and burial timeline

7.5

All of the excavated burials appeared to have been buried in a traditionally Christian manner: on their backs with legs extended. The orientation of the graves appears to have been related to the orientation of the graveyard space, with the majority orientated NE/SW. Typically Christian burials would be oriented E/W, although variations from this are not uncommon and the Christian practice of placing the head of the individual to the east, and the feet to the west, was observed in the excavated examples. The grouping of four NW/SE aligned (probable) graves at the south-eastern corner of the site is anomalous and may reflect an attempt to avoid disturbing other burials, or that another reason was present for an alternate approach to be applied to these burials.

Summary

7.6

The archaeological recovery fieldwork conducted in late 2012 has mitigated, to the best degree possible, the damage done to the burials at Ravenspark. The following phase of topsoil stripping has demonstrated the existence of a substantial graveyard within the formerly walled area, as shown on the OS map of 1947. By conducting historical and map-based research we have established that the cemetery extension was in use for a period of 17 years between 1910 and 1927, in which time there is the potential for hundreds of individuals to have been interred here.

8. Recommendations

8.1

Due to the extent of the cemetery it is recommended that no further construction work be conducted within the formerly walled graveyard extension (as identified in Figure 2) without further mitigation measures imposed. Any work which requires the exhumation of human remains likely requires a permit to disinter, and legal advice should be taken on this matter.

8.2

The bones recovered during the fieldwork, both articulated and disarticulated, represent an interesting assemblage relating to a distinct group of people from the relatively recent past. As the graves appear not to have been marked with gravestones, or to have been plotted on any kind of lair map, it is unlikely that the individual identities of these people will ever be known. A short programme of human remains analysis will be conducted to identify the total number of individuals present within the recovered material. As part of this process a short report will be produced as addenda to this document. The analysis may also shed some light on the pathology of the individuals recovered.

8.3

It is recommended that the bones be re-interred on, or as close as possible, to their original location. The details of re-internment should be discussed following osteological analysis (as described in section 8.2 above). For the time being bone will be stored at Northlight Heritage's Dickson Laboratory in Glasgow.

8.4

Northlight Heritage would also recommend that some form of public dissemination be achieved, particularly as the site has been the subject of public and press scrutiny. This could be through the production of a leaflet, booklet or poster which documents the discoveries reported here, or through a public lecture or event.

9. List of Sources

British Geological Survey (http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html) accessed 15 January 2012.

Historic Scotland 2006 *The Treatment of Human Remains in Archaeology,* Historic Scotland Operational Policy Paper 5, Edinburgh.

Levitt, I. 1988 *Government and Social Conditions in Scotland 1845 - 1919*. Edinburgh: Scottish History Society.

Ayrshire Archives, Auchincruive HQ, Records Consulted 29 January 2013:

