



Rhynie Symbol Stones

Conservation Assessment Report

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by

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Rhynie Symbol Stones, Muir of Rhynie

Executive Summary

This report describes the scoping study undertaken by John Renshaw Architects (JRA) and Spectrum Heritage for the Rhynie Charitable Trust and Aberdeenshire Council Archaeology Service on the conservation requirements and feasibility of relocating the Rhynie Man and the other Class 1 Pictish symbol stones in public ownership to a new central location in Rhynie village.

The study included a preliminary assessment of the condition of the symbol stones and the suitability of their current locations in relation to their condition, long term preservation, provenance and cultural significance.

The history of the symbol stones and the associated early medieval sites in and around Rhynie were presented to a special meeting of the local community organised by the RCT and options for their conservation and presentation were discussed. The local community were virtually unanimous in their agreement that the Rhynie symbol stones should be displayed in the village square in appropriate enclosures which would be both sympathetic and complementary to the setting and provide safe and secure environment for the symbol stones.

The next steps to achieve this objective are summarised together with urgent actions to limit the risk of further decay of the carved surfaces in the meantime.

1. Introduction

John Renshaw Architects and Spectrum Heritage were commissioned by the Rhynie Charitable Trust and Aberdeenshire Council Archaeology Service to carry out a scoping study for the redisplay of the Rhynie symbol stones in Rhynie Aberdeenshire based on a similar recently completed project in Inverurie carried out with Ronnie Watt of Ronnie Watt Studio, Edinburgh.

1.1 Background

Rhynie is a small rural village in west central Aberdeenshire, surrounded by picturesque countryside.

Eight Class 1 Pictish symbol stones have been discovered in the environs of Rhynie village, including the Rhynie Man. The existence of so many Pictish stones in close proximity is unusual and the carving of the Rhynie Man symbol has few other parallels.

In 2011 archaeological excavations undertaken by Aberdeen University and Chester University identified a series of fortified enclosures near the Craw Stane in the field where the Rhynie Man had been discovered in 1978. This enclosure complex and settlement dates to AD 450–550. The excavations have revealed a significant number of high status objects including the head of an iron axe pin and clay moulds for the production of hand-pins. It is speculated that the enclosures may have been a royal site occupied by Pictish kings between the fourth and sixth centuries.

The Rhynie Charitable Trust or Rhynie Community Facilities Development Charitable Trust Ltd (RCT) aims *"to conserve and regenerate the Community of Rhynie for the benefit of its members and the wider public"*

The local community have long campaigned for the return of the Rhynie Man, which is currently housed at Aberdeenshire Council headquarters and there is a desire to see both the Rhynie Man and the other symbols stones better presented and protected within the village of Rhynie.

The Rhynie symbol stones are all Scheduled Ancient Monuments and are therefore considered to be of national significance. Permission must be obtained from Scottish Ministers for any works to a scheduled monument including repairs; it is a criminal offence to damage or carry out work on a scheduled monument.

1.2 Project Brief

The project brief required a scoping study for the redisplay of the Rhynie symbol stones in Aberdeenshire, based on the recently completed project in Inverurie carried out by Ronnie Watt of Ronnie Watt Studio, Edinburgh along with John Renshaw Architects and Spectrum Heritage. The study was to include:-

- A site visit to meet the Client and other interested parties;
- An initial assessment of the location of the symbol stones and their condition;
- Consider the implications of leaving the stones in their existing locations or moving them to appropriate secure location(s) in the centre of Rhynie village;
- Assess types of shelter which could be considered (open, partial shelter, glass box options) including reference to precedent studies;
- Identify statutory consent(s) required if the symbol stones are to be conserved and moved;
- Advise on potential sources of funding; &
- Carry out a consultation with the local community and other key stakeholders including Aberdeenshire Council Archaeology Service and Historic Asset Management Project Office.

The findings of the study were to be presented in a short concise report with conclusions and recommendations.

1.3 The Sites

The Rhynie Pictish symbol stones are located in a number of separate locations. The Rhynie Man is currently in the Aberdeenshire Council headquarters in Aberdeen. The six other symbol stones are located in the village Square (Rhynie 2 & 3), the car park by the kirkyard (Rhynie 5, 6 & 8) and the Craw Stane (Rhynie 1) is located in field to the south of the village.



Fig 1. Map of Rhynie indicating the location of the stones.

1.4 Methodology

The site appraisal of the stones located in Rhynie was undertaken on a blustery sunny day in July during the project inception meeting with the principal office bearers of the RCT.

It was not intended to carry out a detailed conservation survey and analysis of the condition of each stone. A subsequent visit to Aberdeenshire Council office was made in August to look at the Rhynie Man and meet with Bruce Mann to discuss implications of moving the Rhynie man.

A draft report was issued on 11th November 2019 and the key finding and options were presented to the RCT on 8th December 2019 prior to the annual general meeting of the Trust.

2. Historical Background

Muir of Rhynie is a village in Rhynie Parish, in the district of Alford, Aberdeenshire. It is situated near the west bank of the Water of Bogie, in the south-western portion of the ancient lordship of Strathbogie, granted by King Robert Bruce to the noble family of Gordon, the ancestors of the Duke of Gordon .

A former market centre, it was erected as a burgh of Barony in 1684 and is shown on the 1st and 2nd edition OS maps.

The name Rhynie suggests pre-eminent connections and status and although there is no written sources, recent archaeological, sculptural and place-name evidence reveals that it must have been a previously unknown type of elite Pictish settlement with international connections.



Drawing part of collection - <https://canmore.org.uk/collection/730271>

Note: "The King in the North' The Pictish realms of Fortriu and Ce " by Gordon Noble and Nicholas Evans contains collective essays written as part of the University of Aberdeen's Northern Picts project. Chapter 4 'Rhynie: A powerful place of Pictland' which suggests that 'We can assume that Rhynie area had strategic importance as a crossroads between Moray and east central Scotland.'

3. Survey and assessment

3.1 Introduction

The site appraisal of the stones located in Rhynie was undertaken by Clara Molina Sanchez of Spectrum Heritage, Irene Barkley and John Renshaw of John Renshaw Architects on a blustery sunny day on 19th July which coincided with the project inception meeting with the principal office bearers of the RCT.

The survey does not a detailed conservation survey and analysis of each symbol stone but provides an initial assessment of condition and suitability of their current location.

3.2 Craw Stane (Rhynie 1)



Location

The Craw Stane is situated approximately 575m east of the Mains of Rhynie on a south facing slope just below the crest of a hill in a pasture field which overlooks the valley of the River Bogie to the east and the site of St Luag's church to the northeast. It stands on or near to its original position.

NGR 49704 26358

Coordinates 349704 826358

Parish of Rhynie

County of Aberdeen

Local Authority: Aberdeenshire Council

Description

The Craw Stane is a rectangular block of grey granite, measuring approximately 0.9m in breadth, 0.4m wide and 1.85m in height. It is set in a concrete base and its south facing elevation bears the incised figure of a fish and, immediately below it, a Pictish beast. The symbols are grooved, pecked and are reasonably clear.

Photograph of Rhynie 1, 1996 RACHMS online photograph , <https://canmore.org.uk/collection/337025>

Legal status & ownership

The Craw Stane is a Scheduled Ancient Monument (SM69). The scheduled area includes the Craw Stane, a cropmark enclosure, and an area around them in which related remains may survive. The area measures 150m NE-SW and 140m transversely.

The field and scheduled monument is in private ownership which forms part of Barflat Farm.

History

Rhynie 1 has stood in its current position since the middle of the 19th century, but it was reset in a concrete base in the 1930s after it had toppled during a storm; the former or original orientation is unknown.

Condition

The carved surfaces of the stone appear to be generally in fair condition and the stone is relatively durable.

A significant crack extends horizontally across the shaft at about a third above ground level. The carved surfaces of the stone are covered by algae and lichens.

The ground around the concrete base is eroded possibly due to poaching by cattle.

Photographs of Rhynie 1, 19 July, 2019



Statement of Significance

The Craw Stane is of national importance as an example of an in situ Class 1 Pictish symbol stone situated within a complex enclosure, which survives as a cropmark. The site is associated with several other symbol stones including the Rhynie Man stone which was ploughed up nearby. In total eight Pictish stones have been found on this site or nearby. The existence of so many symbol stones in one location and their unique character demonstrates the significance of this site and the cropmark itself, which has enormous potential to improve our understanding of the context in which Pictish symbol stones were erected.

