Synagogue, Merthyr Tydfil

RECORD OF BUILDING AND CONDITION ASSESSMENT REPORT

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1.0 INTRODUCTION AND OBJECTIVES OF REPORT

1.1 Introduction and Purpose

This Record of the Building and Condition Assessment is written by GWP Architecture on behalf of the anticipated owners of the site and the heritage asset, the Foundation for Jewish Heritage.

The building is the Merthyr Tydfil Synagogue, Church Street, Merthyr Tydfil, located at the top (east end) of the steep Church Street. The building is set dramatically against a dense section of woodland, and rises steeply up the hill, with long, steep flights of steps to both sides of the building. To the north-west of the site is Primrose Hill House and Union Street, to the north and east is Thomastown Park, to the south is housing which includes Bryn Heulog and Sunny Bank Villa, and to the west is the sloping hill of Church Street leading down to the Town Centre.

Merthyr Tydfil Synagogue was designed by Charles Taylor, architect, and erected by John Williams, builder for the Merthyr Tydfil Hebrew Congregation; both men being local to Merthyr Tydfil. The synagogue was built between 1876-7, in a subdued Gothic Revival style; the laying of the corner stone taking place in March 1876 and the opening and consecration of the synagogue being in June 1877. The synagogue is grade II listed "*primarily for historic interest as the oldest remaining Synagogue building in Wales*." The synagogue is also situated within the '*Thomastown Villas*' character area of the Thomastown Conservation Area.

The purpose of this report is to comprise a full record of the building - externally and internally - and summarise the condition of the respective elements of fabric. The report also summarises the proposed repair, restoration and adaptation approaches.

1.2 The Inspection and the Report

The report is based on several visits undertaken between 2018 and 2025.

The inspections were purely visual and undertaken from external ground level and all accessible internal floor levels. A drone was flown over the roof, and so photographic footage from above the roof was available.

Our best endeavours were used to see as much as was reasonably possible from as good a vantage point as possible; however, we cannot guarantee that all defects have been identified, due to access, the height of the building, poor lighting in areas, furniture in areas and the inability to see some areas properly. Some issues will only become evident when scaffolding, or other direct access, is set up. As a result, we would recommend that any costings allow a robust contingency for defects yet to be established.

No intrusive investigations were undertaken nor any intervention with mechanical tools. We have also undertaken no assessment of the ground conditions nor the foundations for the building. Likewise, we did not undertake a level assessment of the walls for their verticality.

The assessment and this report are not intended to establish every defect or issue, but to provide a preliminary review of what is readily apparent and visible, given access and visibility constraints. Prior to rectifying defects, a more detailed assessment of the specific aspect may be deemed beneficial, by a suitable specialist / conservator.

The report, along with the photographs within this report, seek to give an appreciation of the areas of the fabric which would require, or benefit from, attention. It is possible that not all examples of each particular defect type have been identified, however, those defects which were most evident should have been identified.

Should works proceed to repair and restore aspects of the building, more detailed appraisals of some aspects of the building fabric may be necessary, including some opening up, and a design and detailed specification may need to be produced, upon which this report may, if relevant, guide.

During any repair works, once access is improved with scaffolding installed, and paintwork etc has been stripped, then a more detailed assessment can be made of certain aspects. However, using the specifications within the report, it should be clear to those engaged in any detailed design and physical repair work what the nature of repair proposed is for each defect, once its full extent is discovered.

Following description of each defect, suggestions have been given as to ways in which the defects might be remedied.

1.3 Statutory Designation - Listing

The Merthyr Tydfil Synagogue (Listing Entry Name: Merthyr Christian Centre) is protected by a grade II listing, which was designated on 16 October 1978, and was last amended on 13 January 1988.

The listing (with a Cadw ID No. of 11426) states:

History
Built as a Synagogue, 1872-5, in heavy Northern Gothic style.

Exterior
Snecked rubble facings with ashlar bands and dressings; slate roofs with red tiled ridges and finials. Crowning gable with polygonal finials and narrow louvred openings. 5-light window with lancets and blocked lights over 3-storey transverse n ex. Narrow entrance gable, with plate-traceried window under scissor-braced bargeboards, flanked by two 2-storey polygonal staircase turrets with conical roofs on eaves brackets, narrow windows with stone lintels. Double flight of steps with stone piers, iron balustrade (partly missing) and iron lamp standards rises to gabled doorway with dripstone.

Reasons for Listing
Included primarily for historic interest as the oldest remaining Synagogue building in Wales.

Bibliography
'britishlistedbuildings.co.uk' website.
Newman, John. 'The Buildings of Wales – Glamorgan' 1995

1.4 Authorship

This document has been produced by Ashley Davies, an RIBA-accredited Specialist Conservation Architect, following a visits to, and appraisals of, the site between 2018 and 2025.

Ashley is also a Chartered Architect, a member of the RIBA Conservation Register National Steering Group; a Supporter of the Institute of Historic Building Conservation; has twice been the conservation specialist on the RIBA Regional Architecture awards panel; has lectured in 'Conservation Principles' at University; has presented at conferences on the theme of building conservation; and has appeared on a few television programmes talking about his passion for restoring historic buildings. He has undertaken several Building Conservation courses, including at SPAB and the RIBA. He has delivered dozens of heritage-led projects over his career involving the repair, restoration and adaptation of many grade I, II* and II listed buildings and Scheduled Ancient Monument.

In addition – and often, in parallel - Ashley has assessed and written over 140no. Historic Building Reports for over 90no. historic buildings and sites, including over 40no. Detailed Condition Assessments.

1.5 Brief Description of the Synagogue

Grade II listed "primarily for historic interest as the oldest remaining Synagogue building in Wales" (Cadw), the Merthyr Tydfil Synagogue was built between 1872 and 1875 "in heavy Northern Gothic style". In his 'The Buildings of Wales – Glamorgan' (1995), John Newman refers to it as "said to be the oldest purpose-built synagogue in Wales".

Located at the top (east end) of the steep Church Street, the building is set dramatically against a dense section of woodland, and rises steeply up the hill, with long, steep flights of steps to both sides of the building.

A tall structure of snecked rubble facing stonework with ashlar bands and dressings, with a steep duo-pitch slate roof with red tiled ridges, the front (west) elevation is gabled with three polygonal finials rising from its sloping parapet, and is flanked either side by shorter turrets with conical slate roofs. The front is approach by a set of double flight steps, with stone piers.

To the two long, side elevations, a shorter gable projects from the centre of the main body of the building.

The rear (east) elevation is a two-storeyed gable end, with a set of double flight steps set away from the building, and a concrete bridge from the top of the steps to the threshold of a door at second floor level.

The building provides four separate floors:

- a small lower ground floor, which might have held a 'mikvah', which is a bath used for the purpose of ritual immersion in Judaism to achieve ritual purity;
- an upper ground floor, which takes up the front half of the plan, which, according to plans from the late 1970s or early 1980s, comprised a lobby and staff room with a school room behind;
- a first floor, which takes up the full length of the building, which was the main synagogue space, with stairs and a toilet within the front section;
- a second floor, which was, in the 70s/80s, a balcony with a large central void looking down to the main space and stairs, a store and a toilet at the front, however, which have since been completely floored over and is now one large open space, with some modern partitioning forming toilets within the centre.

Whilst this needs to be checked, it is suggested that the building operated as a Gym between approximately 1986 and 2004 and has been unused and derelict since 2004.

Historical view of Synagogue frontage from top of Church Street (source: 'alangeorge.co.uk' website)

1.6 Summary of Condition and Recommendations

The Synagogue is in a relatively poor condition, having been unoccupied and derelict for about 15 years. Holes in the roof and broken window panes have been the cause of regular water ingress to the building interior. As a result, the building is suffering from issues of water ingress and damp.

Severe damage has ensued to the timber floors - most of which are of a mix of old and more recent timber joists, steel beams and modern plywood flooring - which has degraded in many areas, such that there are areas on each of the upper floors which are either open or in such a poor condition as to be dangerous.

The same holes in the roofs and windows has also resulted in a host of pigeons taking residence within the building. As a result, areas of the upper (second) floor are thick with pigeon guano.

Please refer to Mann Williams's Structural Condition Report for any aspects relating to the structural integrity of the building fabric, including the walls, roof and floors.

Within this report is a summary of the condition of the various elements of the building fabric, along with suggested repair specifications.

In it, we suggest that over 50% of the external walls have been re-pointed externally in a projected cement-based mortar and all walls have been re-plastered internally in a cement-based plaster. Both are inappropriate to this building and are ill-advised, not least because they stop the stone walls acting as they were intended to – absorbing and exuding moisture and contracting and stretching to suit the changing environment – and usually result in damage and degradation.

Ironically, the holes in the roof and the broken windows might be a blessing, for now, as the internal spaces are well-ventilated, reducing the risk on condensation, mould-growth and rot. That is not to say that they should not be addressed as soon as possible.

Whilst requiring considerable work, both the inappropriate cement-based pointing and plaster can be removed, the walls allowed to dry out, and a more appropriate lime-based mortar and plaster applied, as required. Whilst these cement-based applications will have resulted in some damaged to the building fabric - for example, the loss of facings on many of the softer ashlar dressed stone and bands - it is usually the case that their removal does, in due course, result in the proper equilibrium of the building fabric returning.

Whilst it is recommended that - once the cement-based pointing and plaster has been removed - some of the stone repairs are addressed, other stone repairs may be deemed to be cosmetic and not necessary, however preferred, if funds allows.

We do, however, refer to four particular areas of walling which may require more specific attention – the bowing retaining wall to the steps at the top of the building, the cracking retaining wall to the steps at the bottom of the building, the leaning top of the front gable wall, and the cracking of about three stone window lintols, however, all four of these matters are addressed in more detail within Mann Williams' Structural Condition Report and their recommendations should be followed. These are matters which require intervention and risk the building fabric at present.

Vegetation can have a very damaging effect on stonework, especially the very strong roots from buddelia. All vegetation, must be carefully removed, including, and especially, the roots. It is absolutely essential that the roots are removed, as, not to do so, will result in their re-growth.

We also suggest that the holes in the roof covering should be covered up as soon as possible, if only using temporary means, to reduce the ingress of water into the building, and that, within any works programme, the roof be repaired or, given the fact that it currently includes an inappropriate vapour-impermeable membrane, taken down and re-laid. Any work to the roof needs to bear in mind the large pigeon population and the potential for bat habitation. The question of whether a new vapour-permeable roofing membrane and new, vapour-permeable, insulation is introduced, is a matter covered later in the report.

We suggest that there is considerable repair work required to the rainwater goods and that their poor condition currently risks the ingress of further moisture into the building fabric. There are many broken downpipes and some sagging gutters. The mix of metal and plastic pipes does not help with the variant movement and so it is recommended that all plastic items are replaced with cast iron and all existing cast iron items are repaired.

We suggest that, whilst most of the windows are damaged to some extent, not least with the loss of many panes of glass, this is rarely a matter for considerable concern (aside from the water ingress and the security), as, invariably, the worst of the damage to the timber frames is at the bottom, primarily to the cill and bottom rail, and sometimes the base of the two side stiles, and that this can usually be successfully addressed without need to replace the whole window. However, where a full replacement is necessary, this is viable.