AA 2/5/27: Cuninghame Poorhouse Death Register, 1912 – 1963

AA 2/5/28: Lunatic Asylum Death Register, 1859 – 1966

AA 2/5/9: Lunatic Register

AA 2/1/6: Poorhouse Committee Minute Book, 1924 – 1930

CO3 65/1/4: Poorhouse Minute Book, 1882 – 1895

C03 65/1/8: Poorhouse Minute Book, 1920 – 1928

http://www.workhouses.org.uk/Cunninghame/

10. Appendices

APPENDIX 1 – Concordances

Table 2: Phase 1 recovery photographs

No.	Description	Taken From
1	General shot	SE
2	General shot	S
3	General shot	E
4	General shot	E
5	General shot	NE
6	General shot	NE
7	General shot	NE
8	General shot	N
9	General shot	NE
10	General shot	N
11	General shot	\
12	General shot	\
13	General shot	W
14	General shot	NW
15	General shot	SW
16	General shot	W
17	General shot	NW
18	General shot	NNW
19	General shot	SW
20	General shot	SW
21	Commencing walkover survey for bone recovery	\
22	Commencing walkover survey for bone recovery	\
23	SK 1 after cleaning	SW
24	SK 3	S
25	SK 3	S
26	SK 3	S
27	SK 3 detail	S
28	SK1 top of skull	\
29	SK1 top of skull	\
30	SK 1 in section	SW
31	SK 4 in section	NW
32	SK 4 in section	NW
33	SK 4 in section	NW
34	SK 4 in section	NW
35	SK 1 in section	SW
36	SK1 and SK 2	\
37	SK1 and SK 2	\
38	SK 2 in section	SW
39	SK 2 in section	SW
40	SK 2 detail	SW
41	SK 4 & 5 in section	NW
42	SK 4 & 5 in section	NW
43	SK 4 & 5 in section	NW
44	View from spoil heap	
45	View from spoil heap	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
46	View from spoil heap	\

47 View from spoil heap \ 48 SK 4 & 5 after extraction NW 49 SK 4 & 5 after extraction NW 50 SK 2 after cleaning SW 51 SK 2 detail SW 52 General shots \ 53 General shots \ 54 General shots \ 55 General shots \ 56 General shots \ 57 General shots \ 59 General shots \ 60 General shots \ 61 SK 6 after extraction \ 62 Disarticulated bone and SK 6 SW 63 Disarticulated bone and SK 6 SW 64 SK 6 after extraction SE 65 SK 6 after extraction SE 66 Post-ex of slot containing SK 1, 2 & 6 SE 67 Working shot (SK 3 & 7) SE 68 Working shot (SK 3 & 7) S 70			
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Table 3: Photographs from Phase 2.1 & 2.2 (numbers start at 373)

No.	Description	Taken From
373	General view before work commenced	NW
374	General view before work commenced	NW
375	General view before work commenced	NW
376	General view before work commenced	N
377	General view before work commenced	N
378	General view before work commenced	N
379	DELETED	VOID
380	Cultivation marks overlying graves	N
381	Cultivation marks overlying graves	N
382	DELETED	VOID
383	DELETED	VOID
384	DELETED	VOID
385	DELETED	VOID
386	DELETED	VOID
387	DELETED	VOID
388	DELETED	VOID

Cultivation marks overlying graves	S
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Strip beyond extension wall foundations	E
Strip beyond extension wall foundations	Е
Strip beyond extension wall foundations	E
Record shots after stripping complete	SE
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Record shots after stripping complete	SE
Survey and Recording	SE
Survey and Recording	SE
	Strip beyond extension wall foundations Strip beyond extension wall foundations Record shots after stripping complete Record shots after stripping complete Record shots after stripping complete Survey and Recording

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441	Rubble over natural sand	SW
442	SW area after stripping	Ν
443	NE area after stripping	W
444	Narrow trench to SE	SE
445	Area under BT pipes after stripping	NW

APPENDIX 2 – Phase 1 Project Design

1. Introduction

1.1

This document sets out a scheme to effect archaeological recovery of human bone disturbed during construction works at the site of the former Ravenspark Hospital, Sandy Road, Irvine. The document establishes actions and products required to achieve Phase 1 of a potentially four-stage process. Phase 2 will cover any further fieldwork conducted on the site and may include partial or full archaeological excavation of the graveyard and any other mitigation strategies to be employed (such as archaeological watching brief), although it may prove necessary to apply for a 'Warrant to Disinter' prior to such works and legal advice should be taken on this issue. A strategy for any Phase 2 works will be devised and presented within an additional project design document. Phase 3 may be defined as the further analysis of any materials recovered during the Phase 1 & 2 field work, the preparation of a final report (if required) and the archiving of all materials (excluding the human remains themselves). Phase 4 represents the deposition of the recovered human remains in whatever form is deemed appropriate, such as reburial on the site.

2. Background

2.1

The proposed development site is located on the site of the former Ravenspark Hospital on Sandy Road, Irvine at NGR: NS 301 406. Human remains were identified within an area at the northern corner of the site at NGR: NS 3094 4073.