Conservation needs

- The symbol stone (Rhynie 1) is particularly exposed to the natural environment due to its orientation and elevation. The southerly aspect will subject it to significant fluctuations in temperature and it is very exposed to prevailing winds and rainfall.
- The carved surfaces are covered with lichens and algae, as well as soiling which relate to the environmental conditions, possibly to time when the stone was in contact with or under the ground and rubbing by livestock.
- There is a significant fracture visible on the southern and western elevations of the symbol stone which may compromise its structural integrity.
- There may be a risk that long term effects of thermal stress developing between the concrete base and the stone could cause damage.
- The symbol stone is also vulnerable to damage by livestock which are currently free to shelter behind it or rub against it.

Access and interpretation

Access to the symbol stone and cropmark is reached from a small lay-by on the side of the A97 at the northern end of the field. Alternatively, it can be reached by way of a narrow footpath which ascends along the northern edge of the field from the car park at the south end of Manse Road by the site of St Luag's church and the kirkyard.

There is no interpretation on or near the site and no indication of the location and extent of the remains of the cropmark and associated Pictish defensive settlement.

Assessment of existing situation

Strengths

The Crow Stane is located on or close to its original location and there is a powerful relationship between it and the surrounding landscape: this relationship adds to the authenticity of the monument.

Weaknesses

It is not easily accessible and there is no interpretation locally to explain the significance of the symbol stone and the earlier Iron Age site.

Opportunities

There is an opportunity to improve access and provide interpretation, especially if it was possible for the RCT or LA to purchase the northern part of the field. This would have the added benefit of providing an extension to the graveyard (subject to archaeological assessment).

Threats

The Crow Stane is exposed to the natural environment and will continue to deteriorate and lose definition of the carved symbols; climate change will accelerate these decay mechanisms. The symbol stone is also currently at risk from damage from livestock.

Recommendations

- Commission a stone conservator to carry out detailed condition survey of the carved surfaces and the stone and provide recommendations for its long term preservation;
- Implement any conservation treatments which are recommended by the stone conservator, which may include the removal of the lichen and other biological growths.
- Other interventions which may merit consideration as part of the condition assessment may include the benefits of providing a shelter to reduce the rate of decay of the carved surfaces or the relocation of the stone to a secure and stable environment and replacement on the site with a high quality facsimile;
- In the short term and subject to the recommendations of the condition survey, the feasibility of providing a stock proof enclosure around the Crow Stane and Scheduled Monument Area should be investigated;
- Appropriate ways of providing safe access, parking and interpretation of the site should be explored in consultation with the land owner, local community and other stakeholders including RCT and Aberdeenshire Council.

3.3 Rhynie 2 & 3 symbol stones

Location

Two eroded Class 1 Pictish symbol stones are located on either side of the gate into the village square at its northwestern end, 25m east southeast of Rhynie Parish Church. The Rhynie 2 symbol stone is situated on the north side of the gate and the Rhynie 3 symbol stones on the south side.

NGR 49810 27149
Coordinates 349810 827149
Parish of Rhynie
County of Aberdeen
Local Authority: Aberdeenshire Council

Description



Rhynie 2 is a granite boulder, measuring 0.59m x 0.48m x 0.19m; hardly any trace of the original carving survives.

Photograph of Rhynie 2, 1996 RACHMS online photograph , <https://canmore.org.uk/collection/337028>



Rhynie 3 is a slightly larger granite boulder, measuring 0.7m x 0.5m x 0.3m and only faint traces of the original carving survive.

Photograph of Rhynie 3, 1995 RACHMS online photograph , <https://canmore.org.uk/collection/337028>

Legal status and ownership

The two symbol stones comprise a Scheduled Ancient Monument (SM11869) of two circles centred on each of the symbol stones.

The Rhynie Square and symbol stones are included within the ownership of the Local Authority.

History

It is believed that both of the stones were moved in c.1836 when the turnpike road was built near the Plough Inn, Rhynie and they were discovered together with a number of human bones. They were subsequently moved to the centre of the Square c.1864 before they were moved to their current location in 1918 to make way for the war memorial.

It is recorded that the symbols incised on Rhynie 2 comprised a double disc and z-rod above a crescent and V-rod. Rhynie 3 was incised with the figure of a man with a shield and a horseshoe or arch composed of five parallel arcs. The figure was shown walking from right to left, wearing a cloak, holding a ball-ended staff (probably a spear) in his left hand and carrying a small rectangular shield.

Condition

Both of the symbol stones are heavily eroded and the carved surfaces are almost obliterated. They are covered by moss, algae and lichens which obscure what little might survive of the carved surfaces.



Rhynie 2. Front and Side View
Photograph 19 July, 2019

Rhynie 3 also has a large crack on its top and side, that could result in further significant loss of the original stone surface.



Rhynie 3 - Face & Side View
Photograph 19 July, 2019

Statement of Significance

Despite their condition, the stones are considered to be of national importance because they have an inherent potential to make a significant addition to the understanding of the past, in particular of the culture of the Picts in Aberdeenshire and their cultural links with other areas of Scotland and the British Isles.

Whilst the carvings are worn, recording techniques may have the potential to recover more detail of their original form and the stones have added importance when considered as part of the group of stones found in Rhynie.

Conservation needs

- The priority for the conservation of Rhynie 2 & 3 must be to preserve what little remains of the carved surfaces. Given the nature of their current condition it is considered unlikely that any surviving surface detail will survive in the short - medium term if they remain exposed to the external environment.

Access and interpretation

The stones are currently accessible and visible although their decayed condition does not attract attention and there is no interpretation.

Assessment of existing situation

Strengths

The location in Rhynie Square is very accessible for both the local community and visitors and is considered to be the most appropriate location for the collection of Class 1 Pictish stones discovered at Rhynie by the local community.

Weaknesses

These two symbol stones are in such poor condition that any surviving traces of the original carvings will be lost if they remain in an external environment. Their poor condition combined with the absence of any interpretation makes it difficult or impossible to understand and appreciate their cultural significance.

Opportunities

The stones should be re-located to an appropriate stable environment in an accessible and visible location within Rhynie and interpretation provided to explain their history and significance.

Threats

The continued exposure to external environmental conditions will erode the stones further and cause loss of material.

Recommendations

- Commission a stone conservator to carry out detailed condition survey of the carved surfaces and the stones and provide recommendations for their long term preservation;
- Prepare and submit application for SMC for proposed conservation treatments and relocation of stones to temporary internal storage space;
- Move symbol stones and carry out conservation treatments as recommended which are likely to include the removal of soiling and biological growth, the consolidation of areas of disaggregation against further decay and the repair of the crack on Rhynie 3 and any other fissures identified after de-soiling and removal of biological growth.
- Carry out a reflective transformation imaging survey (RTI) to provide an enhanced record of the carved surfaces;
- Retain the symbol stones in temporary stable, internal environment to preserve the stones until a more appropriate location in Rhynie is available.

- Progress proposals to locate the Rhynie symbol stones in an environmentally stable and secure and visible location within Rhynie village and provide appropriate interpretation.

3.4 Rhynie 5, 6 & 8 symbol stones

Location

These three Class 1 Pictish symbol stones are located within a stone and timber shelter at the north end of the cemetery carpark, 60m southeast of Rhynie Manse.

NGR 49975 26586
 Coordinates 349975 826586
 Parish of Rhynie
 County of Aberdeen
 Local Authority: Aberdeenshire Council

Description

The shelter comprises a U-shaped shelter with mono-pitched roof open to the south comprising a drystone rubble plinth wall, sawn softwood cladding above and lapped sawn softwood boards to the roof. There are gaps between the roof cladding allowing water to drip through the timber onto the symbol stones below. A stone was observed lying on the roof at the time of the site visit.

Rhynie 5 is the large whinstone symbol stone on the right hand side (rhs) of the shelter, measuring 1.6 x 0.76m. It carries the depiction of the head of a 'beast', in this case probably intended to represent a seal or otter, and a double disc and z-rod, and a mirror and comb. The stone is set into the ground with metal support brackets between the drystone wall and the back of the symbol stone.