There are a number of vents and grilles in the stonework. Some are in a reasonable condition, albeit the paintwork is coming away; some are in a very poor condition and badly damaged; whilst some have been blocked up. Whilst the appearance of these vents affects the appearance of the building, they are an important practical aspects of the building, providing essential ventilation and air movement to sub-floors and intermediate floors. They should be repaired - where possible, or replaced, like-for-like.

We suggest that the intermediate floors, of timber joists (some historic, possibly original, some more recent), some steel beams, and areas of timber boards, however, in the main, modern plywood sheets, are in a particularly poor condition, with many holes apparent, in some cases, and, in others, considerable weakness in the plywood sheets themselves, due to principally to damp. These floor present a notable safety risk to anyone going inside. However, it is feasible that all the plywood be replaced, along with any damaged timber boards, and any timber joists or steel beams replaced, and new floors inserted.

To each of the upper floors, and to the roof, there is a mixture of plasterboard ceilings and suspended gridded ceilings. Most are in a very poor condition and should, in due course, be replaced. It would be appropriate to replace them with lath and plaster, as marks of the original / earlier timber joists prove that lath and plaster was present, however, it may be deemed acceptable to install plasterboard.

We would suggest that the work required to repair, restore and conserve the Synagogue is considerable, however, subject to anything within Mann Williams' Structural Condition Report, we have yet to see anything which we feel is not repairable, reversible or able to be improved.

We do, however, draw particular attention to the bowing retaining wall at the top of the site and the leaning gable wall at the front of the building and we would advise that the current extent of water ingress to the building be addressed as soon as possible, if only temporarily, as water ingress is a matter which could rapidly deteriorate the condition of the building.

In the case of some of the major stonework damage - such as the walls to the steps at the top and bottom of the building, this may require the walls to be taken down and re-built.

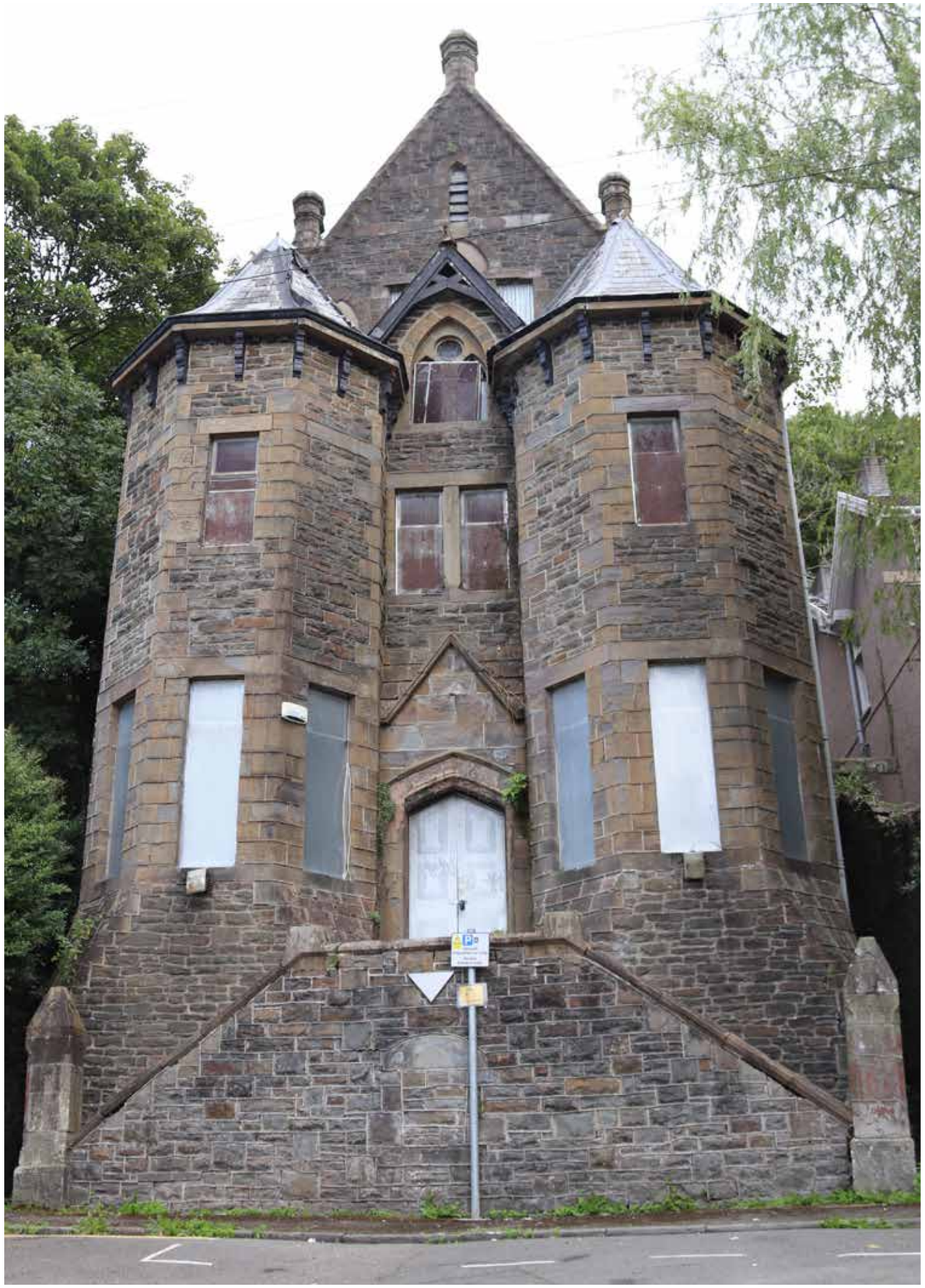
The inappropriate work undertaken of late is, in the main, reversible, and it appears, from visual assessment, that the defects seen can be repaired.

Certain defects are likely to result in permanent 'scars' on the building, with repair works only a likely to be a 'patch' or a 'deceleration' of degradation. Such examples are the cracks in the stone lintols and the delamination of the dressed stone by use of cement pointing. In the case of the latter, consolidation of the stone is only likely to slow down its degradation, rather than arrest it.

Any like-for-like repair work may be undertaken without Listed Building Consent, although it is recommended that the Local Authority Heritage Officer is made aware of these undertaking in advance. However, any changes to the exterior or interior of the building will require Listed Building Consent and, if exterior changes, or change of use, require it, Planning Consent. It is also likely that the works would require Building Control Approval.

2.0 External Photographs of Synagogue

2.1 West (Front) Elevation



2.1 West (Front) Elevation

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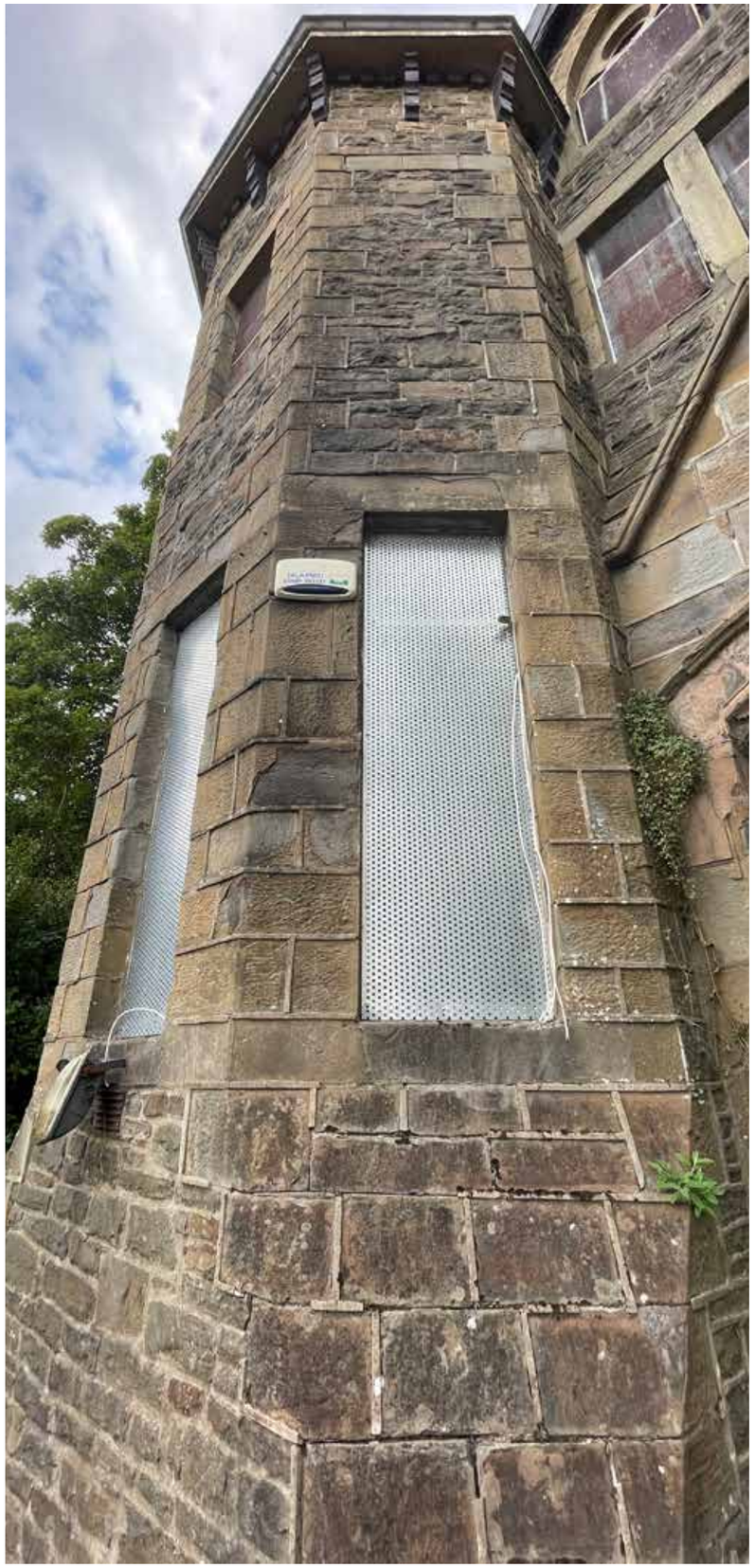
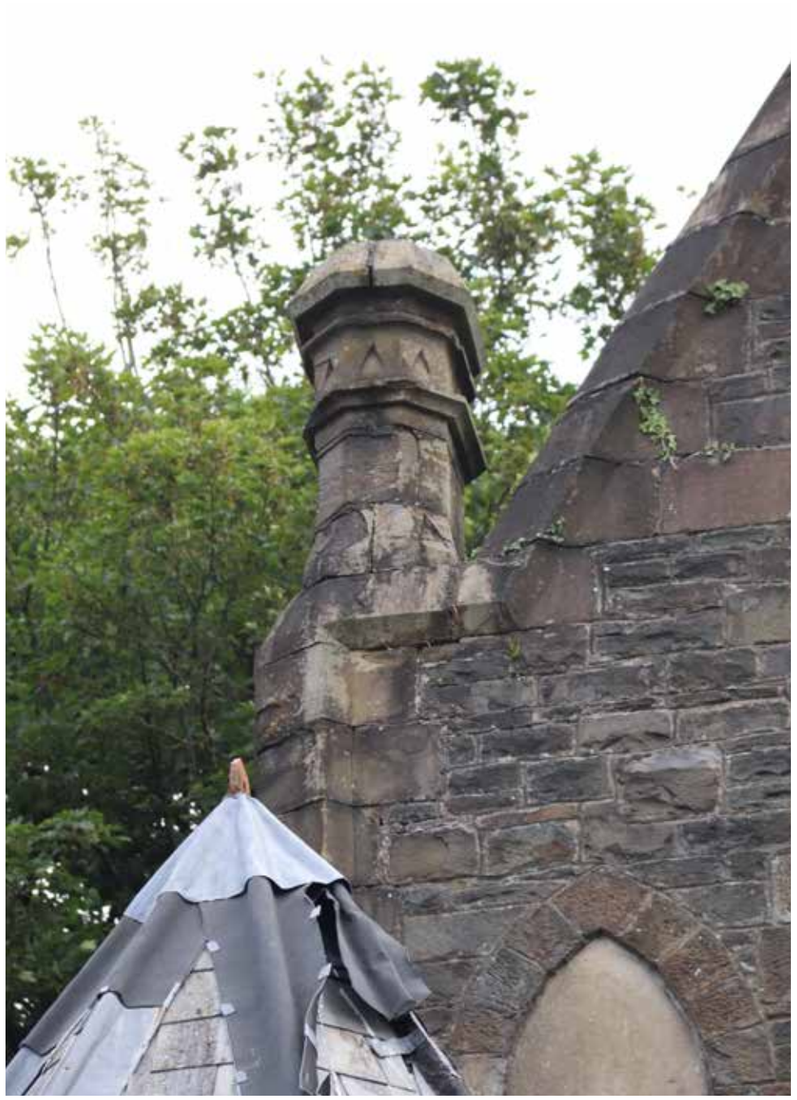


