

**15 091**

**St Comghan's Church, Kilchoan**

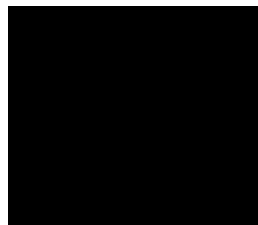
**STRUCTURAL SURVEY REPORT**



Prepared by B J Smith  
Technical Director

BSc CEng MStructE CMIOSH

4<sup>th</sup> June, 2015



## **Contents**

- 1.0 Executive Summary
- 2.0 Introduction
- 3.0 History
- 4.0 Site Observations
- 5.0 Conclusion and recommendations

*Appendix 1* Site location and setting

*Appendix 2* History

*Appendix 3* Photographic records

*Appendix 4* Engineers Sketches

	Photo Ref.
<p data-bbox="193 488 528 521">1.0 <u>Executive Summary</u></p> <ul data-bbox="240 600 1206 1070" style="list-style-type: none"><li data-bbox="240 600 1066 633">– 13<sup>th</sup> Century Historic Monument with 18<sup>th</sup> Century interventions.</li><li data-bbox="240 656 587 689">– Derelict and unoccupied.</li><li data-bbox="240 712 1206 801">– Four at risk sections requiring immediate attention identified within the report.</li><li data-bbox="240 824 1206 913">– Two further sections identified as requiring attention in the short to medium term.</li><li data-bbox="240 936 1206 1025">– The relict monument fabric remains in generally sound condition, but would benefit from consolidation repairs in the medium term.</li><li data-bbox="240 1048 1086 1081">– Restoration to weather tight structural shell should be considered.</li></ul>	

## 2.0 Introduction

We were instructed by Mr Jonathan Haylett (resident Kilchoan) to carry out a survey and report on the structural condition of St Comghan's Church, Kilchoan. Mr Haylett was particularly concerned about possible instability of stonework above openings, as well as the general status of the church structure.

We visited the church on Wednesday 29<sup>th</sup> April 2015, in the company of Mr Haylett, and Mr Francis Shaw of Shaw and Jagger Architects, who will be advising separately on conservation, planning and Architectural matters.

The church is located on a gently sloping hillside looking down over Kilchoan Bay, as indicated in *Appendix1*.

The site survey involved a visual inspection from ground level, North, South and West elevations, and internal space. We did not gain access to the land beyond the East gable, so have completed our report based on photographs of the East gable supplied by Mr Haylett.

We have not inspected the woodwork or other parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the property is free from defect.

### 3.0 History

St Comghan's church is an Historic Monument, Index number 7824,RCHAMS, record number NM46SE3.

We have not researched the history or Archaeological aspects of the church, but have been briefed by Mr Haylett who gave reference to two internet articles which are included in *Appendix2*. The following passages have been extracted in part in order to give a general impression.

#### **Item 1.**

“Old Parish Church, Kilchoan: The roofless shell of the old parish church stands within its burial-ground about 400m NW of the present church. The building is mainly of 18th-century date, but evidently incorporates part of an earlier church dating from the 12th or 13th century.

The church measures 14.4m from W to E by 5.2m transversely within walls varying in thickness from 0.6m to 1.1m. The masonry is of random rubble with sandstone dressings. The S wall, which appears to have been entirely reconstructed in the 18th century, contains a slab-lintelled doorway and three semi-circular-headed window-openings. A second doorway, now blocked, can be seen towards the E end of the N wall, which likewise appears to be of 18th century date. The W gable-wall probably incorporates a good deal of medieval masonry, although the upper portion has been reconstructed, and the W face partially obscured by the erection of a burial-enclosure. A deeply-splayed window having a plain lintelled daylight-opening, now blocked, appears to be an 18th-century reconstruction of an original medieval window in the same position. Above, there is an 18th-century which evidently lit a gallery at the W end of the church. The gable is surmounted by the stump of a plain rectangular bell-cot. The lower part of the E gable-wall is also of medieval date. A central window-opening at ground-floor level, now blocked, retains part of a rebated daylight-opening of 12th or 13th-century character. Above, is an 18th century window similar to that in the

opposite gable; there was also a gallery at this end of the church.