2.2

During excavation of an area for the insertion of a large water tank and services relating to the construction of new housing on the site, a quantity of human remains representing no less than ten individuals were disturbed (based upon the number of skulls currently recovered, it should be stated that the number of individuals is likely to be higher than this although specialist analysis would be required to produce a total number). Following police and forensic investigation these remains were deemed not to be of police interest and that they most likely form part of an extension to the small walled graveyard which is located in the northern corner of the site.

2.3

The previous use of the site was originally as a poorhouse, dating to the mid nineteenth century, but the site was subsequently used as a geriatric and psychiatric hospital. Ordnance survey mapping from the 1910's shows that the northern corner of the site was used as a graveyard, an area which is demarcated by stone walls and has been preserved by the developer for this reason. However, mapping from the 1940's suggests that this graveyard may have been extended at some point in the intervening period outwith the walled area to the southwest, into the area in which human remains have now been found. Indications are that the graveyard functioned as a place of burial for those people who died at the poorhouse and whose bodies were not claimed for burial elsewhere. As such there appear to be no gravestones or other markers associated with the burials.

3. Aims & Objectives

3.1

The Phase 1 works will seek to recover any disturbed human remains in the area of the proposed development. This will include recovery of all disarticulated skeletal material and excavation and recovery of any partially disturbed in-situ burials.

4. Methodology

4.1

The archaeological works will begin with a systematic walkover of the graveyard area (using the boundary marked upon the 1940's map as a search area – hereafter referred to as 'the site') to recover any disarticulated human remains from the site. The walkover will follow a gridded pattern set out with tapes and will be conducted by professional archaeologists.

4.2

A spoil heap currently on the site contains all of the up-cast material disturbed from the area in which human remains were encountered. This material will be checked for human remains by setting up a sieve system through which the up-cast material will be processed by an archaeologist. All human bone or material likely to relate to the burials will be recovered. Following processing, 'clean' soil will be removed from the site to a new spoil-heap (as specified by the contractor).

4.3

Full excavation will be undertaken of those burials which have been partially disturbed but of which some part remains *in-situ*. The skeleton will be carefully excavated, photographed *in situ* and planned at a scale of 1:10. Recording would be by means of a Northlight *pro-forma* Skeleton Recording Sheet. This will be undertaken in a manner to ensure that (where possible) further inhumations are not disturbed and the complete remains of any disturbed burial are recovered. In the course of this work the main area of machine disturbance will be cleaned using hand tools to identify all affected inhumations. These excavations will only be conducted where it is safe to do so in accordance with the contractor and Northlight Heritage's health and safety policies.

4.4

Recording will be by means of written descriptions, scale drawings and photographs. Site plans will be made at 1:20 or 1:50 and sections and detail plans at 1:10. Sampling will involve recovery of up to 10 L bulk samples from any archaeologically significant features.

4.5

Topsoil and spoil from the excavations will be stored outside the site. Any areas which require to be excavated to a depth greater than 1.2 m, or potentially shallower in the event of unstable deposits, will be stepped or battered as required for safety reasons.

Further details of Phase 2 work programmes cannot be developed until such time as the Phase 1 work has taken place and/or further discussions are held regarding the undisturbed parts of the site. The detailed methodology to be employed during Phase 2 excavations and Phase 3 post excavation analysis will be specified in addenda to this document, to be called a Phase 2 project design and Phase 3 post- excavation research design respectively. These addenda will be taken to amend and update this project design. Any such documents will be submitted by the developer for consultation with the planning authority (and the West of Scotland Archaeology Service (WOSAS)) prior to the commencement of any archaeological work specified.

4.7

Prescribed procedure for the treatment of human remains as set out within Historic Scotland's 'The Treatment of Human Remains in Archaeology' (2006) will be followed throughout.

4.8

The developer, or the developer's designated agent, will be notified immediately of any unexpectedly significant or complex discoveries, or other unexpected occurrences which might significantly affect the archaeological work and/or the development. In that event all finds and features will be left in situ until arrangements have been agreed for safeguarding or recording them.