2.1 West (Front) Elevation

2.1 West (Front) Elevation Roofs & Finials



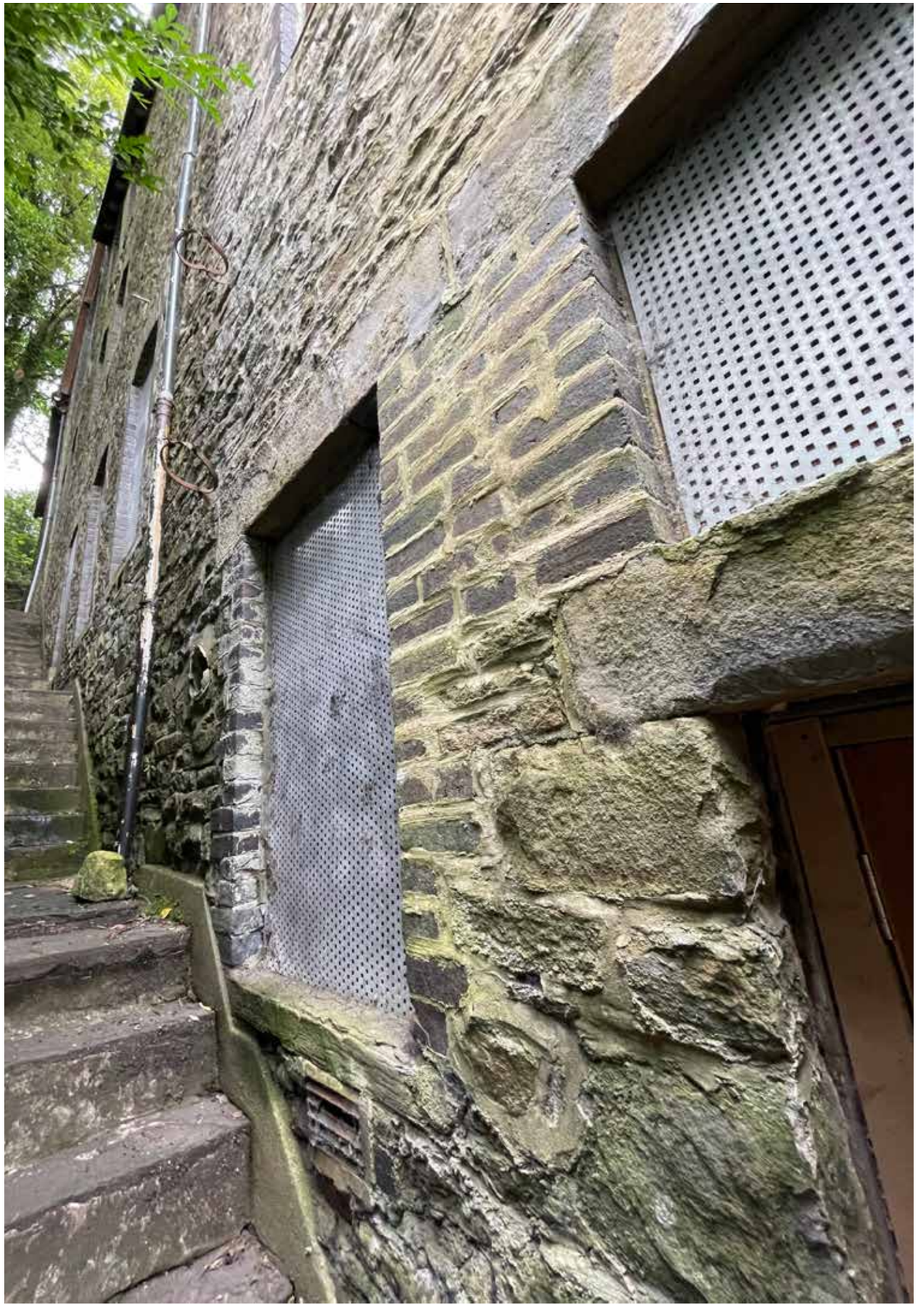
2.1 West (Front) Elevation Gate Posts

2.1 West (Front) Elevation Steps Front Wall

2.1 West (Front) Elevation Steps & Side Steps to North & South

2.2 North (Side) Elevation

2.2 North (Side) Elevation



2.2 North (Side) Elevation

2.2 North (Side) Elevation

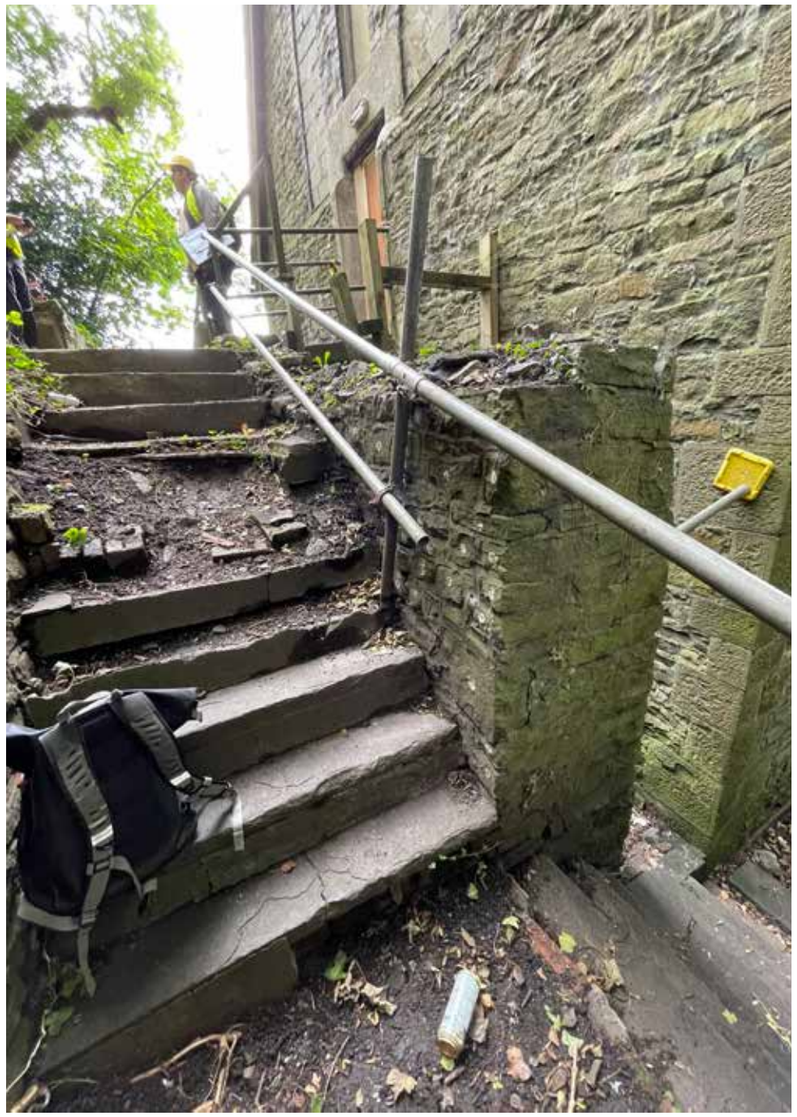
2.3 South (Side) Elevation

2.3 South (Side) Elevation

2.3 South (Side) Elevation Roof

2.4 East (Rear) Elevation

2.4 East (Rear) Elevation Steps & Retaining Wall - North End



2.4 East (Rear) Elevation Steps & Retaining Wall - South End

2.4 East (Rear) Elevation External Area

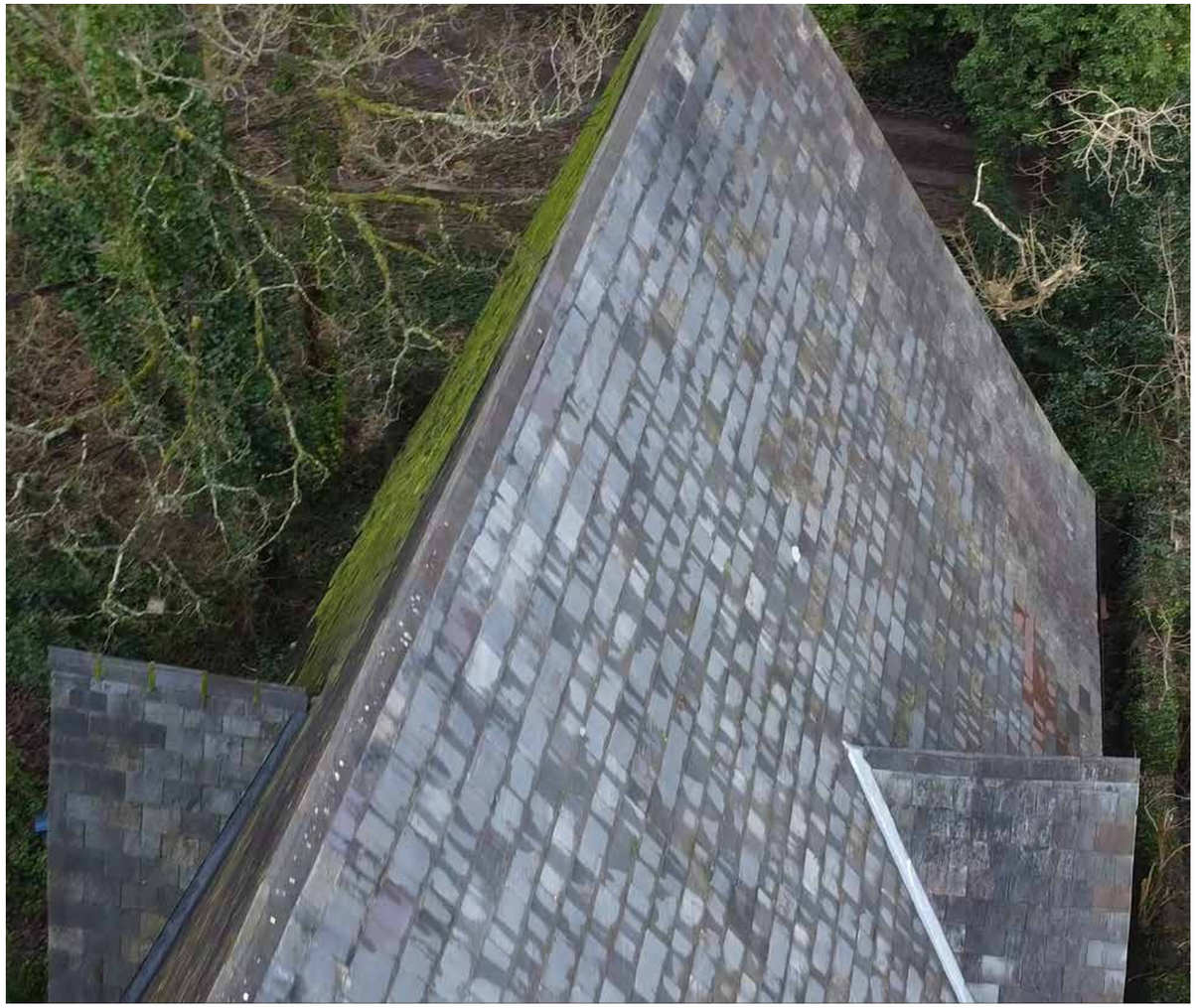
2.5 North Derelict Land [seen from south at proposed door from Synagogue (Top Image) & east at top of site (Bottom Image)]