Rhynie 5



Rhynie 6

Rhynie 6 is the stone of pink granite mounted to the left hand side of the shelter, measuring 0.83 x 0.43m. It depicts 3 symbols: a vertical double disc and a z-rod, a plain crescent and a v-rod, and a mirror. The stone is also set into the ground with metal support brackets between the drystone wall and the back of the symbol stone.

Rhynie 8 is mounted on the stone wall between Rhynie 5 & 6 and is a fragment of a larger granite block, measuring 0.43 x 0.39 x 0.16m which has been broken and squared off after the carving of the symbols on it. The symbols incised on it include the outline of a beast, surmounting a comb and a now-truncated S-shaped figure. This symbol stone is supported on two cantilevered metal tubes with a third restraining metal tube at its head.



Rhynie 8

Legal status and ownership

The group of three symbol stones are a Scheduled Ancient Monument (SM84). The scheduling includes only the three symbol stones and their fixtures and does not include the rest of the shelter.

The car park, shelter and symbol stones are included within the ownership of the Local Authority.

History

Rhynie 5 & 6 were discovered in the foundations of the Old Kirk when it was demolished in 1878 and were then located in the kirkyard until they were moved to their current location. Rhynie 8 was found in 1978 in the area SSE of the Crawl Stane.

Condition

There is some biological growth on the face of Rhynie 5, also some disaggregation of the surface and a crack or delamination runs down the right hand side of the carved face.



RHS: Photograph of Rhynie showing crack and disaggregation on Rhynie 5 - July 2019

Rhynie 6 & Rhynie 8 also have soiling, lichen growth and algae on their surfaces.

LHS : Photograph showing soiling and lichen on Rhynie 6



RHS : Photograph showing metal supports on Rhynie 8



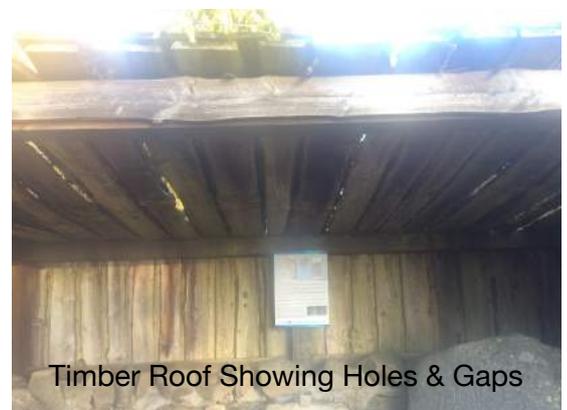
Rhynie 5

Statement of Significance

The stones are of national importance because they have an inherent potential to make a significant addition to the understanding of the past, in particular of the culture of the Picts in Aberdeenshire and their cultural links with other areas of Scotland and the British Isles.

Conservation needs

- The water run-off from the timber roof risks future decay and damage to the stones. Timber emits acetic and formic acids and preservative treatments for wood may contain copper arsenic and other soluble salts which may leach out onto the stones below; certain timbers have been found to emit significant levels of volatiles even after twenty years. The potential chemical and physical actions of soluble salts within stones in damp environments with fluctuating relative humidities can cause significant damage to carved detail on stones. If the stones are to be retained in this location in either the short or medium-long term, the existing roof structure should be repaired or replaced. The symbol stones should also be isolated from the metal support brackets.
- The stones may be at risk of theft or damage due to their isolated location.



Timber Roof Showing Holes & Gaps

Access and interpretation

Access is good with adjoining area for parking if required. However the site is isolated and not overlooked increasing the risk of theft and malicious damage. A small interpretation panel is located at the back of the shelter.

Assessment of existing situation

Strengths

If the roof is repaired urgently the shelter does give the stones shelter protection from the weather. The shelter is on a walking route from the square to Rhynie 1, and could be part of a trail.

Weaknesses

The location of these symbol stones is remote from the centre of the village, not in view from residents and although it is close to the kirkyard where they were discovered and on one of the walking routes to the Craw Stane, the shelter is accessible by car and there is a risk of theft and malicious damage.

Opportunities

The stones should be re-located to an appropriate stable environment in an accessible and visible location within the centre of Rhynie village and interpretation provided to explain their history and significance.

Threats

The stones are at risk of theft or damage. Their current exposure to rainwater, possibly carrying soluble salts is a concern and their continued exposure to the external environment may accelerate stone decay in the long term.

Recommendations

- The existing roof and supporting timber structure should be repaired or replaced as a matter of urgency;
- Commission a stone conservator to carry out detailed condition survey of each symbol stone and its carved surfaces and provide recommendations for their long term preservation;
- Prepare application for SMC for proposed conservation treatments and relocation of stone to temporary internal store;
- Carry out conservation treatments as recommended which is likely to include the removal of soiling and biological growth, the consolidation of areas of disaggregation against further decay and the repair of the crack on Rhynie 5 and any other fissures identified after de-soiling and removal of biological growth.
- The carved stones should then be kept in a stable, internal environment with suitable environmental conditions to preserve the stones until a more appropriate location within Rhynie village can be provided.
- Progress proposals to locate the Rhynie symbol stones in an environmentally stable and secure and visible location within Rhynie village and provide appropriate interpretation.

3.5 Rhynie 7 (The Rhynie Man)

Location

The Rhynie Man symbol stone is located within the entrance foyer of Woodhill House, Aberdeen, the headquarters of Aberdeenshire Council. A cast can be seen in the vestibule of the Rhynie primary school.



Description

It is a kite shaped boulder of gabbro, 1.78m high incised with figure of a man, facing to the right and wearing a belted tunic whilst grasping an axe with both hands with the shaft resting on his shoulder. Depicted in profile, he has either a headdress or long hair, a large ear, bushy eyebrow over a prominent oval eye, a hooked nose, beard and moustache and bared teeth.

Legal status and ownership

The Rhynie Man was awarded to Aberdeenshire Council by the Crown Office as *treasure trove* or *bona vacantia* under the common law of Scotland and is presumed to be a scheduled ancient monument.

History

The Rhynie man was found in March 1978 when the farmer of Barflat Farm was ploughing the field south of the old kirkyard at Rhynie. In 1983 it was moved from the farmer's barn to its current location which saved it being moved to the National Museums of Scotland in Edinburgh.

Condition

An inspection and condition survey of the Rhynie Man has not been undertaken as part of the current feasibility report. There is a large crack down the right hand side of the stone which may have been caused when it was hit by the plough.

Statement of Significance

The Rhynie Man is of national importance as a rare example of a Class 1 Pictish symbol stone; representations of single figures occupying most of the available space on a stone are extremely rare in Pictish art, only a handful of other incised examples are known. It is thought to date from the sixth or seventh century AD.

Conservation needs

- The Rhynie Man is located in a stable internal environment which, subject to detailed conservation assessment, provides appropriate environmental conditions.

Access and interpretation

The Rhynie Man can be viewed during opening hours between Monday and Friday 8.30am - 5.30pm. There is a strong desire within the Mains of Rhynie community for the Rhynie Man to be returned and displayed within the village in an accessible and visible safe environment.

Assessment of existing situation

Strengths

- The symbol stone is located in a secure internal environment.

Weaknesses

- The setting and the display and interpretation of the symbol stone does not do justice to its significance and provenance.

Opportunities

- The symbol stone should be relocated closer to the location of its provenance in a suitable safe and stable environment in Rhynie village.

Threats

- The long term location of the stone in the entrance to the offices.

Recommendations

- Commission a stone conservator to carry out detailed condition survey of the carved surfaces and the stone and provide recommendations for its long term curation;
- Relocate the Rhynie Man to an appropriate secure and environmentally stable location in Rhynie village.

4. Standards for preservation and display of the Rhynie stones

Aims and objectives

The Pictish symbol stones should be located as close to their place of origin as possible and as many people as is possible should have an opportunity to experience and learn about them and the history of the Pictish people and the associated artefacts; there should be a presumption in favour of the retaining the symbol stones in or close to their original locations, where this is feasible, and in preserving the physical association of a carved stone with its locality and setting.

The aim of the proposed project is to preserve the carved surfaces on the Rhynie Pictish symbol stones and to enhance understanding and enjoyment of this highly significant collection of Pictish symbol stones, the surrounding landscape and its archaeology with specific reference to the early medieval period.