4.9

The archaeological project manager, Alastair Becket, will be the first point of contact for any project-related liaison with the developer or the developer's agent for all formal logistical, administrative and financial issues related to the Phase 1 works. It will be important to ensure that all formal communication, requests (including any proposed amendments to on-site strategies) and contacts be made, ultimately in writing and in the first instance to the project manager (as opposed to other members of the on-site team), to ensure organisational, administrative and financial efficiency.

5. Programme

It is estimated that the Phase 1 recovery will require a two-week programme of fieldwork.

Earliest Start Date: 10 December 2012

Hours of Work: 0800-1630 (light and weather conditions permitting)

6. Staffing and Plant

Project Manager Alastair Becket (telephone: 07432694182)

Site Assistants TBC

A total of four experienced archaeologists, including the project manager, will be required to carry out the works in accordance with the programme outlined above. Curriculum vitae of staff members will be available on request.

7. Reporting

7.1

The Phase 1 results will be presented in the form of a data structure report, although should Phase 2 excavation work be required then both Phase 1 & 2 will be reported within a single document following the completion of Phase 2 fieldwork. The generation of this document will allow determination of whether or not there is a requirement for further archaeological work arising from the excavation fieldwork and it is at that stage that a Phase 3 post excavation research design will require to be prepared.

7.2

The data structure report will be prepared to the standards for such documents as defined by Historic Scotland, in their "Project Design, Implementation and Archiving" document (Historic Scotland Archaeological Procedure Paper 2, 1996). The reports will provide "a structure or organisation to the primary records" of the fieldwork". It will be "essentially, an initial organisation on paper of the information retrieved from the site" and consist "of a narrative account of the contexts...discovered, including field interpretations and a set of lists. It is not intended for publication, but will itself be archived." The report will outline the main results of the evaluation fieldwork and incorporate lists of all features, finds, samples, photographs and drawings. It will be produced as a desk-top published document and disseminated in hard copy and digital formats where appropriate.

7.3

A short report detailing the results will also be submitted for publication in Discovery and Excavation in Scotland and recorded and reported via the online OASIS Form.

7.4

Copies of the excavation report will be provided to the developer, to WOSAS and to the National Monuments Record for Scotland. Further copies can be distributed to other recipients if requested and specified.

7.5

The project archive will be prepared and made ready for submission within six months of the completion of all fieldwork or post-excavation work (as appropriate). The resultant site archive will be deposited with the National Monuments Records for Scotland.

7.6

The laws relating to Treasure Trove and Bona Vacantia in Scotland apply to all finds where the original owner cannot be identified. This includes all material recovered during archaeological fieldwork. Accordingly, all assemblages recovered from archaeological fieldwork are claimed automatically by the Crown and must be reported to the Scottish Archaeological Finds Allocation Panel through its secretariat, the Treasure Trove Unit. In the event of the discovery of small finds, a filled-out copy of

the form "Declaration of an Archaeological Assemblage from Fieldwork" and two copies of the pertinent Data Structure Report will be submitted to the Panel at the conclusion of the fieldwork. The Panel will then be responsible for recommending to the Queen's and Lord Treasurer's Remembrancer (QLTR) which museum should be allocated the finds.

7.7

All artefacts will be stored temporarily until a decision has been made by the Panel regarding the museum which will be allocated the finds for permanent curation. All finds will be transferred to the appropriate museum within six months of completion of the fieldwork, if no post-excavation work is required, or at the end of the latest finishing post-excavation programme.

7.8

In the event that unallocated finds recovered from the site require to be removed from Scotland, for the purposes of post-excavation analysis, there is a legal requirement to obtain the consent of the QLTR, in the form of a loan agreement. Initially, an indication of intent would be registered with the Treasure Trove Secretariat at the National Museums of Scotland, after which formal consent would be applied for using the form "Application for authority to borrow unallocated Treasure Trove for research purposes". A consent form, signed by the QLTR and specifying conditions (such as the period during which finds may be held outside Scotland) would then be issued. Receipt of this signed consent form will be required before items may be removed from the country.