At the Reformation the medieval parish of Kilchoan was joined to the adjacent parishes of Arisaig and Elanfinan to form the united parish of Ardnamurchan. The church was superseded by a new building at NM 4883 6379 ( ) in 1831 (SDD Listed: B - still in use), at which date it was reported to have been 'long in ruins'. The dedication was to St Comgan. There are two 14th/15th century grave-slabs in the churchyard.

New Statistical Account (NSA) 1845; Orig Paroch Scot 1854; J M MacKinlay 1914; RCAHMS 1980, visited 1972.

The roofless shell of a church, in a condition similar to that described by the RCAHMS. A stone dated 1763 is in the lintel of the most easterly of the three windows in the S wall. The 14th/15th century grave-slabs lie some 8.0m S of the SW corner of the church. The graveyard is still used”.

## **Item 2.**

“The church stands in a large burial ground which is surrounded by a drystone wall. The burial ground is entered by a small gate on the west side, with a much larger gate, which would have allowed access for a cart, on the north side. No local record exists of the burials in the churchyard, though some of them are numbered, but there must be hundreds. Some are marked with gravestones, from elaborate granite monuments to rough, unmarked pieces of slate, others have grave slabs, but many graves have lost their markers. The oldest are two grave slabs, believed to be from Iona and dated to the 14th or 15th centuries.

Only the walls of the church remain, the roof having collapsed and been removed. The structure is aligned east-west and measures 14.4m by 5.2m. Although the walls are said to be of differing dates, all are built of a masonry of random rubble with dressings of greenish-grey sandstone, possibly from Lochaline on Morvern.

The RCAHMS report states that the south wall is entirely 18th century. The entrance, which has a stone slab across the lintel, and the three semi-circular headed windows are all 18th century. The RCAHMS report

suggests that the whole south wall was rebuilt at the same time. The key stone at the top of the window at the right of the picture has 1763 carved into it, the presumed date that the reconstruction of the church was completed.

According to the RCAHMS, the insertion of a door was carried out in the 18th century restoration, and the blocking relatively recently. There are a couple of points to note here. Firstly, as can be seen, the lower part of the door was blocked in a different way from the upper. Secondly, when one searches for the blocked door on the exterior of the building, it can't be seen. The reasons for these are a mystery.

The lower part of the west gable wall has, according to the RCAHMS, 'a good deal of mediaeval masonry'. In it there is a lintelled window which is 'deeply splayed' – narrow on the exterior and wide on the interior. While this is blocked, it is suggested that this was not a mediaeval window but a later replacement of an original window. As with the north wall door, the blocking was done some time after the 18th century.

The upper part of the west gable was reconstructed in the 18th century, and included a stone-lintelled window. This lit a gallery at the west end of the church, probably accessed by stairs which ran along the north wall. There is clear evidence for this: there are sockets in the north and south walls which held the main beam which supported the gallery.

The RCAHMS report states that the west gable is 'surmounted by the stump of a plain, rectangular bell cot', but this is difficult to see today.

As with the west gable, the lower part of the east gable wall is mediaeval – it's seen here from the interior. The centrally-placed window opening at ground floor level, now blocked, retains part of a rebated daylight opening of 12/13th century age, while the upper part of the gable is similar to west wall, having an 18th window opening. As with the west gable, there was also a gallery at this end of the building, with its beam-sockets.

The exterior of the east gable is difficult to access through dense woodland, but it's worth the effort as some of the features of the original mediaeval building are visible, including these freestone quoins which form the angle of the walls. They are of a greenish sandstone which isn't local.

As already mentioned, the building, as reconstructed in the 18th century, had galleries at the east and west ends to increase its capacity.

The galleries were reached by internal staircases in the northwest and northeast corners, with the pulpit placed between them against the north wall".

#### 4.0 Site Observations

Our comments and observations are restricted to the relict stone structure of the church itself.

Reference should be made to *Appendix 3* for photographic records. Engineers sketch 15-091-PO1 shows the location of photographs taken during our site inspection. Photographs 43 to 46 showing the East gable have been included courtesy of Mr Haylett.

Reference should be made to *Appendix 4* for Engineers sketches which have been prepared to help illustrate the site observations.

#### 4.1 South Gable Wall

Refer to Engineers sketches

15-091-CC02, CC03,CC11,CC12,CC13,CC14,CC15.