Standards for preservation of the symbol stones

Stone artefacts are often perceived as a material with few problems, but stone is brittle and can easily break or shatter. The agents of deterioration also can affect the preservation of stone which reacts with the environment in a variety of ways. Understanding the origin and production of stone objects is fundamental to understanding potential decay mechanisms and problems.

Any conservation treatments or other interventions should conform with best conservation practice and standards, as set out in national and international guidance and charters; refer to Appendix B.

All decisions and actions must be informed by a full assessment of both the cultural significance of each symbol stone and its associated site and its physical condition. The primary aim of any conservation treatment to the carved surfaces and stones should be to retain their cultural significance, and should include provisions for their future needs, including security and maintenance and mitigation of the impacts of climate change.

The symbol stones must be displayed in conditions which are appropriate to their long term preservation. The need to protect them from damage caused by water, atmospheric pollutants and biological agents will mean that, with the possible exception of the Craw Stane, they should be located and displayed in an internal environment where the temperature and relative humidity are maintained as closely as possible within the following ranges:-

- 20% - 65% relative humidity depending on the presence of embedded salts within the stones; &
- Extreme temperatures should be prevented as the symbol stones may be susceptible to freeze-thaw cycles, extreme high temperatures and rapid fluctuations in temperature.

The symbol stones must be protected from accumulations of dirt and dust and contact with natural oils from handling or the movement of livestock and they must be protected from physical and mechanical damage.

Potential implications of moving stone artefacts indoors or into a protected environment

In general the best way to protect stone artefacts sited outdoors is to move them inside. This action radically limits the agents of deterioration that will contact the objects. However, moving an object indoors is a major environmental change and the artefact should be carefully examined before it is moved and then regularly monitored in its new environment. Most objects will dry out when moved indoors. As water is lost from the interior, residues left by pollutants, biological matter, cleaning agents, and soluble salts may begin to crystallise on the surface. Where previously they were washed away by rain, they can now cause damage to the stone and may require treatment. Mold may grow on dirt and biological waste accumulated on the surface when it was outside.

Archeological stone artefacts may have absorbed soluble salts from burial. These objects must be stored at a low and stable relative humidity. If fluctuations occur, the salts can move through the porous ceramic structure and crystallise near the surface to cause damage.

Storage and display of stone objects

Keep dust from the surface of the stone artefact. Dirt and dust can accumulate in the pores of the stone and darken the surface.

Keep away from heat sources.

Protect them from minor flooding, floor cleaning chemicals, spray from gardening, etc

Ensure that they can be periodically inspected

Ensure that exhibit techniques will not damage the object; securely mounted; use mounts from stable materials and attach them so they do not put undue stress on the artefact/monument.

Prevent thermal shock which can occur from spotlights or solar radiation.

If stone artefacts are exhibited outdoors, develop an annual monitoring program to watch for deterioration. Conduct a careful condition survey and document the sculpture with detailed photographs. Consider having a conservator conduct a Collection Condition Survey to provide baseline information for monitoring and train staff in evaluating deterioration. If objects are deteriorating rapidly, they should be moved to a more appropriate internal environment.

Packing and shipping

Stone objects are brittle and sufficient padding must be provided to cushion the object from any shock. Double boxing should always be when packing and shipping them. They should be packed in individually contoured foam wells. Polyurethane is a good shock absorber, but it is an unstable material. Polyethylene foam is stable, but cut edges are very abrasive. When using foam for padding the stone must be isolated from the foam with soft tissue or washed cotton flannel.

5. Precedent studies of display of carved stones

The first use of protective shelters and enclosures for carved stones dates from the 1890s and by the 1940s some of these were partially glazed. The first fully glazed structures date from the 1980s and despite concerns regarding the site aesthetics, lack of physical access, reflections and the magnification of temperatures and humidity, the use of enclosed shelters has proved successful from a conservation point of view. The detrimental effects of wind, water and frost action are removed.

It is essential that each shelter is specifically designed and built to suit the conditions of the site and the aesthetic and conservation requirements of the carved stone surfaces. They should provide the best visibility of the monument(s), provide security and avoid detracting from their appearance and significance.

The use of shelters is perhaps more problematic unless the implications on their effect on positive and negative wind speeds are fully understood.

Carved stones which need to be moved from their original site, in order to preserve their detail can be replaced with a high quality replica; for example the concrete replica of the St John's Cross on the Isle of Iona. Replicas should be generated by 3D laser scanning or photogrammetry.

Examples of protective shelters and enclosures of relevance to the Rhyndie symbol stones are included on the next two pages.

Stones displayed inside a building or shelter



Caithness Horizons Museum, Thurso



Meigle Museum,
Blairgowrie

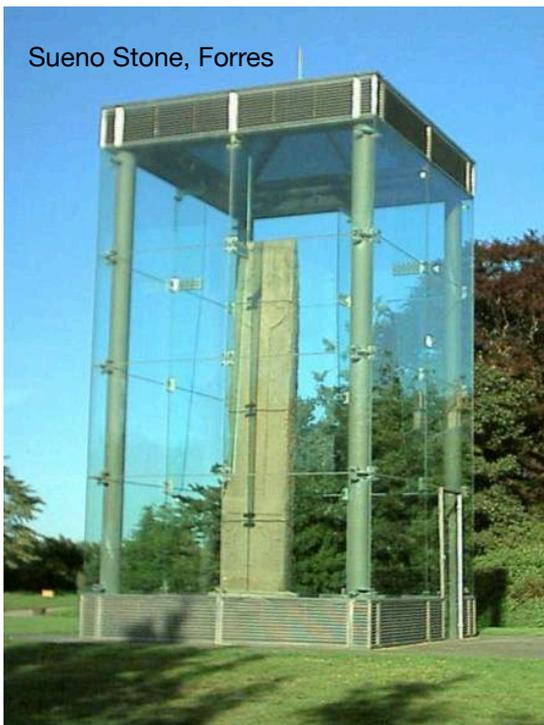


Inveranon Pictish Stones
Displayed Inside Building

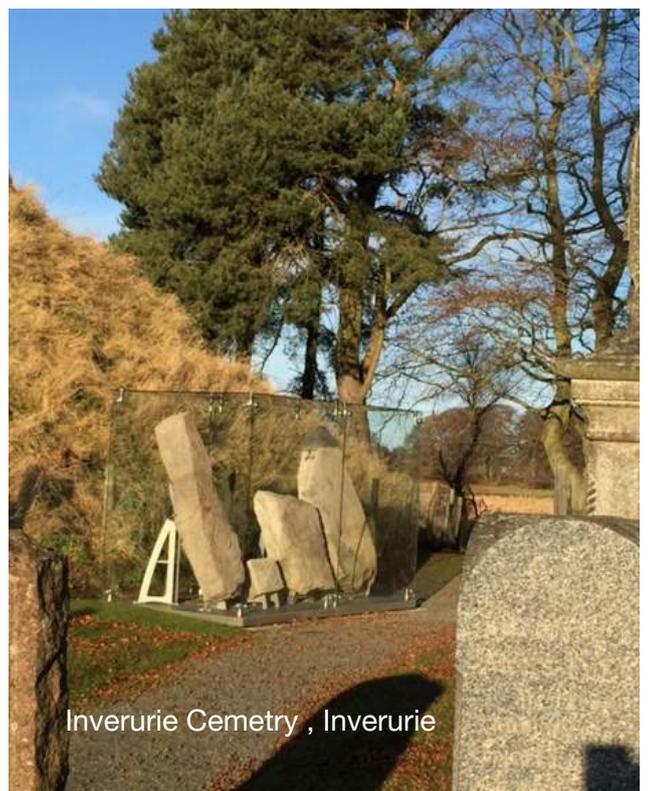


The Dupplin
Cross

Displayed Inside Glass Shelter



Sueno Stone, Forres



Inverurie Cemetry , Inverurie



Pictish Stone Collection Returned to Tullich Kirk, Ballater

TASTE OF HISTORY: The Pictish stones will go on display at the rejuvenated 15th Century Tullich Kirk, in Ballater, following restoration works



Migvie Kirkyard using Pictish Art carved on furniture



Rodney's Stone , Brodie



Willow Wind Break by Jon Warnes



Runesten , Jelling Denmark

Inspiration :-

We are inspired by the shelters that have been designed and constructed to display and protect two very large standing stones that are intricately carved with Runic inscriptions, with the carvings on each stone dating from 10th century AD.

