The Icehouse, Holywells Park
Ipswich, Suffolk

Archaeological Evaluation Report

SCCAS Report No. 2013/008
Client: Ipswich Borough Council
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January 2013
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Summary

A small scale excavation on the suspected location of an icehouse within Holywells Park, Ipswich, was undertaken by members of the Friends of Holywells Park. The main aim was to confirm if an icehouse was present on this site and, if discovered, make a basic assessment of its current condition with a view to possible restoration. Two roughly rectangular test pits were excavated which revealed a circular brick structure, approximately 4m in diameter, parts of a covering brick dome and a short brick built tunnel, all of which are undoubtedly parts of a 19th century icehouse. The structure appears to be complete and in relatively good condition although a hole has been broken through the roof and the interior filled with soil. (Suffolk County Council Archaeological Service for Ipswich Borough Council).
1. Introduction

A small scale excavation was undertaken in Holywells Park, Ipswich, to investigate a circular depression thought to be associated with an icehouse. Holywells Park comprises the garden estate of Holywells, a mansion that formerly stood within the park. The mansion was the home of the wealthy Cobbold family and it is during their occupation that an icehouse was believed to have been constructed.

The icehouse was an open and extant feature within the park up until the early 1970s when it was thought to have been filled in. Following this its precise location was lost.

As part of a Heritage Lottery Fund bid it is hoped to reveal and restore the icehouse and to present it to the public as a feature within the park. The first stage was to confirm its location and make a very brief assessment as to its condition.

Members of the park staff had pinpointed an area where the icehouse was thought to lie. A site visit identified a circular depression c. 3m in diameter, the edge of which consisted of brickwork laid at an angle to the horizontal. It was situated at the top of a steep slope approximately 110m from the site of Holywells.

The National Grid Reference for the approximate centre of the site is TM 1205 4233. Figure 1 shows a location plan of the evaluation area and the application site.

Investigation of the icehouse was undertaken as part of a community project involving the Friends of Holywells Park, a volunteer group established to increase local knowledge, understanding and enjoyment of Holywells Park. A representative of both Ipswich Borough Council, who manage the park, and the Suffolk County Council Archaeological Service were present to aid the volunteers and to oversee the work.

Recording and report production was undertaken by Suffolk County Council Archaeological Service who were funded by Ipswich Borough Council.
Figure 1. Location map
2. Topography

The site comprised an area of level ground situated at the top of a north facing slope. At the base of the slope a pathway ran east from a nearby carpark. This pathway existed whilst the mansion was occupied by the Cobbold family.

3. Icehouses - a brief introduction

The purpose of an icehouse is to store ice throughout the summer months in the period prior to the general availability of refrigeration. The ice would be used in large houses for things such as cooling wines, making ice cream and as a bed for cold food and salads. Ice could also be used to create sculptures to place around the house as a form of air-conditioning on hot days. Their heyday in the UK was between 1750 and 1875 when approximately three thousand were built. They were an expensive luxury that only the wealthiest could afford.

They generally comprise a circular underground chamber, to minimise surface area, with a domed roof. Access to the chamber would be though a tunnel which could contain multiple doors to improve insulation (fig. 2). The chamber would be packed with ice collected from ponds during the winter months for use throughout the summer. Keeping the chamber free of water was also important and would necessitate a reliable drainage system.

Figure 2. Section through a typical icehouse (from Buxbaum, 1992)
4. **Methodology**

The main aim of the project was to confirm the presence of the icehouse and was to be undertaken in a single day.

Test pits were hand excavated into the area of the icehouse. The first test pit was into the icehouse itself to confirm its identity. Once this had been achieved the test pit, which had been placed close to the predicted location of an entrance tunnel, was continued until the entrance’s location was confirmed and its alignment identified. Following this a second test pit was excavated in the face of the slope at the point where the entrance tunnel was predicted to emerge. Once this had been located the remains were exposed as far as practically possible given the time restraint.

Following excavation of the test pits, a measured sketch of the exposed remains was drawn. A photographic record of the work undertaken was also compiled using a 14 megapixel digital camera.
5. Results

Figure 3 consists of a plan of the excavation area and Figure 4 is a reconstructed section; both figures have been produced from measured sketches drawn during the excavation of the test pits.

Excavation of a Test Pit 1 into the circular depression revealed further brickwork that formed a circular shaft, c. 4m in diameter, which was clearly the main chamber of the icehouse. This had been roofed over by a brick dome of which only a part remained in-situ. In the centre of the dome a circular hole, 3.15m in diameter, had been pushed through and the internal space of the structure filled with soil up to the base of the remaining section of the dome’s structure.