15

16

17

43

The archive information indicates that the South elevation is not original and was constructed circa 18<sup>th</sup> Century.

The walls are relatively thick and constructed with varying sizes random stone blocks integrated with lime mortar.

The eaves stonework is uneven and partly collapsed in places. Sections are overgrown with vegetation. The expectation is that some blocks will be loose/un-cemented.

There are three arched window openings and one square headed door opening. All four opening structures are at risk of failure:

At Risk lintel 1

The stone lintel over the current entrance is framed with a deep but uneven block of finely laminated rock. There are two distinct cracks running vertically through the lintel at approximately 1/3<sup>rd</sup> points, visible internal and external.

04  
05  
06  
07  
08  
09  
10  
11  
12  
13  
14

Photograph 12 shows fine vertical laminations and photograph 14 shows spalling at the centre of the front face.

The stonework above the lintel at the front elevation remains intact and is likely to provide an “arch effect” which helps to reduce the load on the lintel.

09

There is a void behind the lintel internally and the expectation is that an inner timber lintel has deteriorated and fallen away/or been removed. The void expands above the opening where part of the inner stonework has collapsed.

In our opinion the external stone lintel has reached the end of its serviceable life. As a result of cracking, and weathering/freeze/thaw action of laminates, the stone mass of the lintel will suffer from progressive disintegration leading to inevitable collapse. It is difficult to predict a timescale for decay, but it is clear to us that there is a limited window of opportunity to arrest the decay and stabilise/repair/otherwise support the lintel intact. This may include the reinstatement of the internal timber lintel and reconstruction of the collapsed inner stonework. Invasive techniques to improve the stone fabric of the lintel are not only undesirable, but they may prove to be damaging. Therefore, some sort of secondary support to the soffit, leaving the lintel itself free of the burden of supporting the stonework above may be the best option.

At risk Arches 1,2 and 3

The three stone arches have all deteriorated to a similar degree. They lack the vertical load from collapsed stonework above which creates compression and stability. The arch keystones and springers have been tidily cut so that the bearings are flat. However, there are occasional gaps, and as the modest amount of lime mortar used in their construction has weathered away, they are now effectively un-cemented.

15  
16  
17  
18  
19  
22  
24  
25  
26

The structure of the inner leaf is now absent/collapsed/removed, so the arch stone themselves are found to be free of any form of lateral restraint.

In our opinion, whilst the arches are currently intact, they are finely balanced with no restraint which means that they will inevitably be susceptible to deterioration due to weathering of joints and the effects of high winds. In engineering terms we therefore consider them to lack the necessary degree of safety required to ensure stability and we should therefore advise that they are classified as UNSAFE STRUCTURES.

Because the arch profiles remain intact, and despite of the potential instability it is clear to us that there is a limited window of opportunity to arrest the decay and to stabilise/repair/otherwise support and conserve the arches as they stand. In simple terms this would probably involve the reinstatement of the timber backing lintel, and the reconstruction of the stone walling to reinstate up to the original eaves level. Repointing of the arch stone joints will also contribute to the overall structural integrity.

General condition stone walling

The stone walling would inevitably be affected by the collapse of any of the four "at risk" openings identified above. However, assuming that all four openings can be stabilised in the short to medium term, then the immediate security and serviceability of the adjoining stonework will be conserved.

This would arrest the immediate threat, but deterioration due to weathering joints and widespread invasion by vegetation and the roots of small shrubs will cause an accelerated decay. The solution would be to consolidate the stonework by appropriate repointing work and occasional careful dismantling and re-construction of loose bricks in accordance with recognised conservation practises.

#### 4.2 West Gable Wall

The lower part of the West gable wall is considered to date back to the 13<sup>th</sup> Century (refer to section 3.0 History). Archaeological survey and assessment will no doubt determine a meaningful division between this and the later 18<sup>th</sup> Century intervention.

Whilst the gable verge stonework appears to be uneven with occasional loose stone blocks, the general impression is that the gable wall remains generally true to line and intact.

On the inner elevation, above the high level window opening there is a precarious section of overhanging stonework which remains stable due to intact lime mortar joints. This will deteriorate due to weathering over time, and it is therefore recommended that measures are taken to reinstate the support of the inner leaf. This may involve temporary support measures; ideally it would involve reinstatement of the inner timber lintel and reconstruction of the stonework which has collapsed.