7.9

The results of fieldwork may lead to a requirement for further post-excavation analysis and publication of results (Phase 3). A post-excavation strategy, including timescales and cost implications can only be prepared following the completion of <u>all</u> archaeological field work (i.e. Phase 1 & 2 work as specified in this document).

7.10

As the removal of human bone from the site has already taken place and further fieldwork shall also remove human bone from the site a fourth phase of the project will address the deposition of this material. This could involve the re-internment of human remains on the site or an alternate strategy which may be developed in discussion with relevant stakeholders and the developer having taken legal advice. Any human remains recovered from the site will be safely stored in Northlight Heritage's Dickson Laboratory until the means of deposition are agreed.

8. Archiving / Finds Deposition

The resulting site archive will be deposited with the NMRS following the completion of all work (Phases 1 - 4). Any small finds recovered will be submitted to the Treasure Trove Unit in accordance with Scot's Law.

9. Health and Safety

The project will be conducted in accordance with health and safety legislation and with the standards and guidance governing archaeological fieldwork set down in the IFA approved Health and Safety in Archaeological Fieldwork document prepared by SCAUM. A risk assessment will be prepared and submitted to the client prior to fieldwork commencing. As there are some contamination issues on the site and there is a potential risk of disease from human remains, suitable PPE will be worn to protect staff (as specified within the Northlight Heritage risk assessment for the project).

10. Welfare Arrangements

The contractor's site cabins with canteen facilities, toilet and hand washing facilities are to be made available for shelter when required and for breaks from work (i.e. lunch).

11. Access Arrangements

The developer owns the site and access is through their site compound on Sandy Road.

12. Bibliography

Historic Scotland 2006 *The Treatment of Human Remains in Archaeology,* Historic Scotland Operational Policy Paper 5, Edinburgh.

APPENDIX 3 – Phase 2.1 Method Statement

1. Introduction

1.1

This document sets out a method for the removal of topsoil and overburden from the site of a likely extension to the cemetery at the site of the former Ravenspark Hospital, Sandy Road, Irvine. The discovery of human bone, disturbed during construction works at the site, led to the implementation of a (Phase 1) program of bone recovery, as specified within the appended Project Design (appendix 1). Due to a desire to identify the extent and scale of the cemetery, a phase of archaeologically monitored topsoil/overburden removal has been planned. This document establishes actions and products required to achieve this, which will be considered Phase 2.1 of a potentially four-stage process (Phase 2.2 being any further fieldwork required, and Phases 3 & 4 representing analysis, reporting and deposition, as described in appendix 1).

The method described below is specifically designed to avoid any further disturbance of in-situ human remains. The focus of the Phase 2.1 work will be the identification and survey of grave-cuts, leading to the production of a drawing which will show the extents of the cemetery and an indication of the number of individuals present to further inform decisions regarding future construction works on the site. However, as Phase 1 recovery work has shown, multiple individuals are known to have been buried in single grave-cuts, so establishing a definitive number of individuals buried within the cemetery will not be possible without further fieldwork.

2. Background

2.1

The proposed development site is located on the site of the former Ravenspark Hospital on Sandy Road, Irvine at NGR: NS 301 406.

2.2

During excavation of an area for the insertion of a large water tank and services relating to the construction of new housing on the site, a quantity of human remains representing an estimated 20-40 individuals were recovered (specialist analysis is required to produce a total number) within an area at the northern corner, at NGR: NS 3094 4073. These burials most likely form part of an extension to the small walled graveyard which is located in the northern corner of the development site.

2.3

The previous use of the site was originally as a poorhouse, dating to the mid nineteenth century, but the site was subsequently used as a geriatric and psychiatric hospital. Ordnance survey mapping from the 1910's shows that the northern corner of the site was used as a graveyard, an area which is demarcated by stone walls and has been preserved by the developer for this reason. However, mapping from the 1940's suggests that this graveyard may have been extended at some point in the

intervening period outwith the walled area to the southwest, into the area in which human remains have now been found.