6. Community Consultation

A presentation was made to a special meeting of the local community before the Rhynie Community Trust (RCT) annual general meeting on Sunday, 8th December, 2019. It was attended by 30 members of the local community including office bearers of RCT.

The meeting commenced with a presentation by Gordon Noble on the historical significance of Rhynie as a centre of the Picts from 4th to Early 6th century AD and the valuable asset the Class 1 Pictish stones are to the Village of Rhynie. John Renshaw then presented our initial thoughts on the location, condition and conservation of the seven stones covered in this report.

Rhynie Charitable Trust raised a motion:

' We propose that the square is the right location for the display of the stones'

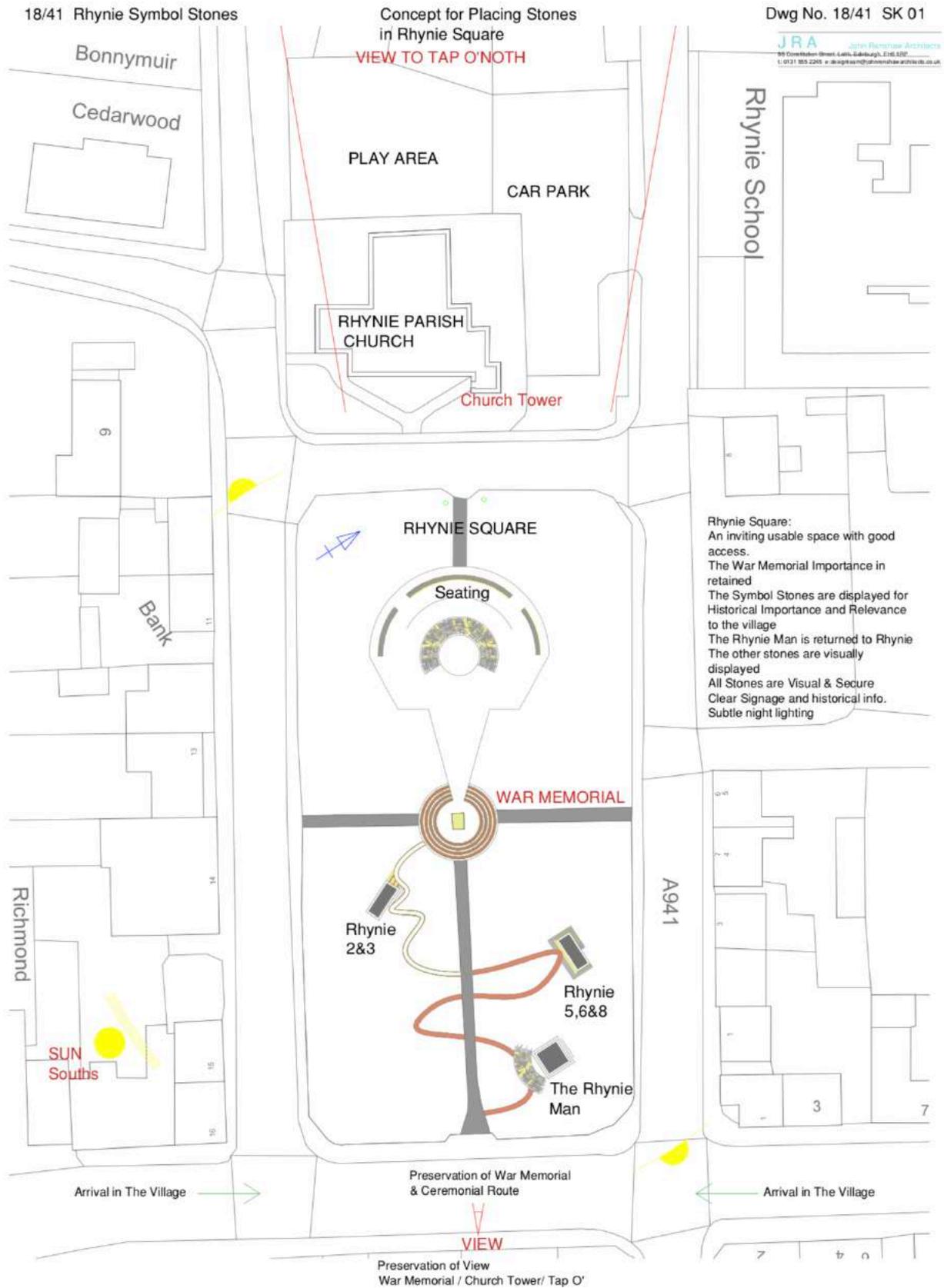
The vote resulted in 28 persons voting for the motion, and 2 persons didn't vote.

'The preferred option is to locate the Rhynie Pictish symbol stones in the village Square in appropriate shelter(s) including the Rhynie Man but excluding the Craw Stane.'



In the existing village square it is important that the war memorial should stay in the central location and that the path on direct axis toward the Parish Church is retained as it is used annually on remembrance day for marching to lay wreaths and commemorate the end of World War 1 & 2.

Following our community meeting we have amended our initial concept plan to take account of points discussed with the community.



7. Indicative Estimated Costs

	Item	Net	Gross
1.	<i>Urgent</i>		
1.1	Repair existing roof structure and shelter in cemetery car park.	£250.00	£300.00
1.2	Install stock proof enclosure around the Craw Stane (Rhynie 1), complete with gate and all subject to land owner's permission.	£500.00	£600.00
1.3	Commission a stone conservator to carry out detailed condition survey of the carved surfaces and the 7 No remaining symbol stones and provide recommendations for their long term curation.	£2,000.00	£2,400.00
	<i>Sub total (indicative budget for urgent priority work)</i>	<i>£2,750.00</i>	<i>£3,300.00</i>
2.	<i>Necessary</i>		
2.1	Allow budget for preparing photogrammetric/scan images of each of the 7 No. symbol stones.	£7,000.00	£8,400.00
2.2	Allow budget for undertaking proposed conservation treatments including relocation of Rhynie symbol stones Nos. 2, 3 5, 6 & 8 to safe, secure temporary store (subject to stone conservator's recommendations).	£15,000.00	£18,000.00
2.3	Move to an environmentally stable, secure and visible location within Rhynie square including an allowance for design development and contingencies.	£125,000.00	£150,000.00
2.4	Professional fees associated with item 2.2 above including allowance for statutory application fees.	£20,250.00	£24,300.00
	<i>Sub total (indicative budget for necessary priority work)</i>	<i>£167,250.00</i>	<i>£200,700.00</i>
3.	<i>Desirable</i>		

	Item	Net	Gross
3.1	Provide appropriate on site / off-site interpretation.	£5,000.00	£6,000.00
	Sub total (indicative budget for desirable priority work)	£5,000.00	£6,000.00
	Total indicative budget for all recommended work	£175,000.00	£210,000.00

Notes:

1. The indicative costs summarised above do not include any allowance for inflation. The project timescale will be dependent on project funding and statutory consents.

Timescale / programme: It is recommended that the Urgent works are undertaken within the next 6 months and that the Necessary works are undertaken within the next two years.

2. The budget included in Item 1.3 above is based on a proposal prepared by Graciela Ainsworth dated 17th March 2020.
3. The budget included in Item 2.1 above is based on approximate costs provided by AOC Archaeology dated 16th March 2020.
4. The indicative budget noted for Item 2.2 above is provisional and subject to completion of the stone conservator's detailed condition surveys of each symbol stone. It does not include for any hire charges for suitable temporary storage accommodation for the symbol stones (5 no.) which may be incurred between the completion of Items 2.2 & 2.3.

8. Potential funding

Potential sources of funding for the proposed project to conserve and re-display the Rhynie symbol stones in a safe environment in the centre of Rhynie village include:-

- The Heritage Lottery Fund
- Aberdeenshire Council Archaeology Service
- Historic Environment Scotland
- Clashindarroch Windfarm, Vattenfall
- Upper Wheedlemount Windfarm
- Cairnmore Windfarm

8. Conclusions and recommendations

The collection of Class 1 Pictish symbol stones from the environs of Rhynie are an outstanding ensemble of their type and the Rhynie Man has few parallels. They are associated with an important Pictish power centre with extensive international connections. Individually and collectively they are of outstanding national significance.