2.5 North Derelict Land [seen from land to south (Top Left) & from access road (Top Right & Bottom)]

2.6 East Edge of Site

2.7 Roof - Front Range

2.7 Roof - Main Body



3.0 Internal Photographs of Synagogue

3.1 Lower Ground Floor Interior - North Tower

3.1 Lower Ground Floor Interior - North Tower - Possible Mikvah

3.1 Lower Ground Floor Interior - North Tower - Possible Mikvah

3.1 Lower Ground Floor Interior - North Tower

3.1 Lower Ground Floor Interior - South Tower

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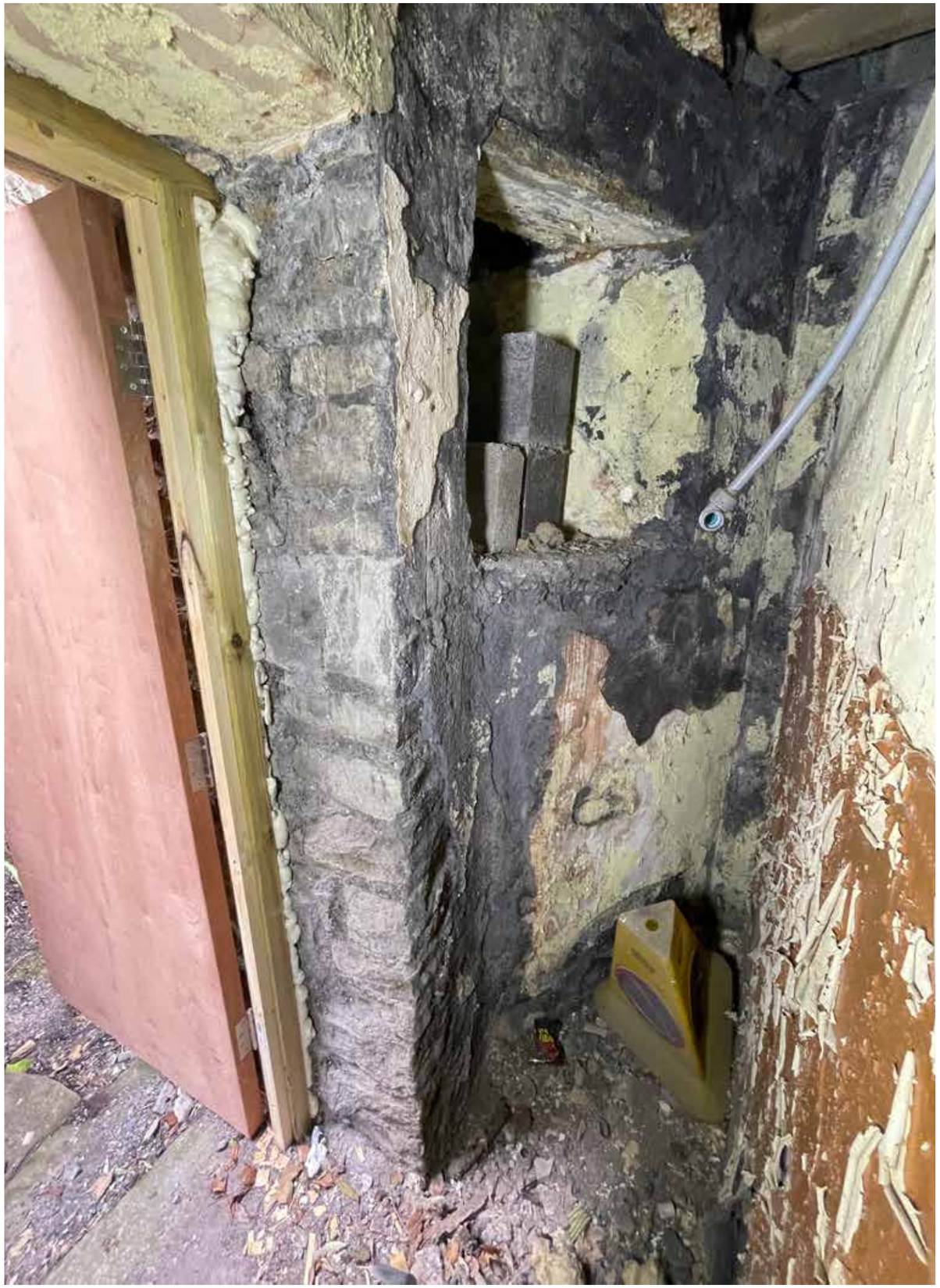


3.1 Lower Ground Floor Interior

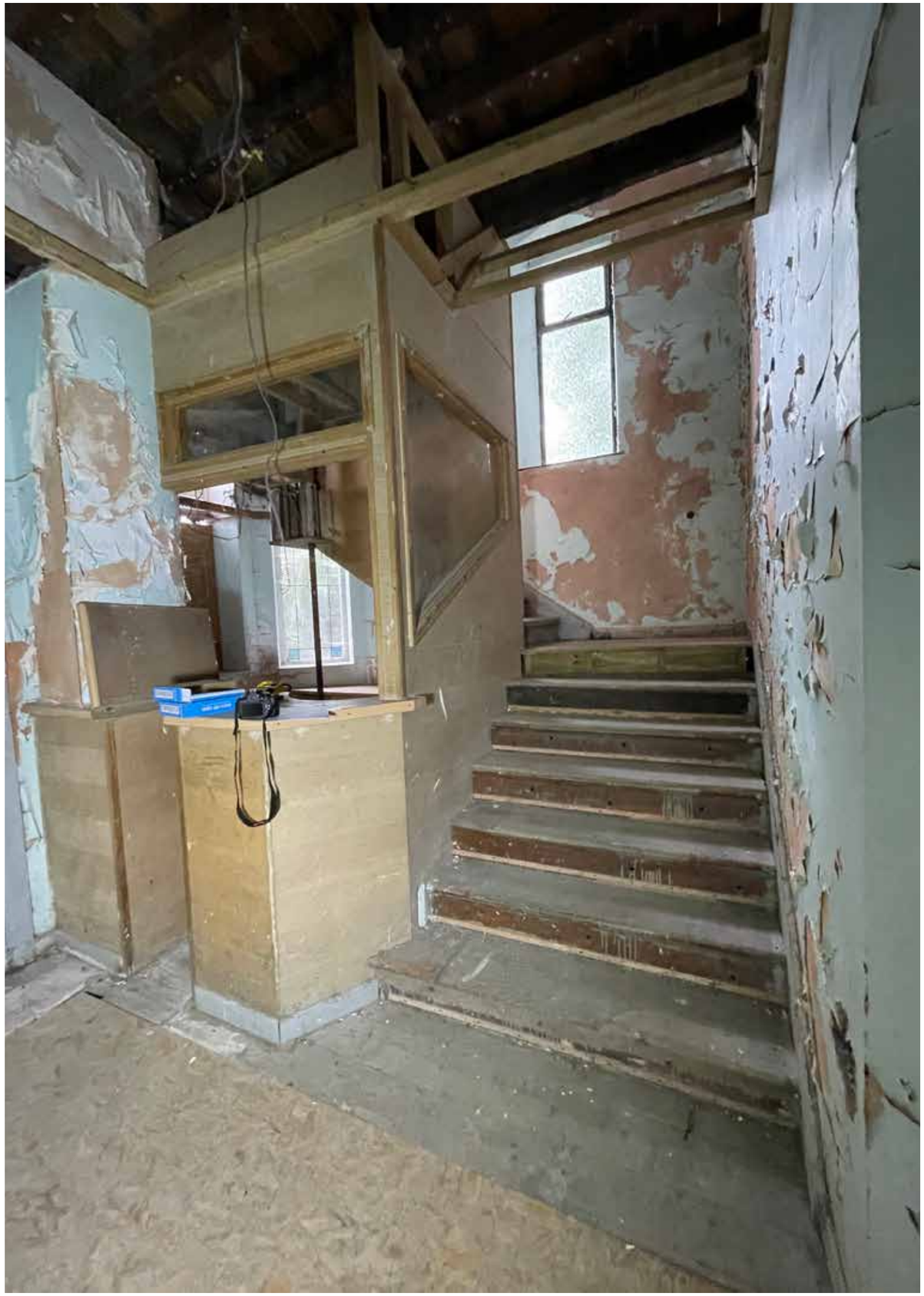
3.1 Lower Ground Floor Interior - Central Link