2.4

Indications are that the graveyard functioned as a place of burial for those people who died at the poorhouse and whose bodies were not claimed for burial elsewhere. As such there appear to be no gravestones or other markers associated with the burials. The Phase 1 bone recovery work identified that multiple individuals were present within single graves and that some individuals were buried within coffins, although the preservation of wood on the site was poor.

3. Aims & Objectives

3.1

The Phase 2.1 works will seek to identify and record the location of graves within the area thought to represent the cemetery extension. This may also include recovery of any disarticulated skeletal material identified within overburden deposits.

3.2

Phase 2.1 will conclude with the production of a drawing which provides a layout of the grave-cuts and identifies the likely extents of the cemetery extension. This drawing will be incorporated into a report which also includes the results of Phase 1 bone recovery as well as historical and map-based research which has yet to be conducted.

4. Methodology

4.1

To identify the location of grave-cuts in the cemetery extension a systematic removal of topsoil/overburden will be conducted under the supervision of a professional archaeologist(s). This work will reveal the surface of the sand into which the burials have been made. Any grave-cuts should be visible at this level, and will then be located by measured survey.

4.2

The process of topsoil/overburden removal will be conducted under the supervision of the lead archaeologist. A mechanical excavator, fitted with a flat-bladed ditching bucket, will systematically move across the site, removing the topsoil/overburden in spits to the upper level of the sand subsoil, or to the point at which the supervising archaeologist can confirm the presence of absence of gravecuts, whichever comes first. Excavations will be as shallow as possible, whilst still allowing the identification of grave-cuts.

4.3

Topsoil and overburden from the excavations will be removed from the site, ideally via a dumper as the work progresses. Once areas are cleaned of topsoil/overburden they may not be crossed by plant

or personnel unless the lead archaeologist says it is appropriate to do so. In the event that unstable deposits or features (boundary walls, for example) are encountered, trench edges will be stepped or battered as required for safety reasons.

4.4

The stripped area will be archaeologically cleaned, where necessary, to define the location of gravecuts. This will be undertaken by the lead archaeologist (and an assistant, if necessary) using handtools.

4.5

There is a chance that human bone may be encountered during the work. This is most likely going to be disarticulated material contained within the overburden deposits (material disturbed by earlier activity on site), in which case the bone will be removed from the site by the archaeologist and kept with the material already recovered from the Phase 1 works. In the event that in-situ remains are uncovered, excavation work in that area will immediately halt until the grave's location can be recorded and the burial covered over.

4.6

Survey will be conducted following the completion of the topsoil/overburden removal, and will be conducted by the archaeologist and a site assistant. The survey will be made using a Leica Total Station, or equivalent, and will be used to produce a geo-referenced drawing which shows the extent and number of the grave-cuts.

4.7

All works will only be conducted where it is safe to do so, in accordance with the contractor and Northlight Heritage's health and safety policies. Human bone will only be handled whilst wearing gloves.

4.7

Recording will be by means of written descriptions, scale drawings and photographs.

4.8

Further details of Phase 2.2 work programmes cannot be developed until such time as the Phase 2.1 work has taken place and/or further discussions are held regarding the site. The detailed methodology to be employed during any Phase 2.2 excavations and Phase 3 post-excavation analysis will be specified in addenda to this document, to be called a Phase 2.2 project design and Phase 3 post-excavation research design respectively. These addenda will be taken to amend and update this method statement. It is recommended that any such documents be submitted by the developer (or by Northlight Heritage on their behalf) for consultation with the planning authority (and the West of Scotland Archaeology Service (WOSAS)) prior to the commencement of any archaeological work specified.

4.7

Prescribed procedure for the treatment of human remains as set out within Historic Scotland's 'The Treatment of Human Remains in Archaeology' (2006) will be followed throughout.