Deterioration due to weathering of joints and occasional invasion by vegetation and the roots of small shrubs will cause an accelerated decay. The solution would be to consolidate the stonework by appropriate repointing work and reconstruction of loose stone blocks in accordance with recognised conservation practices.

21  
22  
30  
31  
32  
34  
35  
38

30

4.3 <u>North Elevation</u>	
<p>In our opinion the lower part, if not all of the North elevation is probably original 13<sup>th</sup> Century structure. There is an elevated mound of ground along the full North elevation, and the impression we have formed is that this part of the burial grounds is not original. This is supported by the presence of the profile of a blocked in door opening at the inside face, significantly lower ground level (photos 28,29).</p>	<p>28 29 32 36 37 38 39 40 46</p>
<p>Despite the mound against the outside face, the North wall appeared to be true to line and generally intact. Whilst we do not know its thickness and construction there is nothing to suggest that the mound has caused instability or weakness of the wall.</p>	
<p>There is a degree of disintegration of stonework and lack of stonework continuity at the North East corner. This is of concern, and whilst there is no immediate threat to the localised stonework structure, this is a key element of the wider structure and as such its consolidation should be prioritised following that of the four at risk openings identified earlier in this report.</p>	<p>39 40</p>
<p>Deterioration due to weathering of joints and occasional invasion by vegetation and the roots of small shrubs will cause accelerated decay. The solution would be to consolidate the stonework by appropriate repointing work and occasional careful dismantling and reconstruction of loose stone blocks in accordance with recognised conservation practices.</p>	
4.4 <u>East Elevation</u>	
<p>Whilst we gained access to the inside of the church to inspect the East elevation, we didn't gain access to the external elevation concealed in part by woodland. We therefore rely upon photographs provided by Mr Haylett.</p>	<p>20 27 39 44</p>

The lower part of the East gable wall is considered to date back to the 13<sup>th</sup> Century (refer to section 3.0 History). Archaeological survey and assessment will no doubt determine a meaningful division between this and the later 18<sup>th</sup> Century intervention.

45  
46

Whilst the gable verge stonework appears to be uneven with occasional loose stone blocks, the general impression is that the gable wall remains generally true to line and intact.

On the inner elevation, above the high level window opening there is a localised section of collapsed stonework associated with the absence of inner timber lintel. The remaining stonework peak appears to remain intact, but a closer inspection would be advisable to check its stability/safety.

Deterioration due to weathering of joints and occasional invasion by vegetation will cause an accelerated decay. The solution would be to consolidate the stonework by appropriate repointing work and occasional careful dismantling and reconstruction of loose stone blocks in accordance with recognised conservation practices.

5.0 Conclusion and Recommendations

We have identified the stonework above the four openings at the South elevation as being “AT RISK”.

In our opinion their condition is such that immediate action should be taken to ensure their stability in the short term in order to avoid collapse. At this stage we have not classed the openings as “DANGEROUS STRUCTURES”, although we strongly recommend that this is kept under review, with regular monitoring and inspections, especially after periods of high wind.

We have identified two areas of localised stonework which should be given priority for attention following the “AT RISK” sections. They are the stonework above the opening at the West gable, and the stonework at the North East corner. This should also be given attention in the short term to ensure conservation.

We should then consider the remaining stonework structures as being of a lesser priority and as such medium term attention would be of benefit. This might be carried out as part of a more comprehensive conservation exercise and it would involve repointing and re-integration of loose stone blocks to conserve the Monument.

We have no doubt that the Monument would benefit from restoration of the roof and other core elements to present an integrated structure with improved weather tightness. Whether or not this involves refurbishment to bring the building back into occupation would be a matter for the local community and the relevant authorities.

We should stress that as St Comghan’s is a recognised Historic Monument it is essential that there is no intervention which might affect the protected fabric without prior formal consultation with all of the relevant authorities, and in particular Historic Scotland. There are recognised procedures and

methods for protecting and consolidating Historic Monuments and this is something to respect at all times.