The condition of the symbol stones currently sited in the village Square and kirkyard/cemetery car park east of the Manse are weathered and poor and they should be relocated to an enclosed shelter in order to preserve their detail and significance.

The discussions with the RCT and consultation with the local community has demonstrated an almost unanimous desire for the Rhynie symbol stones, which are not located in their original location, to be moved to safe and appropriate shelter(s) in the village Square. This aspiration is supported by the initial appraisal of the condition of the stones and by the general policies of Historic Environment Scotland (HES) and the National Committee on Carved Stones in Scotland. To progress this ambition the following actions will be required:-

1. A detailed audit and conservation condition assessment should be prepared for each of the Rhynie symbol stones. The principles of minimum intervention and sustainability should apply to any conservation works and interventions need to be justified on conservation grounds, be appropriate, carefully considered, authoritatively based, properly planned and executed and, where possible be reversible. An appropriate 3D record should be obtained to provide an accurate scale image of each stone's existing condition and inform the development of display options.
2. It is recommended that Rhynie symbol stones Nos. 2 & 3 are moved, as soon as possible, to a safe (temporary) internal environment where less harsh and unpredictable environmental conditions will allow a greater chance of long term preservation.
3. If Rhynie 5, 6 & 8 are retained in their existing location in the short term, the existing roof should be repaired or replaced and isolation pads should be provided between the symbol stones and the metal supports as a matter for immediate action.
4. The feasibility of protecting Rhynie 1 from further decay or damage from grazing animals or the climate should be investigated and if possible implemented as a high priority.
5. Any symbol stones which are moved to a temporary internal environment should be left for several months to dry out and stabilise before further conservation treatments are specified; it is hoped and intended that any treatment will be minimal.
6. The detailed and technical design of the site specific enclosure(s) in Rhynie Square for the Rhynie Man and all other Rhynie symbols stones at risk should be developed, based on the conservation condition assessment, analysis and report noted in item 1. above and budget costs prepared.
7. Scheduled monument consent will be required for any conservation intervention and the relocation of the symbol stones and planning permission will be required to erect any structures within the Square. It should also be noted that the War Memorial in the Square which dates from 1920 is a Category B-listed building and it is important that any intervention and any new structures do not detract from its setting and the views of the Memorial, Church, Square and Tap O'Noth. The war memorial was carved by Robert Morrison and comprises a superlative sculpted granite figure of an infantryman on tall, square plinth; it is the summit of craftsmanship in granite carving.
8. Site-specific interpretation plans for each group of carved stones should be prepared and the condition of each stone should be regularly monitored, and appropriate conservation action implemented.

Appendices

- A. Document records of the Scheduled Monuments
- B. Conservation Advice & Recommendations prepared by Spectrum Heritage
- C. Shelter Roof

Appendix A

Scheduled Monument

Craw Stane, symbol stone and enclosure 575m E of Mains of Rhynie

SM69

Status: Designated

Documents

Where documents include maps, the use of this data is subject to [terms and conditions](https://portal.historicenvironment.scot/termsandconditions) (<https://portal.historicenvironment.scot/termsandconditions>).

Type	Legal Documents
Title	SM69_Legal Doc https://portal.historicenvironment.scot/document/600003027

Summary

Date Added 30/11/1923	Local Authority Aberdeenshire	NGR NJ 49704 26358
Last Date Amended 09/01/2004	Parish Rhynie	Coordinates 349704, 826358

Type
Crosses and carved stones: symbol stone, Prehistoric domestic and defensive: enclosure (domestic or defensive, rather than ritual or funerary)

Description

Rhynie Parish Church, two symbol stones 25m ESE of SM11869

Status: Designated

Documents

Where documents include maps, the use of this data is subject to [terms and conditions](#)

<https://portal.historicenvironment.scot/termsandconditions>.

Type

Legal Documents

Title

SM11869_Legal Doc

<https://portal.historicenvironment.scot/document/60001411>

Summary

Date Added

20/03/2007

Local Authority

Aberdeenshire

NGR

NJ 49810 27149

TypeCrosses and carved stones:
symbol stone**Parish**

Rhynie

Coordinates

349810, 827149

Description

The monument comprises two Pictish symbol-bearing stones standing on the village green at Rhynie where they flank the entrance at the NW end of the square.

The S stone is a granite boulder measuring 70cm by 50cm by 30cm (known as Rhynie 3). Earlier observers describe this stone as incised with the figure of a man with a shield and a horseshoe or arch composed of five parallel arcs. The figure was shown walking from right to left, wearing a cloak, holding a ball-ended staff (probably a spear) in his left hand and

carrying a small rectangular shield. In 1996, the RCAHMS could only see faint traces of the carving; the stone is very worn and areas of the surface have flaked off.

The N stone is a smaller granite boulder 59cm by 48cm by 19cm (known as Rhynie 2) which bears a double-disc and Z-rod above a crescent and V-rod (the stone was re-erected upside down). Again there is now no trace of the carving.

The two symbol-bearing stones are said to have been moved around 1836 when the turnpike road was built at Rhynie, near the Plough Inn. A number of human bones were dug up near the site at the same time. After an interval in which they were placed beside the Howies Inn, the stones were removed in 1864 to the centre of the market square facing the church. They were removed from the centre of the square and placed together at the NW end of the square when the war memorial was erected in around 1918.

The area to be scheduled is composed of two circles, centred on each of the stones as described above and as shown in red on the accompanying map.

Statement of National Importance

Cultural Significance

The monument's archaeological significance can be expressed as follows:

Intrinsic characteristics: Both symbol stones have the potential to enhance the study of Pictish symbol stones and the development of Insular art in Britain and Ireland. While the carvings are worn, future recording techniques may have the potential to recover more detail of their original form and the stones have added importance when considered as part of the group of stones found in Rhynie.

Contextual characteristics: Although both stones no longer stand where they were originally erected, they are still closely associated with the locality. The Picts used symbols in a range of contexts, but the majority of surviving examples are found carved on stones. The earliest examples are found on unshaped stones (around 200 examples survive). The meaning of the symbols is much debated, but they may represent

personal names. The Rhynie examples probably date to the 6th or 7th centuries AD. Stones carved with human figures are rare.

Six symbol-bearing stones and two figure-bearing stones have been found in Rhynie. Isabel Henderson suggests the importance of Rhynie as a disseminating area for symbol-incised stones.

Associative characteristics: The Rhynie stones can best be understood in the context of the symbol-bearing stones erected in the E of Scotland during the 6th and 7th centuries AD. While the symbol designs are unique to the Picts, their content provides evidence for how the art of the Picts relates to the Insular art style of this period, and the relationship to art in different media, such as metalwork. Again, this provides important evidence for the relationship between the Picts and their early medieval neighbours. Although all but the Craw Stane (Rhynie 1) have lost their original landscape setting, it is known approximately where most of the Rhynie stones were first found, if not precisely where they originally stood. This means that as a group they can offer insights into the siting of symbol stones that are otherwise lacking in finds elsewhere. The records indicate that the stones were originally disposed in two groups, one focused on the knoll at the S end of the village, the other around the Craw Stane, each group bearing an incised figure.

National Importance

The monument is of national importance because it has an inherent potential to make a significant addition to the understanding of the past, in particular of the culture of the Picts in Aberdeenshire and their cultural links with other areas of Scotland and the British Isles. The information available on the original locations of these stones, and their group value as two of the eight symbol-bearing stones that have been located in the Rhynie area, enhances this potential.

References

Bibliography

The monument is recorded by RCAHMS as NJ42NE 32.2.

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Ritchie J N G 1985, PICTISH SYMBOL STONES: A HANDLIST 1985, Edinburgh, 7.

Shepherd I A G and Shepherd A N 1978, 'An incised Pictish figure and a new symbol stone from Barflat, Rhynie, Gordon District', PROC SOC ANTIQ SCOT 109, 211-22.

Smith A N 2000, 'MATERIAL CULTURE AND NORTH SEA CONTACTS IN THE FIFTH TO SEVENTH CENTURIES AD', in The prehistory and Early History of Atlantic Europe: papers from a session held at the European Association of Archaeologists fourth annual meeting in Goteborg 1998, BAR International Series 861, Oxford.