The developer, or the developer's designated agent, will be notified immediately of any unexpectedly significant or complex discoveries, or other unexpected occurrences which might significantly affect the archaeological work and/or the development. In that event all finds and features will be left in situ until arrangements have been agreed for safeguarding or recording them.

4.9

The archaeological project manager, Alastair Becket, will be the first point of contact for any project-related liaison with the developer or the developer's agent for all formal logistical, administrative and financial issues related to the Phase 2.1 works. It will be important to ensure that all formal communication, requests (including any proposed amendments to on-site strategies) and contacts be made, ultimately in writing and in the first instance to the project manager (as opposed to other members of the on-site team), to ensure organisational, administrative and financial efficiency.

5. Programme

It is estimated that the Phase 2.1 topsoil/overburden removal will require a one-week programme of fieldwork.

Earliest Start Date: 16 January 2013

Hours of Work: 0830-1630 (light and weather conditions permitting)

6. Staffing and Plant

Project Manager Alastair Becket (telephone: 07432694182)
Lead Archaeologist/Surveyor Cathy MacIver (telephone: 07845849241)

Site Assistant TBC

A total of two experienced archaeologists (Lead archaeologist, and (for at least one day) a site assistant) will be required to carry out the works in accordance with the programme outlined above. Curriculum vitae of staff members will be available on request.

7. Reporting

7.1

The Phase 2.1 results will be presented in the form of a data structure report, along with the results of the Phase 1 fieldwork and basic historical and map research.

7.2

The data structure report will be prepared to the standards for such documents as defined by Historic Scotland, in their "Project Design, Implementation and Archiving" document (Historic Scotland Archaeological Procedure Paper 2, 1996). The reports will provide "a structure or organisation to the primary records" of the fieldwork". It will be "essentially, an initial organisation on paper of the information retrieved from the site" and consist "of a narrative account of the contexts...discovered,

including field interpretations and a set of lists. It is not intended for publication, but will itself be archived." The report will outline the main results of the evaluation fieldwork and incorporate lists of all features, finds, samples, photographs and drawings. It will be produced as a desk-top published document and disseminated in hard copy and digital formats where appropriate.

7 3

A short report detailing the results will also be submitted for publication in Discovery and Excavation in Scotland and recorded and reported via the online OASIS Form.

7.4

Copies of the excavation report will be provided to the developer, to WOSAS and to the National Monuments Record for Scotland. Further copies can be distributed to other recipients if requested and specified.

7.5

The project archive will be prepared and made ready for submission within six months of the completion of all fieldwork or post-excavation work (as appropriate). The resultant site archive will be deposited with the National Monuments Records for Scotland.

7.6

The laws relating to Treasure Trove and Bona Vacantia in Scotland apply to all finds where the original owner cannot be identified. This includes all material recovered during archaeological fieldwork. Accordingly, all assemblages recovered from archaeological fieldwork are claimed automatically by the Crown and must be reported to the Scottish Archaeological Finds Allocation Panel through its secretariat, the Treasure Trove Unit. In the event of the discovery of small finds, a filled-out copy of the form "Declaration of an Archaeological Assemblage from Fieldwork" and two copies of the pertinent Data Structure Report will be submitted to the Panel at the conclusion of the fieldwork. The Panel will then be responsible for recommending to the Queen's and Lord Treasurer's Remembrancer (QLTR) which museum should be allocated the finds.

7.7

All artefacts will be stored temporarily until a decision has been made by the Panel regarding the museum which will be allocated the finds for permanent curation. All finds will be transferred to the appropriate museum within six months of completion of the fieldwork, if no post-excavation work is required, or at the end of the latest finishing post-excavation programme.

7.8

In the event that unallocated finds recovered from the site require to be removed from Scotland, for the purposes of post-excavation analysis, there is a legal requirement to obtain the consent of the QLTR, in the form of a loan agreement. Initially, an indication of intent would be registered with the Treasure Trove Secretariat at the National Museums of Scotland, after which formal consent would be applied for using the form "Application for authority to borrow unallocated Treasure Trove for research purposes". A consent form, signed by the QLTR and specifying conditions (such as the period during which finds may be held outside Scotland) would then be issued. Receipt of this signed consent form will be required before items may be removed from the country.