***Appendix 1 – Site Location and Setting***

## Site Location



## Site Setting



***Appendix 2 – History***

***(See attached documents)***

**Kilchoan Old Parish Church**

***(See attached documents)***

**The Maclains Church**

***(See attached documents)***

## **Scheduled Monument Details**

***(See attached documents)***

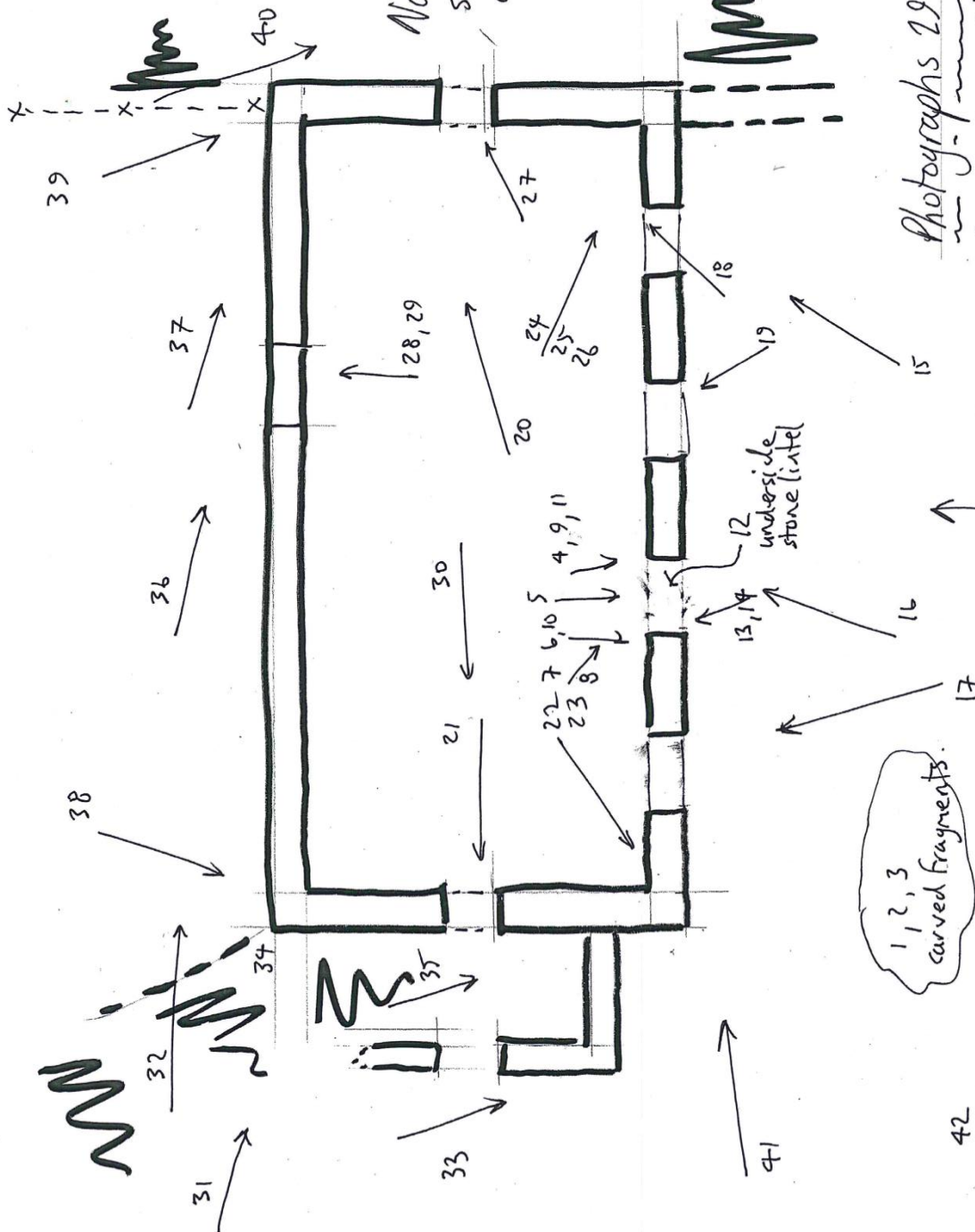
***Appendix 3 – Photographic Records***

***(See attached documents)***

***15-091-P01 Photographic key***

***(See attached documents)***

46 (landscape)



No access this side on day of survey.

Photographs 29-4-2015.  
(43 - 46 provided courtesy Jonathan Haylett).