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About Scheduled Monuments

The monument consists of a Class 1 Pictish symbol stone, known as the Craw Stane or Rynie No 1. It is situated on a S facing slope just below the crest of a hill in a pasture field which overlooks the valley of the river Bogie to the E and the site of St Luag's church to the NE. The symbol stone stands within an enclosure, now showing as a cropmark. The monument was originally scheduled in 1923 and rescheduled in 1961. On both occasions only the symbol stone and a small area around it was scheduled. However, aerial photography of the area has demonstrated the existence of an enclosure in which the symbol stone stands. The monument is being rescheduled in order to include the cropmark enclosure within the scheduled area.

The Craw Stane is a rectangular block of grey granite, measuring 0.9m in breadth and 0.4m wide and 1.85m in height set in a concrete base. Its SW face bears the incised figure of a fish and, immediately below it, a Pictish beast. The symbols are grooved, pecked and reasonably clear.

The symbol stone stands at the eastern edge of the cropmark of a roughly oval enclosure. It is formed of three concentric rings, which probably represent palisade ditches. The outer ring has a maximum diameter of 66m SW-NE. It is unclear what relationship there was between what appears to be a defended site, dating from the late 1st millennium BC to mid-1st millennium AD, and the Pictish symbol stone, which dates from around the 6th century AD. However, the location of the symbol stone within the cropmark does suggest that it is on or very near its original location, although re-erected with a concrete base.

The area to be scheduled includes the Craw Stane and the cropmark enclosure, and an area around them in which related remains are likely to survive. The area is four-sided and has maximum dimensions of 150m NE-SW and 140m transversely as marked in red on the attached map.

Statement of National Importance

The monument is of national importance as an example of an in situ Class 1 Pictish symbol stone situated within a complex enclosure, which survives as a cropmark. The site is associated with several other symbol stones; the Rynie Man stone was ploughed up down-slope from the Craw Stane, and in total eight Pictish stones have been found in the vicinity of St Luag's Church, perhaps focused on the Craw Stane and its surrounding enclosure. The existence of the symbol stones demonstrates the significance of this site. The

cropmark itself has enormous potential to improve our understanding of the context in which Pictish symbol stones were erected.

References

Bibliography

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RCAHMS 1994, PICTISH SYMBOL STONES: A HANDLIST 1994, Edinburgh, 10, No. Rhynie 1.

Ritchie J N G 1985, PICTISH SYMBOL STONES: A HANDLIST 1985, Edinburgh, 8.

Stuart J 1856, SCULPTURED STONES OF SCOTLAND, 1, Aberdeen, 4.

About Scheduled Monuments

Historic Environment Scotland is responsible for designating sites and places at the national level. These designations are Scheduled monuments, Listed buildings, Inventory of gardens and designed landscapes and Inventory of

Rhynie, three symbol stones 60m SE of Manse

SM84

Status: Designated

Documents

Where documents include maps, the use of this data is subject to [terms and conditions](#)

(<https://portal.historicenvironment.scot/termsandconditions>).

Type

Legal Documents

Title

SM84_Legal Doc

(<https://portal.historicenvironment.scot/document/6000030>)

Summary

Date Added

16/11/1923

Local Authority

Aberdeenshire

NGR

NJ 49975 26586

Last Date Amended

23/02/1998

Parish

Rhynie

Coordinates

349975, 826586

Supplementary Information

Updated

18/07/2018

Type

Crosses and carved stones:
symbol stone

Description

The monument to be scheduled comprises three symbol stones, located within a stone and timber shelter at the north end of the cemetery carpark, 60m SE of Rhynie Manse.

Two of the stones, now set into the ground within the shelter, were formerly scheduled as "Rhynie Old Kirkyard, two symbol stones", at their

former location inside the cemetery (Rhynie, nos. 5-6). They had been dug up in 1878 from the foundations of the old church. One is whinstone (face: 1.6 x 0.76m), with a beast's head, double disc, Z-rod, and mirror-and-comb symbols on it, while the other is red granite (0.83 x 0.43m) with a double disc, Z-rod, crescent and V-rod with mirror symbols.

The third stone (Rhynie, no. 8), now fixed to the back wall of the shelter, was found in 1978 in the area SSE of the Craw Stane. It is a fragment (0.43 x 0.39 x 0.16m) of a larger granite block which has been broken and squared off after the carving of the symbols on it. The symbols include the outline of a beast, surmounting a comb and a now-truncated S-shaped figure.

The subjects to be scheduled comprise the three symbol stones and their fixtures only, and exclude the rest of the shelter. The location of the stones is indicated in red on the accompanying map extract.

References

Bibliography

No Bibliography entries for this designation

About Scheduled Monuments

Historic Environment Scotland is responsible for designating sites and places at the national level. These designations are Scheduled monuments, Listed buildings, Inventory of gardens and designed landscapes and Inventory of historic battlefields.

We make recommendations to the Scottish Government about historic marine protected areas, and the Scottish Ministers decide whether to designate.

Scheduling is the process that identifies, designates and provides statutory protection for monuments and archaeological sites of national importance as set out in the Ancient Monuments and Archaeological Areas Act 1979.

We schedule sites and monuments that are found to be of national importance using the selection guidance published in [Designation Policy](#)

Appendix 2

Rhynie Symbol Stones

Conservation Advice & Recommendations
October 2019

Spectrum Heritage



1 Advice & Recommendations

1.1. Biological growth and soiling removal

We recommend the removal of soiling and biological growth from the stones. This will help assess the condition of the stones, especially in the case of Rhynie 2 and 3, where most of the surface is covered, and the carvings barely visible.

Soft wooden natural bristle brushes should be used for a preliminary removal of the soiling that has accumulated on the surface of stones. The moss and algae should be softened by repeatedly spraying the affected areas with water, using garden hand sprayers. Wooden tools should be used to remove the biological material to avoid any scratches on the stone surface. Any remaining biological material should be removed using a dental specification GV6 steam cleaner and small nylon bristle brushes. Regular swabbing of the surface should help prevent any dirty water run-off from soiling lower parts of the subject.



Fig. 26. Removal of soiling and biological growth on a granite Pictish symbol stone from Inverurie using wooden tools and brushes.



Fig. 27. Removal of biological growth and soiling of a granite Pictish symbol stone from Inverurie using a GV6 dental specification steam cleaner.

1.2. Consolidation

Areas of disaggregation, such as those on Rhynie 5 and any other area identified after desoiling and removal of biological growth, should be consolidated against further decay. Given their location outdoors, we would use Primal B60A, an acrylic colloidal dispersion supplied in water. Primal has a much finer particle size than other emulsions, approximately 0.03 microns, which makes it a very flexible and durable consolidant, suitable for the consolidation of old masonry and crumbling stone.



Fig. 28 . Example of consolidation of a sandstone monument using a Primal B60A acrylic colloidal suspension.



Fig. 29. The same area, after consolidation.

1.3. Repairs

The cracks on Rhynie 3 and 5 should be repaired, as well as any other cracks and fissures found after desoiling and removing the biological growth.

Cracks up to 2mm wide should be made secure against the ingress of moisture by injecting a solution of Primal B60A in water, consolidating and preventing further water ingress. The cracks should be injected using syringes and fine hypodermic needles. Care should be taken when injecting to ensure that the consolidant penetrates into the defective area.



Fig. 30. View of a crack during consolidation of a sandstone monument.



Fig. 31. View of the same crack after consolidation and filing.

For larger cracks (wider than 2mm) the area should be consolidated using an acrylic resin based repair mortar. The acrylic solution should be injected into available openings in the crack area using a syringe and fine hypodermic needle. This effectively re-adheres the detached surface to the stone substrate. In addition, an acrylic resin based repair mortar containing a very fine aggregate will be inserted into the crack and brushed into available openings. This treatment is effective in arresting continued loss of material. Wider cracks should be filled by applying a repair mortar consisting of a mix of Primal suspension in water with stone dust. The acrylic dispersion will “set” by evaporation and is reversible.

Special attention will be paid to colour matching to reduce visibility of the fills with colour and opacity. Spectrum Heritage has a wide selection of hand crushed stone dust of various stone types and colours to match up any stone.



Fig. 32. Repair of a crack on a granite Pictish symbol stone from Inverurie.



Fig. 33. Colour matching of the mortar used for repairs on a granite Pictish symbol stone from Inverurie.



Fig. 34. Repair on Gravestone at Kirkton Churchyard, Burntisland. Water trap (Lithomex) and fissure (stone dust and Primal).