The results of fieldwork may lead to a requirement for further post-excavation analysis and publication of results (Phase 3). A post-excavation strategy, including timescales and cost implications can only be prepared following the completion of <u>all</u> archaeological field work (i.e. Phase 1 & 2 work as specified in this document and in the Project Design (Appendix 1)).

7.10

As the removal of human bone from the site has already taken place and further fieldwork shall also remove human bone from the site a fourth phase of the project will address the deposition of this material. This could involve the re-internment of human remains on the site or an alternate strategy which may be developed in discussion with relevant stakeholders and the developer having taken legal advice. Any human remains recovered from the site will be safely stored in Northlight Heritage's Dickson Laboratory until the means of deposition are agreed.

8. Archiving / Finds Deposition

The resulting site archive will be deposited with the NMRS following the completion of all work (Phases 1 - 4). Any small finds recovered will be submitted to the Treasure Trove Unit in accordance with Scot's Law.

9. Health and Safety

The project will be conducted in accordance with health and safety legislation and with the standards and guidance governing archaeological fieldwork set down in the IFA approved Health and Safety in Archaeological Fieldwork document prepared by SCAUM. A risk assessment will be prepared and submitted to the client prior to fieldwork commencing. As there are some contamination issues on the site and there is a potential risk of disease from human remains, suitable PPE will be worn to protect staff (as specified within the Northlight Heritage risk assessment for the project).

10. Welfare Arrangements

The contractor's site cabins with canteen facilities, toilet and hand washing facilities are to be made available for shelter when required and for breaks from work (i.e. lunch).

11. Access Arrangements

The developer owns the site and access is through their site compound on Sandy Road.

12. Bibliography

Historic Scotland 2006 *The Treatment of Human Remains in Archaeology,* Historic Scotland Operational Policy Paper 5, Edinburgh

APPENDIX 4 - DES

LOCAL AUTHORITY:	North Ayrshire
PROJECT TITLE/SITE NAME:	Ravenspark Hospital
PROJECT CODE:	4305161
PARISH:	Irvine
NAME OF CONTRIBUTOR:	Alastair Becket
NAME OF ORGANISATION:	Northlight Heritage
TYPE(S) OF PROJECT:	Archaeological Recovery of Human Bone and Evaluation
NMRS NO(S):	NS34SW 111.00
SITE/MONUMENT TYPE(S):	Cemetery
SIGNIFICANT FINDS:	None
NGR (2 letters, 8 or 10 figures)	NS 3094 4073
START DATE (this season)	10/12/12
END DATE (this season)	22/01/13
PREVIOUS WORK (incl. DES ref.)	None at this specific location.
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	Northlight Heritage undertook the recovery of human remains which had been disturbed during construction works at the site of the former Ravenspark Hospital, Irvine, North Ayrshire. This was followed by a controlled topsoil strip of the area which revealed the extent of the burials without further disturbance to in-situ graves. The fieldwork was augmented by a rapid desk-based survey of the historical and map-based background to the site. The fieldwork and research have shown that the area in question was used as an extension to an adjacent cemetery. The cemetery extension came into use in approximately 1910 with the final internment occurring in 1927. It is estimated that hundreds of individuals may be interred within this area, as over 80 graves were identified during the course of the fieldwork, and records for the institution indicate that the graveyard was re-used on a seven year cycle.
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS	None
SPONSOR OR FUNDING BODY:	Dundas Estates and Development Co Ltd.
ADDRESS OF MAIN	Northlight Heritage
CONTRIBUTOR:	Studio 406
	South Block
	64 Osborne Street
	Glasgow, G1 5QH
EMAIL ADDRESS:	northlight@yorkat.co.uk
ARCHIVE LOCATION	National Monuments Record for Scotland (intended)
(intended/deposited)	