<b>arcengineers</b>	
CONSULTING STRUCTURAL AND CIVIL ENGINEERS FFOS CITY MILLS - PEEL STREET - LEEDS - LS27 8QL Phone: 0113 253 3900 - Fax: 0871 714 6751 www.arcengineers.co.uk	
Client	J. Haylett.
Project	St Comghua's Church
Title	Photograph key.
Status	
Drawn	BS
Checked	
Date	1/6/15
Size & Scale	NTS.
Drawing No.	15-091-P01

**Photographs 01 to 46**

***(See attached documents)***



Picture 1



Picture 2



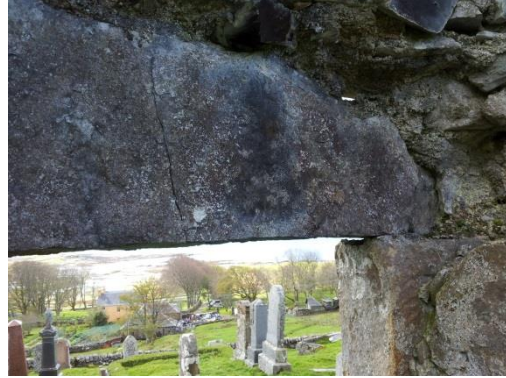
Picture 3



Picture 4



Picture 5



Picture 6



Picture 7



Picture 8



Picture 9



Picture 10



Picture 11



Picture 12



Picture 13



Picture 14



Picture 15



Picture 16



Picture 17



Picture 18



Picture 19



Picture 20



Picture 21



Picture 22



Picture 23



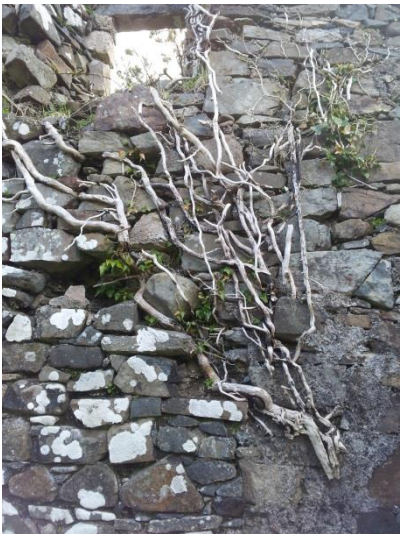
Picture 24



Picture 25



Picture 26



Picture 27



Picture 28



Picture 29



Picture 30



Picture 31



Picture 32



Picture 33



Picture 34



Picture 35



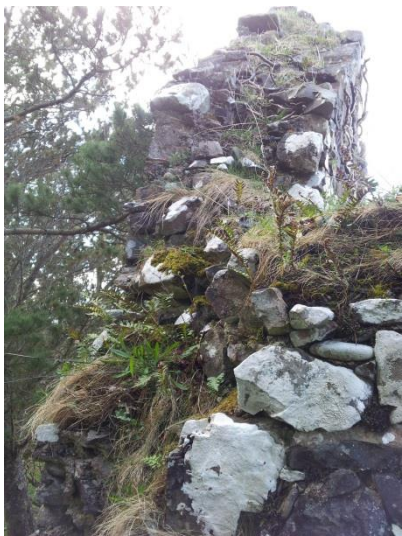
Picture 36



Picture 37



Picture 38



Picture 39



Picture 40



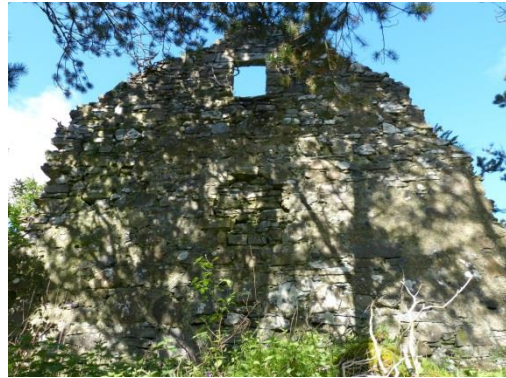
Picture 41



Picture 42



Picture 43



Picture 44



Picture 45



Picture 46

***Appendix 4 – Engineers Sketches***

***(See attached documents)***

**15-091-CC01 to CC15**

***(See attached documents)***