3.1 Lower Ground Floor Interior - Coal Chute

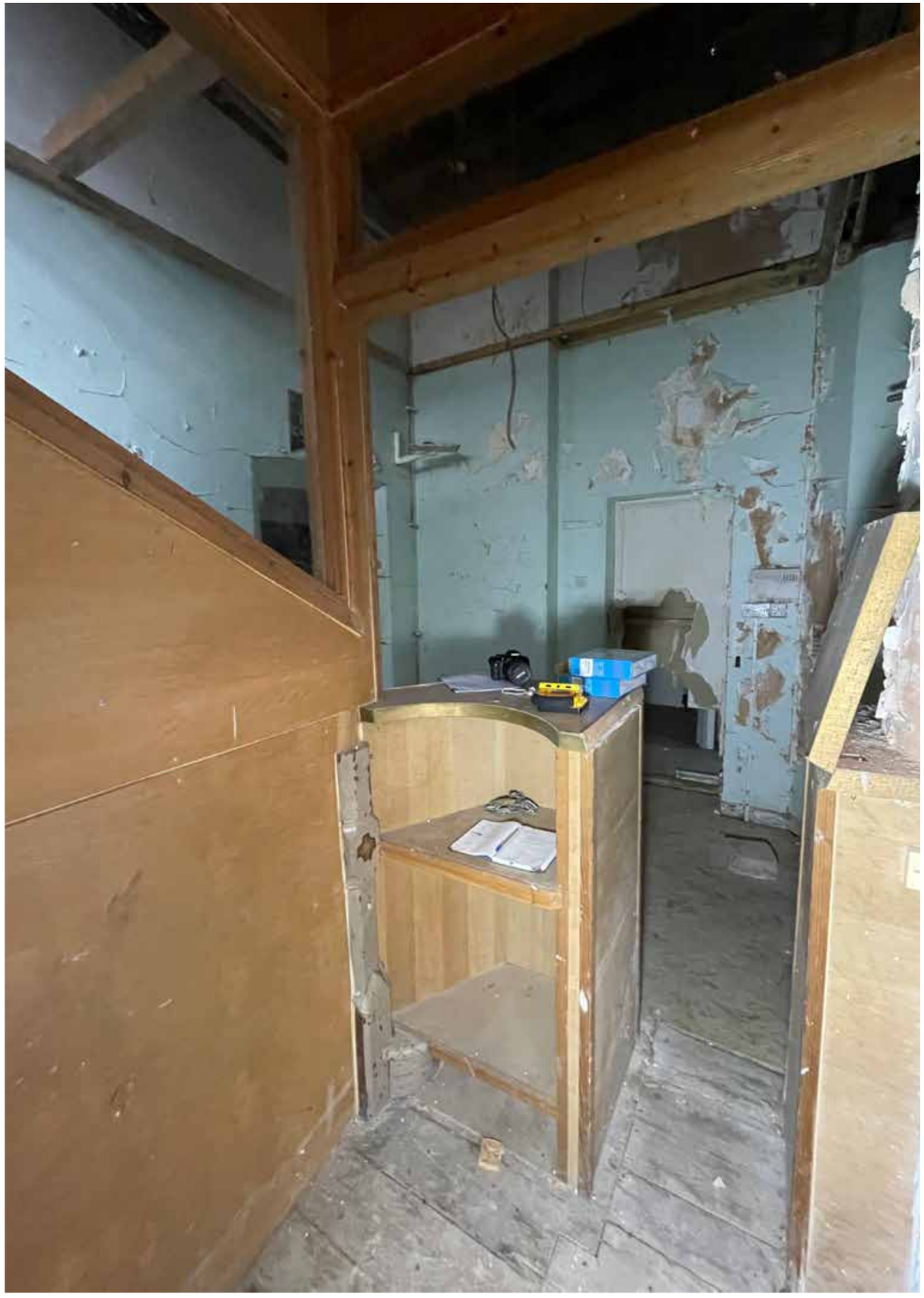
3.1 Lower Ground Floor Interior - Coal Chute Head & Stone Steps / Slabs Above

3.2 Upper Ground Floor Interior - Reception & Stairs

3.2 Upper Ground Floor Interior - Reception & Stairs



3.2 Upper Ground Floor Interior - Reception & Stairs



3.2 Upper Ground Floor Interior - Reception & Stairs

3.2 Upper Ground Floor Interior - School Room

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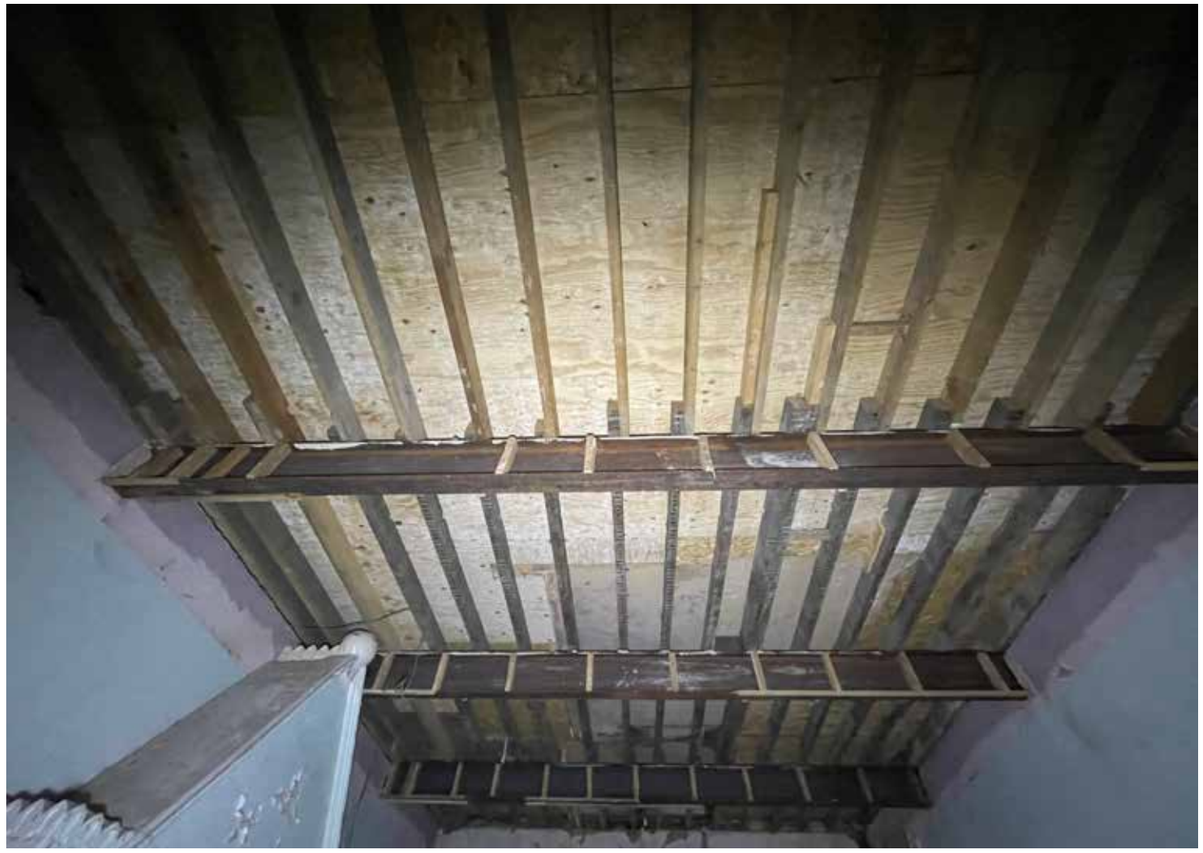
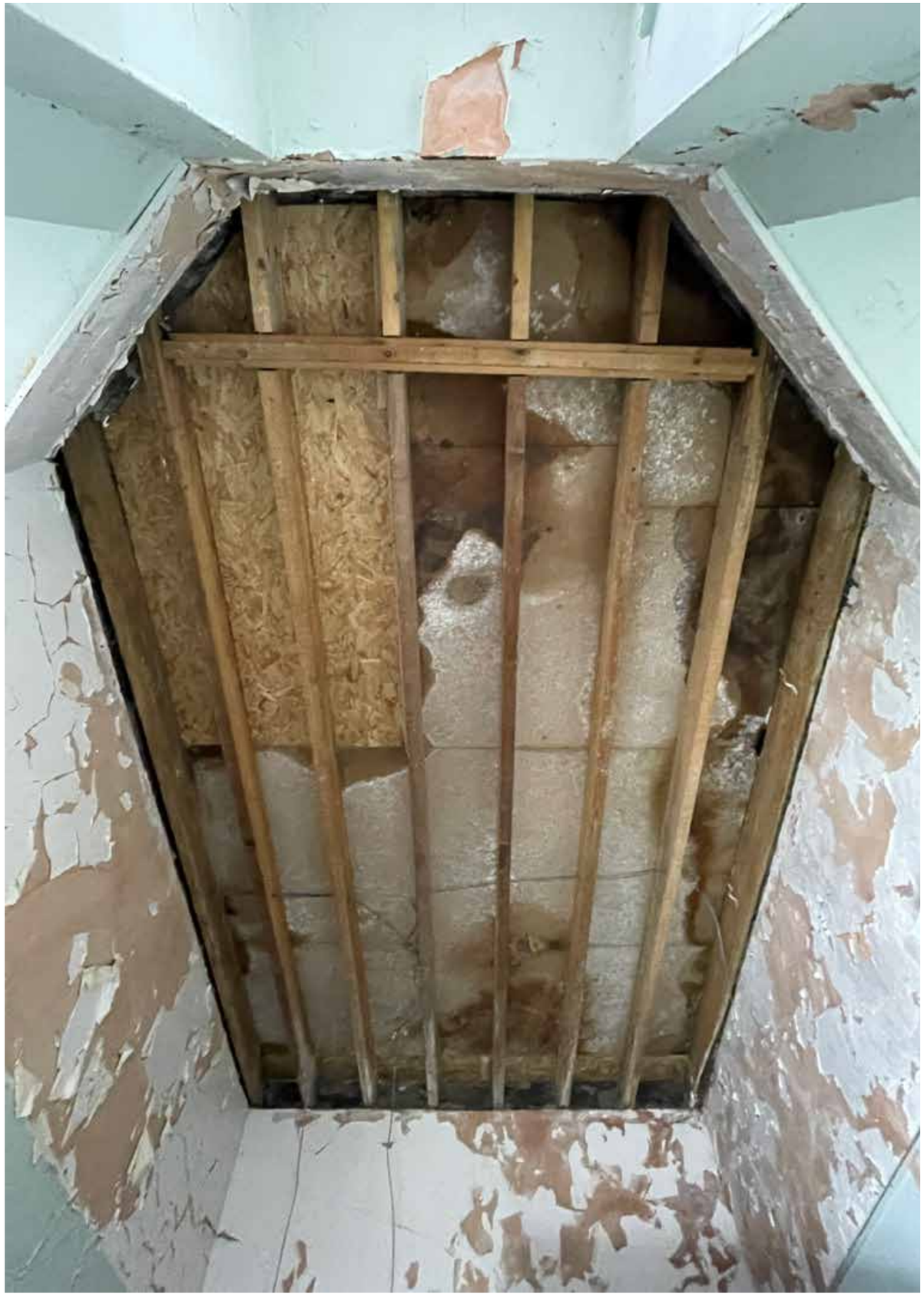