Test Pit 1 was dug to a depth of c.0.6m and revealed the entrance tunnel in the side of the icehouse chamber. This was formed of vertical brick walls, 0.22m in width, and covered with a brick vault. The tunnel was also filled with soil.

Test Pit 2 exposed the start of the entrance tunnel part way down the nearby slope. It consisted of two walls, spaced 0.97m apart. The south-west wall of the entrance tunnel turned ninety degrees to the south-west which presumably marked the full extent of the tunnel, although it could possibly relate to an outer chamber of some sort. The exposed section of the entrance tunnel totalled 3.3m in length. The vaulted roof over the north-west end of the tunnel had been demolished and large fragments of it were evident within the fill. When intact, the roof would have been situated approximately 0.5m below the present level of the ground at the top of the slope. Excavation continued to a depth of c. 1.5m but this did not reach to the floor of the tunnel.

All parts of the icehouse were constructed from soft red bricks cemented with a lime mortar. Some brick rubble was present amongst the fill, including at least one waster, which undoubtedly originated from the icehouse. These probably came from the tunnel’s structure as the missing section of the dome presumably lies at the base of the icehouse.

Across the end of the tunnel a further section of brickwork appeared to be forming a blocking wall although closer inspection suggested this was in fact a section of brickwork that had been jammed into the mouth of tunnel and was not an in-situ part of the structure.
Figure 3. Plan of the icehouse
Figure 4  Cross section through the ice house

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SE

NW

present ground level

tunnel

test pit 1

fill

dome

= extrapolated wall lines

0  2m
6. Finds and environmental evidence

A small number of artefacts were noted amongst the fill. These comprised occasional fragments of brick rubble, probably from the icehouse structure, and clearly modern debris (drinks cans, plastic cups etc.). These were not retained.

A single brick that tapered in two planes was also recovered. Such a brick would have been very useful when constructing a brick dome although if it originated from this structure was not clear.

7. Discussion

The brickwork identified in the two test pits is undoubtedly the substantial remains of an icehouse that probably dates from the mid 19th century. The roof of the ice chamber and part of the entrance tunnel have been damaged but these comprise only a small part of the structure as a whole.

The depth of the ice chamber is unknown as is the height of the passageway in the tunnel. It is likely the entrance tunnel would have been high enough for an adult to walk upright and where the floor of the tunnel met the main chamber there would have been a substantial drop to its floor. In Figure 2 it can be seen that the main chamber is over four times higher than the figure depicted stowing the ice suggesting a possible roof to floor height of 7m to 8m. This is by no means a clear cut dimension as there is a great variation between icehouses, many being restricted by conditions at the site. The Holywells example could therefore be shallower although one would expect a depth of at least 5m. This would give a total volume of the icehouse of approximately $62\text{m}^3$. This is assuming the walls of the icehouse are vertical to the base as in some examples the main chamber reduces in diameter towards the base forming an egg or cone shape.

The next stage in any restoration process would be to remove all the soil filling the structure. As the hole through the dome is quite large some of this could possibly be undertaken with a small machine although, due to the slope, it is not an easy site to access. The machine’s reach would be a limiting factor and it is unlikely that the entire fill could be mechanically removed. Excavation by hand of the entire fill would be
possible although time consuming. Some hand digging would undoubtedly be required and serious consideration would be necessary as to the most practical method bearing in mind access and the depths involved.

Repair of the tunnel would be relatively straightforward although repair of the dome may be more problematic requiring some specialist work. This would need to be assessed by a competent builder and might be best undertaken prior to full re-excavation of the full depth of the icehouse. An alternative solution may be to roof the opening in timber, Perspex or cover it with a metal grate.

8. Acknowledgements

The field was carried out by Martin Cant, Ann Cooper, Peter Locke, Kathy Reynolds (all Friends of Holywells Park), Joe Underwood (Park Ranger) and Mark Sommers (Suffolk County Council Archaeological Service).

The project was initiated by Richard Sharp (Ipswich Borough Council), directed by Mark Sommers and managed by Dr Rhodri Gardner (SCCAS).

9. Bibliography

10. Plates

(scales used are 1m or 2m in length divided into 0.5m sections)

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Plate 2. Test Pit 1, view looking north showing the main chamber wall and remains of the dome
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