Fig. 35. Repairs of fissures on a gravestone at Kirkton Churchyard, Burntisland, carried out using a mixture of stone dust and Primal.

1.4. Documentation

Historical documentation suggests the progressive deterioration of the carved surfaces of the stones. Rhynie 2 and 3 are the more effected. Digital documentation in 3D has proven to be an invaluable tool for the preservation and conservation of cultural heritage; this technique is often used to assist conservation work.

1.4.1. Photogrammetry

Photogrammetry is a technique that makes it possible to obtain reliable information from physical objects and the environment through processes of recording, measuring, and interpreting photographic images. Through different processes, photogrammetry can generate highly accurate metric 3D digital models of objects as an end product.

Photogrammetric 3D model can be used to create orthophotos, geometrically corrected images that are really useful to observe objects in detail. These can be used to create other products, such as alteration maps showing an object's deteriorated and treated areas.



Fig. 37. Photogrammetry capture of a Pictish symbol stone from Inverurie.



Fig. 37. Photogrammetric model with and without texture of a Pictish symbol stone from Inverurie.



Fig. 39. Orthophotos created through photogrammetry being used to create an alteration map of a Pictish symbol stone from Inverurie.

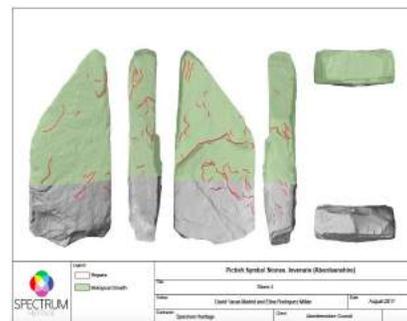


Fig. 40. Alteration map of a Pictish symbol stone from Inverurie created through photogrammetry.

1.4.2.RTI

RTI, or Reflectance Transformation Imaging is a multi-image photographic technique that captures a subject's surface, shape, and colour. An RTI file is composed of a series of photographs of an artefact taken with a fixed camera and illuminated from different angles in each take with an artificial light source. Those photographs are combined into a unique file that enables the interactive re-lighting of the object from any direction. This technique is often used to read inscriptions on stone that has suffered erosion, and could help visualise the carvings of the most eroded Pictish symbol stones from Rhynie.



Fig. 50. Illegible gravestone before RTI. Collaboration with Archaeology Scotland and Adopt a Monument Project.



Fig. 51. RTI of the same gravestone, with its inscription now legible.

1.4.3 Conservation

Before commencing any conservation work, a method statement and specification would have to be submitted to Historic Environment Scotland (HES) as part of an application for Scheduled Monument Consent to move the stones from their current locations.

This statement would be submitted to our client for approval prior to the application, and would also include a programme and methodology for the lifting of the stones from their current locations, the supervision, the transport method and security and storage of the stones in a location where they can be worked on as required and described in this section, to conserve each particular Rhynie Symbol Stone.

The timescale for preparing a Scheduled Monument Application, and obtaining consent from Historic Environment Scotland can take three to six months.

JRA Project Ref: 18/41 A_01 - Shelter Roof
Project: Rhynie Symbol Stones - Shelter



Shelter Roof

All existing cover and roofing boards to be carefully removed. Confirm that the existing roof structure is in good condition.

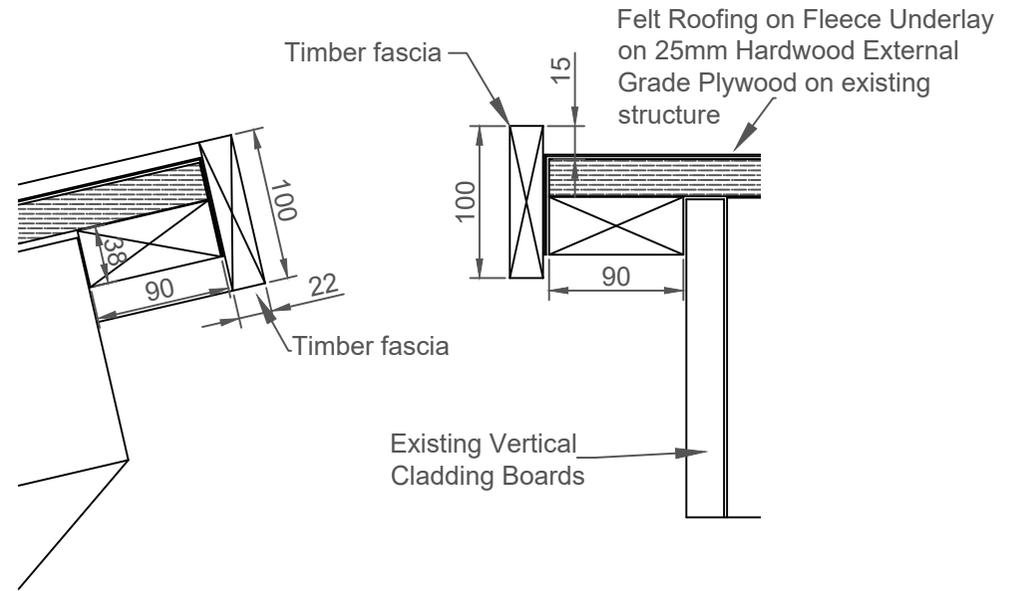
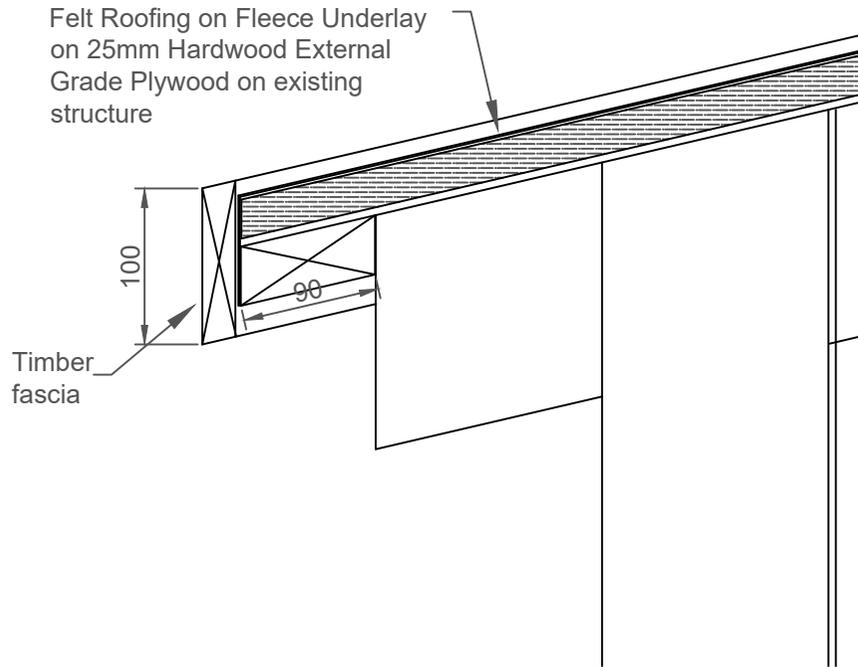
Measure the roof to take 25mm External Grade Hardwood Plywood Sheet - (25mm x 2400mm x 1200mm)

The Roof Sheet should overhang the existing structure by 90mm, The sheet should be covered by a fleece underlay and then covered with roofing felt.

The roofing felt should be applied in layers that overlap, start at the bottom of the roof line and work up so any water with shed down the roof

Tack the paper down in the centre so that it doesn't blow away

Staple / or nail the paper every 100mm, make sure the paper lies in flat strips that are smooth - there should be no wrinkles or spots that could catch moisture. Over lap the felt at all four edges and fix new fascia boarding.



Revision:

Do not use scaled dimensions from this drawing. All dimensions are to be verified and checked on site by the main contractor before the commencement of any shop drawings or work whatsoever, either on his behalf or for the subcontractors or suppliers.
 All discrepancies are to be reported to the architect immediately.
 This drawing is to be read in conjunction with all related Architects, Engineer's and specialist drawings and relevant information

Client:
Rhynie
 Project:
Shelter

Drawing No: Revision:
18/41INF01

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Drawing:
Detail
 Issue Status:
Information

Scale:
NTS
 Date:
13/01/20