3.2 Upper Ground Floor Interior - School Room

3.2 Upper Ground Floor Interior - Staff Room

3.2 Upper Ground Floor Interior - Staff Room

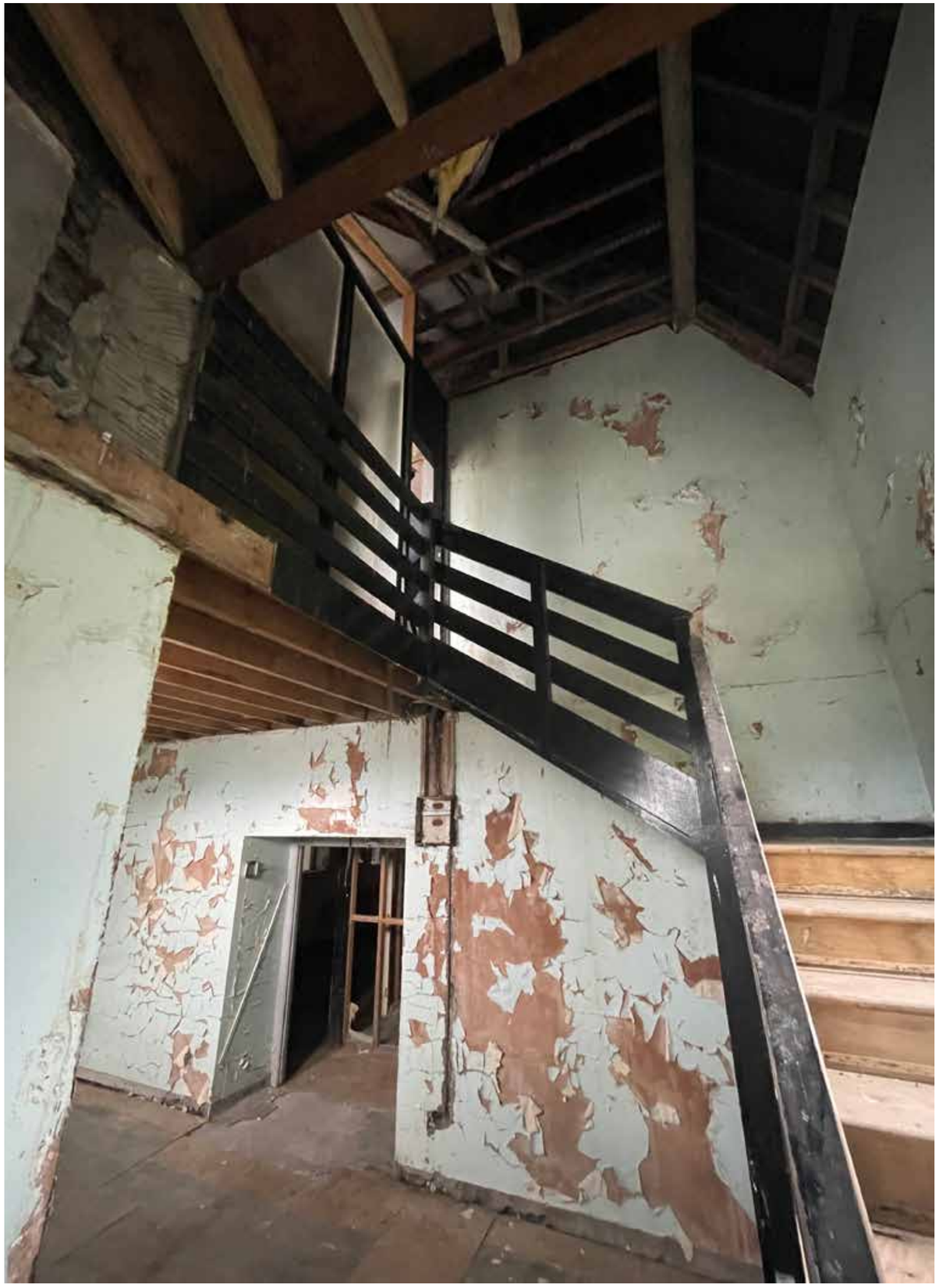


3.3 First Floor Interior

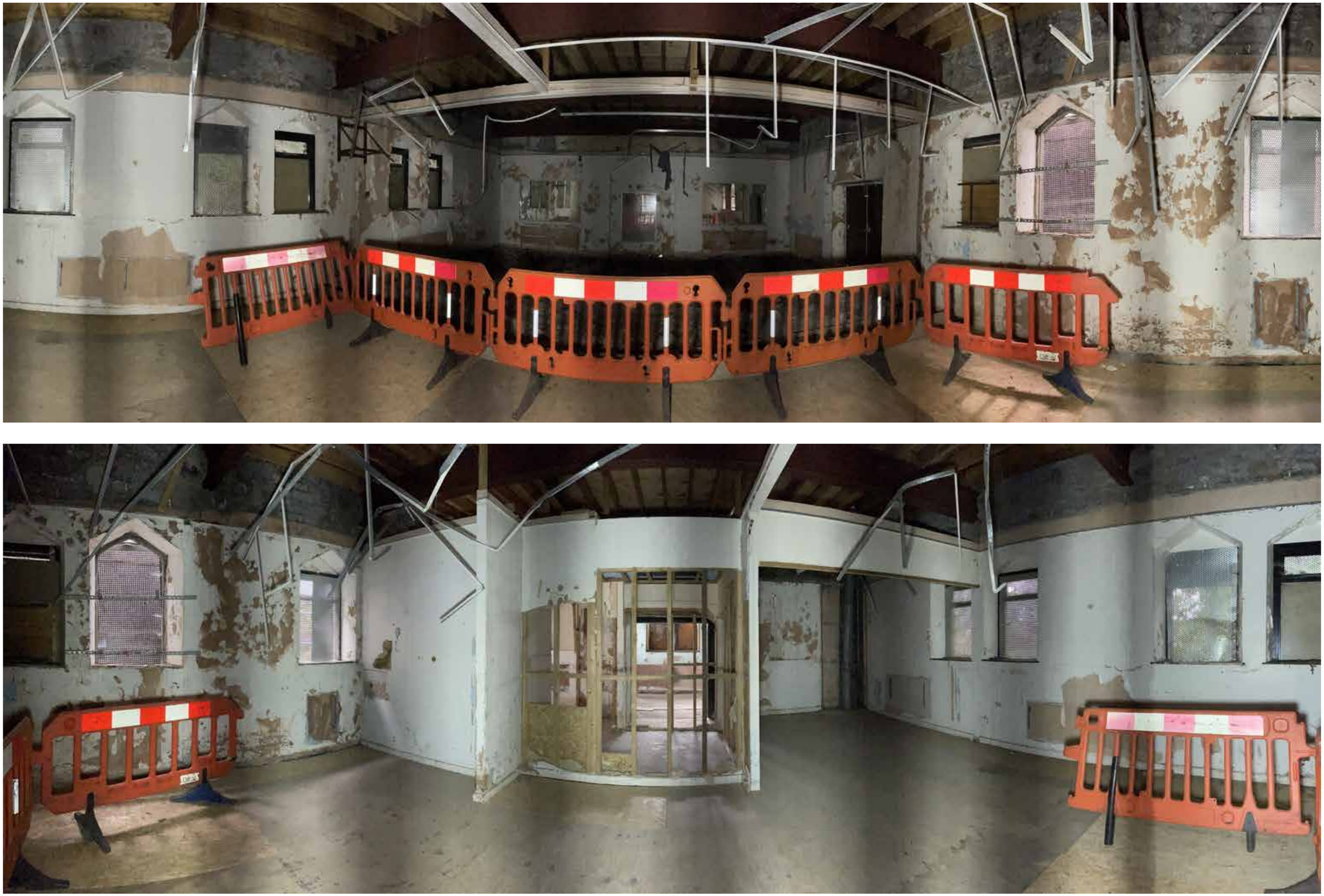
3.3 First Floor Interior - Front Range

3.3 First Floor Interior - Front Range

3.3 First Floor Interior - Front Range South Tower



3.3 First Floor Interior - Original Prayer Hall Lower Level



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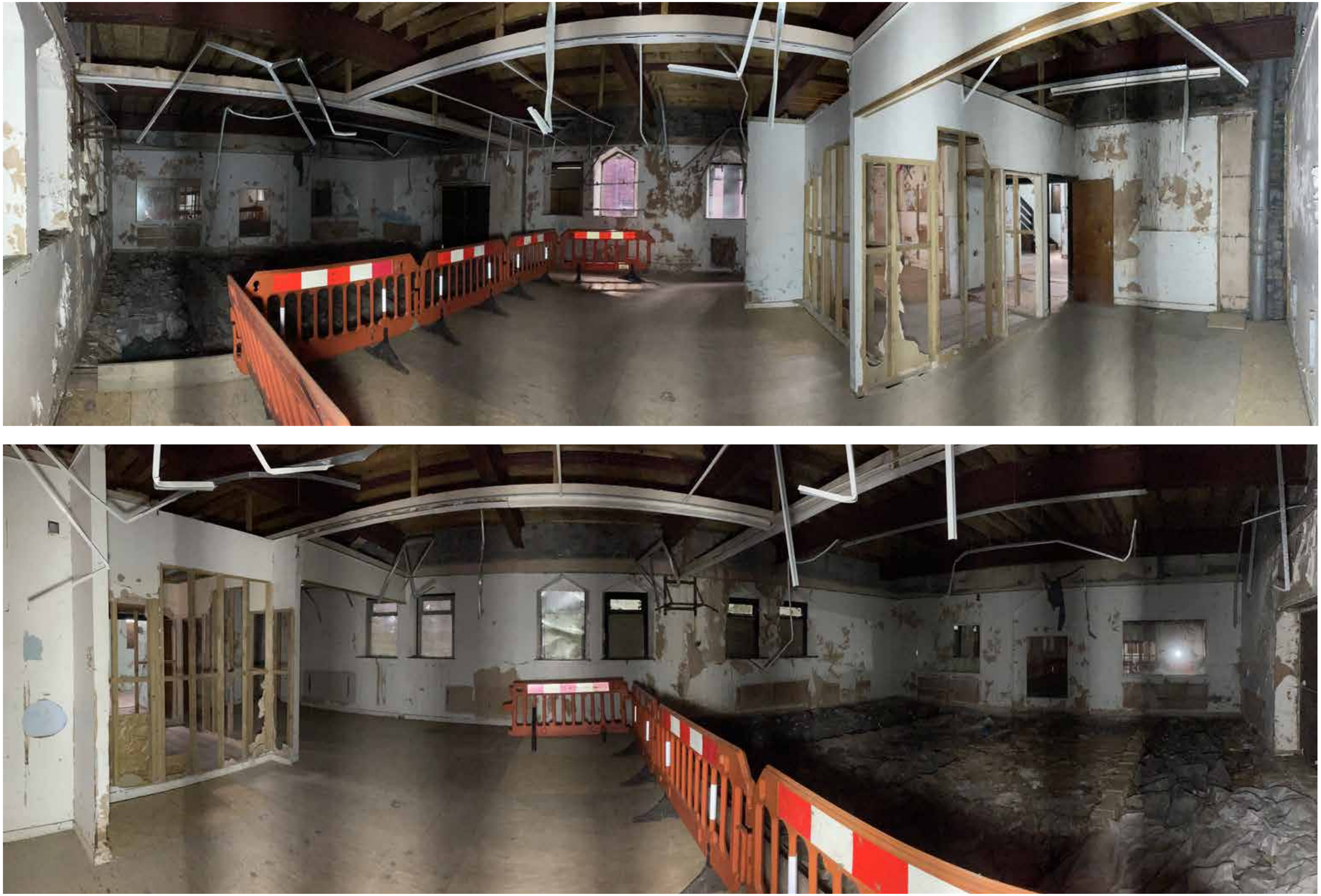


3.3 First Floor Interior - Original Prayer Hall Lower Level

3.4 Second Floor Interior - Front Range

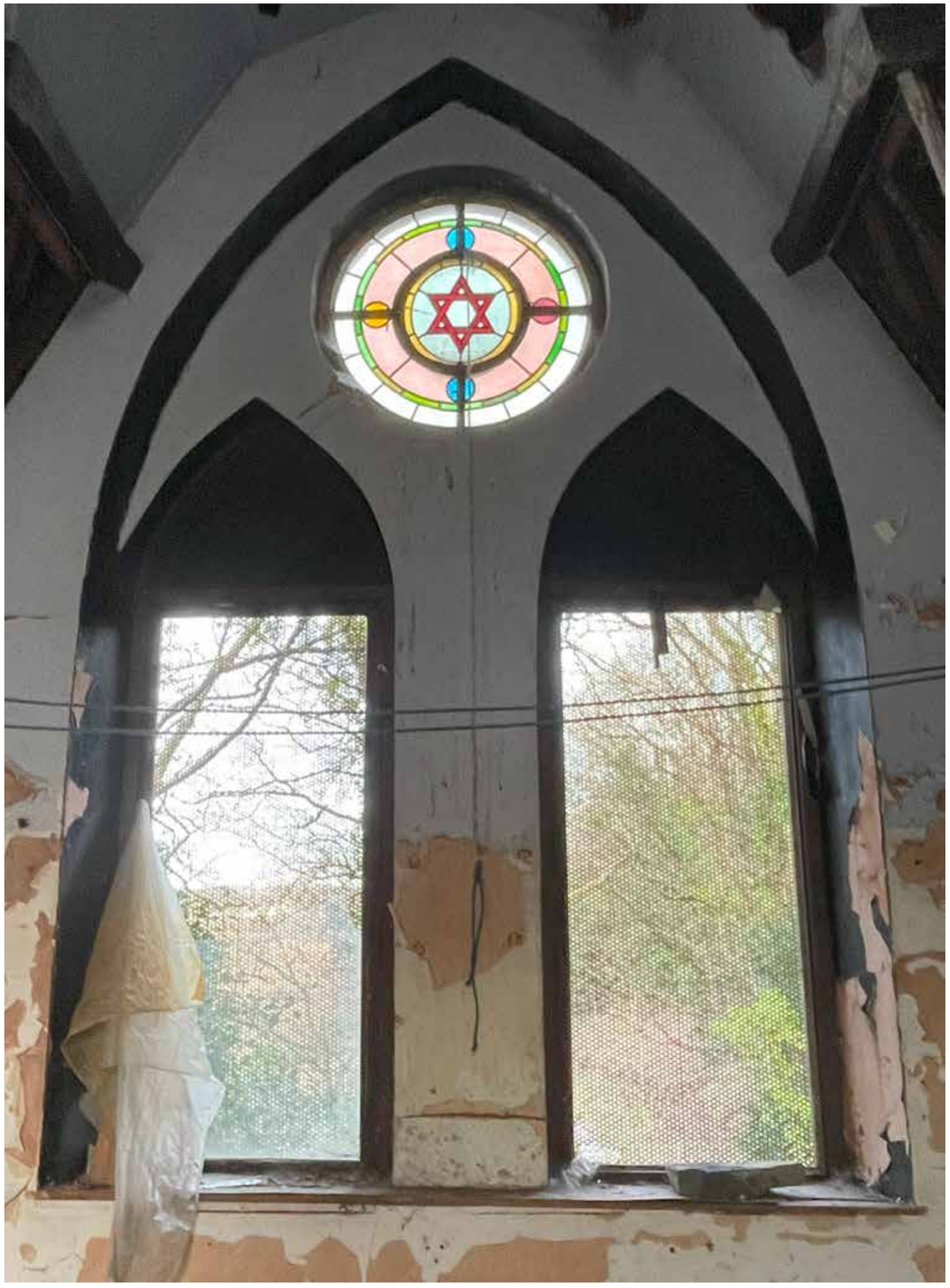
3.4 Second Floor Interior - Front Range

3.4 Second Floor Interior - Front Range

3.4 Second Floor Interior - Original Prayer Hall Upper Balcony Level

3.4 Second Floor Interior - Original Prayer Hall Upper Balcony Level

3.4 Second Floor Interior - Original Prayer Hall Upper Balcony Level



3.4 Second Floor Interior - Original Prayer Hall Upper Balcony Level

3.4 Second Floor Interior - Original Prayer Hall Roofspace

4.0 Building Condition (Refer to 'The Proposals' for Repair Specifications)

4.1 Walls

Mann Williams's 'Structural Condition Report' should be referred to for the structural condition and integrity of the external and internal walls, however, during our review, we were not able to see any cracking or bulging in any of the external walls of the building, which might have suggested movement of the structure, or damage to it as a result of human or mechanical means or dislodging vegetation roots.

It is, however, apparent that the top section of the stone gable wall to the front elevation, within the upper half of the roof and above into the finial, is leaning quite considerably into the building. Some of the mortar joints at the top of the wall and to the finial have opened up a fair bit as a result. An inspection was made in the roof space, in 2020, to see if purlin ends had failed and encouraged the wall to lean into the pockets left by the failed purlin ends. There was no suggestion that this was the case.

It is also clear that structural damage has occurred to the retaining wall to the front entrance steps, caused, in a few locations, by the expansion of buddleia roots prising apart bonded stones. This has happened particularly to some of the capping stones.

Both end piers are also showing signs of loss of structural integrity, with large sections of stone de-bonding from their neighbouring stones.

There is also damage to some of the stone steps themselves.

Even more disconcerting was the exceptional bowing out of the retaining wall to the steps at the rear of the building, up the top, which has blown and dislodged a number of stones.

There is also damage to a number of the stone steps behind this wall.

Whilst undertaking the consolidation work, in 2020, to the retaining stone wall to the rear steps, it became apparent that the condition of the wall had further deteriorated since the survey was undertaken and that the wall would now be in danger of collapse even with the proposed consolidation work. Because the monies required to completely stabilise the wall intact was not available, it was agreed that sections of the stonework would be taken down to reduce the risk of collapse, whilst propping those parts of the wall which are retaining and cannot be taken away. Due to the risk of anti-social behaviour and theft, it was agreed that the stones should be stored inside the building, at the back of the first floor, which was easily accessible from the wall and allowed the stones to be laid on earth, on a plastic membrane. In so doing, it was agreed not to re-lay the timber suspended floor in this area. At that stage, the existing floor was completely rotten and was due to replacement.

The structural defects to both these sets of steps and their retaining walls are considerable, however, both walls are independent of the main walls to the building and do not yet appear to have compromised those walls. The bowing out to the upper steps wall is, however, putting the main building at risk, as the wall could, at any point, loss strength completely and the ground retained behind it could slide towards the base of the building, causing the wall and steps to collapse. It is recommended that these matters are address as soon as possible, especially at the top steps, in order to avoid any damage occurring to the walls of the building, although there are no obvious signs that the walls of the building are currently effected by the defects.

To the wall to the steps, but, more importantly, also to the large areas of the walls of the building, it is clear that, at some stage in the later part of the 20th century, the stonework was re-pointed. The pointing has been emphasised, by projecting it forward of the stone faces.

This is completely inappropriate for use with historic buildings: both visually (as those areas of wall at the Synagogue not re-pointed show that the pointing used to be flush with the stone, as it should be); and practically, as it traps and lets more water into the wall (via all the little ledges, ridges, uneven sections), by catching the rain and allowing it to seep into the wall where the rubble interior provides a path to the inside surface of the building.

To add to this, the material used for the re-pointing was a cement-based mortar. There are various issues with this:

- Masonry which is traditionally constructed is bedded in soft lime mortar and is, therefore, relatively flexible, allowing the structure to 'move' a little and stretch and shrink without cracking. Pointing with a hard cement restricts this movement, causing stress in the surface of the wall where it is bound by the cement, which often causes cracking in the wall and/or failure of the face of stone, which is softer that the mortar.
- Cement mortars are also impermeable - that is to say that they do not allow the structure behind to 'breathe': moisture is forced to evaporate through the stone, which, in extreme cases may cause the stone to deteriorate and its faces to delaminate. This has already happened in a number of areas at the Synagogue.
- Cement mortars are usually visibly different, both in colour and detail, changing the appearance of the wall as a whole.

It is noted that this cement re-pointing has been applied to the whole of the front (west) elevation and the whole of the side (south) elevation, it has not been applied to the rear (north) elevation and it has only been applied to part of the side (north) elevation. The fact that some of the walling still shows the original lime mortar pointing, confirms that this is original.

This has resulted in a large number of individual stones having been delaminated with their original outer surface being lost, revealing a softer new surface.

The fact that the walls are solid in construction means that they do not have a cavity in the way that modern buildings do. Whereas modern buildings use different construction techniques that allow for moisture blocking and management, such as cavity voids (forming capillary breaks), cement-based plasters and mortars, gypsum plasterboard, vapour control barriers and mechanical ventilation; solid wall buildings are usually constructed of absorbent materials - hygroscopic in that they attract moisture – which allows any moisture that enters the fabric to evaporate back out, through both its external and internal faces. In these cases, the masonry of solid wall buildings is designed to be allowed to 'breathe'.

The lime-based mortar used is more permeable than the stones, and so greater evaporation will take place through the joints. Salt deposits and frost action are consequently greater at the exposed faces of the joints, causing them to decay faster than the surrounding masonry. Since it is cheaper and easier to re-point at intervals than to replace bricks, the pointing may be regarded as sacrificial.

It is always preferable that any cement mortar is removed, allowing the fabric to 'breathe' again. However, if the cement mortar is still firmly bonded to the stones and the backing mortar, removing it can result in damage to the stones, and so it may be counter-productive trying to remove it. Conversely, if it is possible to remove it without damaging the stones, then this should be done. Because it is projected, it appears that it may not be too difficult to remove it without damaging the surrounding stonework or the lime bedding mortar behind it. It is therefore recommended that all of the cement pointing is removed.

4.2 Windows

Whilst most of the windows are damaged to some extent, not least with the loss of many panes of glass, this is rarely a matter for considerable concern (aside from the water ingress and the security), as, invariably, the worst of the damage to the timber frames is at the bottom, primarily to the cill and bottom rail, and sometimes the base of the two side stiles, and that this can usually be successfully addressed without need to replace the whole window. However, where a full replacement is necessary, this is viable.

Most of the windows to the Synagogue are timber-framed - partly solid panes, partly opening casements - with single glazing. There are a few metal-framed windows, including the circular windows with stained leaded glass.

In the case of most of the windows, there was limited sign of timber degradation to the upper parts of the frames themselves, the heads or the stiles, however, in almost all cases, there was paintwork cracking to the timber frames.

However, in most cases, there was degradation and damage apparent to the timber window cills – some of which had been lost completely, the bottom rails and the base of some of the vertical stiles, whereby areas of paint degradation, and possibly soft patches behind the layers of paint (suggesting rot), were established in the surface of the timber.

Replacement windows are rarely necessary: decay is usually limited to the bottom few inches of the frame and new timber windows are liable to decay more quickly than the originals would if repaired.

Therefore, the report does not propose the replacement, nor even the extensive repair, of many windows, however a thorough sanding and re-painting is recommended for all timberwork to all the windows, which will allow a more detailed inspection and allow the extent of the necessary repairs to be made. It is not necessary to repair any more of the timber than appears soft or weak once the paint is stripped.

A few windows, however, have been almost completely lost. These are not many, however, they are likely to require full replacement.

The existing windows should be retained as much as possible. A thorough sanding and re-painting is recommended for all timberwork to all the windows, which will allow a full review of the condition of all parts of windows to be undertaken and allow the extent of the necessary repairs to be made.

As a result, all of the window frames are to be repaired, where possible. Where windows are lost, or badly damaged, the window frame is to be replaced, like-for-like. All glazing is to be replaced, apart from retained leaded glass units, which are to be retained and repaired and new secondary glazing unit incorporated into the inside face. All new glazing to main Synagogue space is to be new leaded, stained glass within Slimline double-glazed units. All new glazing to front range windows and upper ground floor is to be clear Slimline double-glazed units.

Apart from the remaining 'Star of David' leaded windows, many of the new glass is proposed to be special artist-designed stained leaded glass. A design for his is yet to be determined, as the intention is to tender this work to glass artists. It is to involve new colourful designs, with the colours being fairly dark so as to minimise bright light within the space, thereby avoiding the need for black-out blinds.

4.3 Roofs

The main duo-pitched slate roof is steeply pitched. This makes it especially successful in shedding water. However, the roof covering is damaged in places, with the largest hole to the south-facing side elevation. This is despite the programme, in 2020, to undertake various localised roof repairs. There are also some slipped and cracked slates in various areas.

The front elevation turret conical roofs have lead-covered hips and decorative terracotta tile ridges. To the left-hand turret, the 2020 works undertook temporary repairs; however, some of the hips covers - which were not lead, but a lead-substitute - have lifted and exposed gaps in the covering.

The main roof has blue-black clay capped angle ridge tiles. The review saw no damaged ridge tiles.

There are some areas of damaged and/or lifting leadwork at junctions between roofs and walls or parapets.

One thing which is not helping the roof is the fact that branches from the nearby trees are hanging over the roof, in some places, touching the roof and, no doubt, damaging the slates. This also results in far too many leaves falling into the rainwater gutters and blocking them up, which is one of the most serious, yet preventable, causes of water ingress into the fabric of buildings. The tree canvas also causes a considerable about of lichen to deposit on the slates.

It is apparent, from inside, that the main roof includes a roofing membrane (albeit not a vapour permeable one) and mineral wool insulation. This suggests that the roof might have once been re-laid. Whilst it is possible to insulate from below, it is not possible to apply a membrane from below; this requires the slates to be taken off.

Due to the damage to the slate covering, areas of the roof have also lost their membrane and insulation.

This being said, since the membrane does not appear to be vapour-permeable (which is highly recommended when working with historic buildings, if indeed a membrane is desired), it is recommended that the membrane be removed. Mineral wool insulation is vapour-permeable, and therefore its use acceptable, however, other insulations may be preferable.

Whilst there have been patch repairs undertaken to the roof, new damage has occurred since 2020, with a new hole having formed on the south-face of the main roof. Also, the repairs were only intended to be temporary; and there were many other defects which were not addressed in 2020, as they were not, then, deemed to be 'urgent works'. It should also be noted that the roof currently includes an inappropriate vapour-impermeable membrane, which need to be removed; and insufficient 'vapour-permeable' insulation for an adaptation project.

Therefore, all of the roof areas are to be stripped of slates, ridge tiles, leadwork, membrane and insulation. Slates and tiles are to be carefully removed and set aside for re-use. The new roof build-up is to comprise: re-used slates and tiles, plus new like-for-likes, where extras required; new 50x25mm timber battens; and a new vapour-permeable roofing felt. Between the rafters, earthwool or glasswool vapour-permeable insulation will be inserted, with 25mm thick woodwool boards applied over the top. Finally, 2no coats of 6mm lime hemp plaster will be applied to the woodwool boards followed by a 3mm lime top coat. The ceiling will then be painted in vapour-permeable paint.

The lift requirements are subject to detailed design. However, it is possible that the lift shaft will require additional headroom beyond the roof structure, possibly only for installation of the lift itself; and/or possibly for one-of future maintenance. To achieve this, a section of the roof rafters, insulation, membrane, battens and slates is to be independent of the rest, allowing for installation after the lift and possible removal in the future. In terms of appearance, the roofline will be unimpacted.

Note that all roofing works needs to be specifically programmed where bat roosts exist and / or nesting birds are present so that any disturbance is minimised to reduce the risk of harming bats or bats or birds deserting their nests or young. This work is to be co-ordinated through a registered bat ecologist.

4.4 Rainwater Goods

Some of the rainwater gutters, hoppers and downpipes are made of cast iron (ogee profile for the gutters and round for the downpipes), whilst some are made of plastic (half-round profile for the gutters and round for the downpipes). In some cases, a downpipe constitutes part plastic, part cast iron.

The cast iron rainwater goods will be the older ones, with the plastic fairly new.

Both plastic and cast iron appear to be, in the main, in a poor condition and, in some cases, have disappeared, or sagging, causing severe damp and staining to the walls. It is very important that these aspects are addressed, as damaged rainwater goods are some of the most damaging defects to a building fabric, whilst also being one of the most viable to address.

There are some areas, however, where the rainwater goods are in a reasonable condition and could be retained and refurbished.

The plastic goods will be easily damaged by branches, winds and vandalism. The cast iron goods less so, however, they will deteriorate in time. Once the protective coating of the paint has been lost, the base metal (the iron) will, in time, display corrosion. This presents as a red oxide orangey brown colour. Corrosion can lead to coating loss, loss of structural strength or integrity, and serious corrosion of the iron can lead, in time, to its complete loss. Once corrosion has begun, it is practically irreversible.

The mix of metal and plastic pipes does not help with the variant movement.

4.5 Floors

Whilst the lower ground floor / part basement is of ground-bearing solid construction, the rest of the floor are of suspended timber construction.

The rear section of the upper ground floor was made up of timber joists which beared onto sleeper walls, with infill make-up ground in between. This flooring was so rotten in 2020 that it was all removed.

The front section of the upper ground floor and the first and second floors are all of suspended timber construction, made up of timber joists and steel beams. Some of the timber joists to the upper ground and first floors appear to be historic (principally those showing remnants of a lath and plaster ceiling) and some appear to be newer. Likewise the steel beams - some older, some newer.

The second floor timber floor construction is, however, a modern insertion, seemingly located about half a metre above the position of the original gallery floor.

In 2020, both the first and second timber suspended floors were in a very poor condition, due, principally, to the ingress of water into the building, from above, and probably, for the rear end of the first floor, through moisture ingress from below in a poorly ventilated sub-floor void, which has resulted in obvious decay to the timber structure and plywood covering. Areas of this flooring were temporarily repaired in 2020.

The finish to the lower ground floor is concrete, in the centre, and black and terracotta quarry tiles, in diamond pattern, to the north. Whilst very dirty, it appears that the quarry tiles are in a reasonable condition. However, the poor light in the room and the covering of dirt to the floor, means that it is not possible to be clear what the condition is throughout. This being said, any damage to these tiles can be addressed by a good restorer.

4.6 Wall Vents and Grilles

There are a number of vents and grilles in the stonework. Some are in a reasonable condition, albeit the paintwork is coming away; some are in a very poor condition and badly damaged; whilst some have been blocked up.

Whilst the appearance of these vents affects the appearance of the building, they are an important practical aspects of the building, providing essential ventilation and air movement to sub-floors and intermediate floors.

They should be repaired - where possible, or replaced, like-for-like.

5.0 Building Condition Drawings

On the next series of pages are a set of four elevations and four plans, with the primary defects and aspects of poor condition identified.

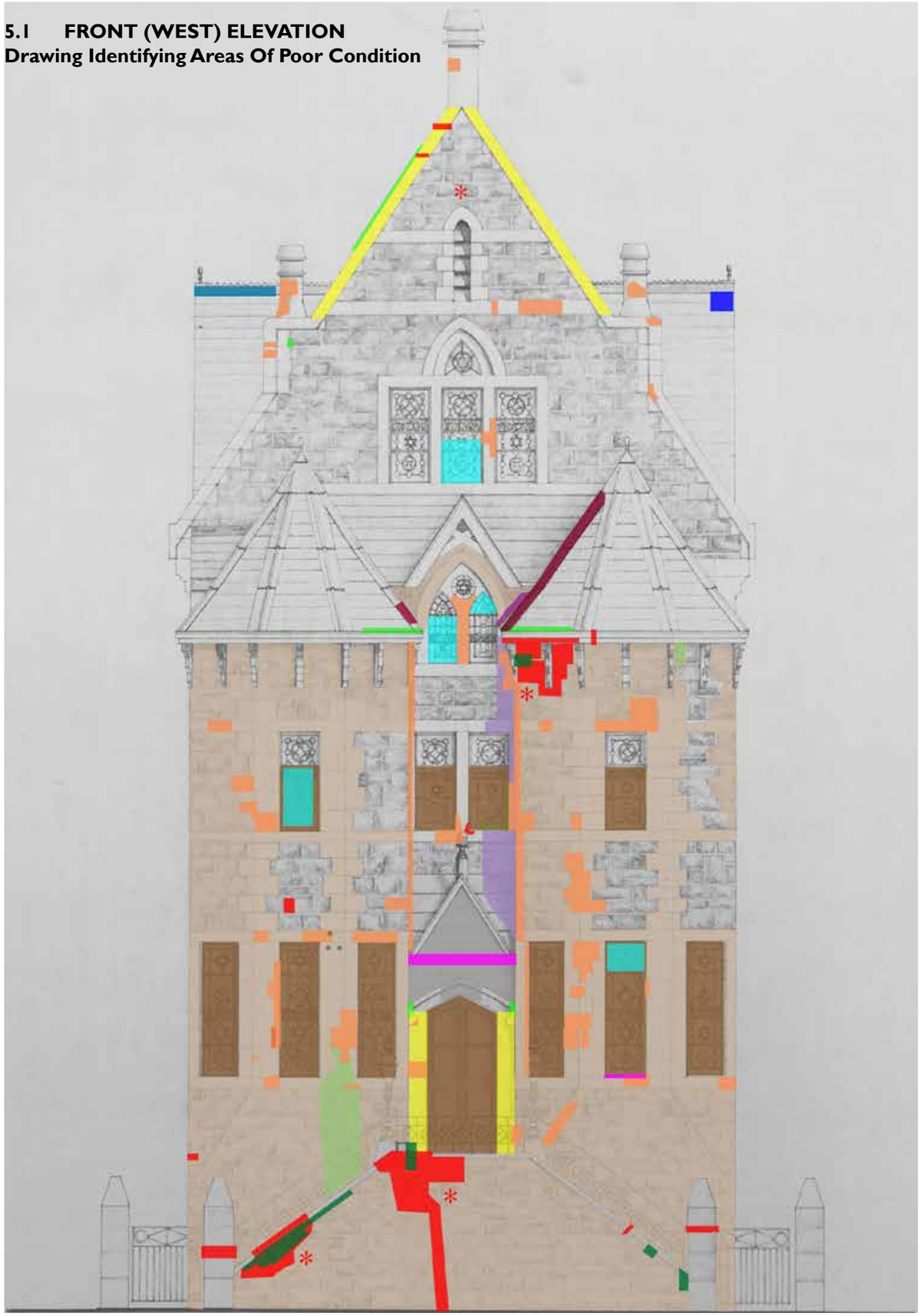
To the right of each is a legend which identifies, by colour, the nature of those defect or aspects of poor condition which were noted during the visits.

Where an asterisk is shown alongside a coloured area, this suggests a need for more urgent attention, as structural intervention may be required. IN these cases, please refer to Mann Williams' 'Structural Condition Report'.

Following on from these are a series of photographs with the most obvious defects picked out and located on the elevations / plans.

As a basis for the survey drawings, we have used the plans and elevations (existing as of the late 1970s / early 1980s) produced by (then) students of the Welsh School of Architecture (Chris Loyn, Duncan Lawrence and Paul Hutchison). The drawings were kindly supplied to Mann Williams by Chris Loyn and are reproduced herein with thanks to Messers Loyn, Lawrence and Hutchison.

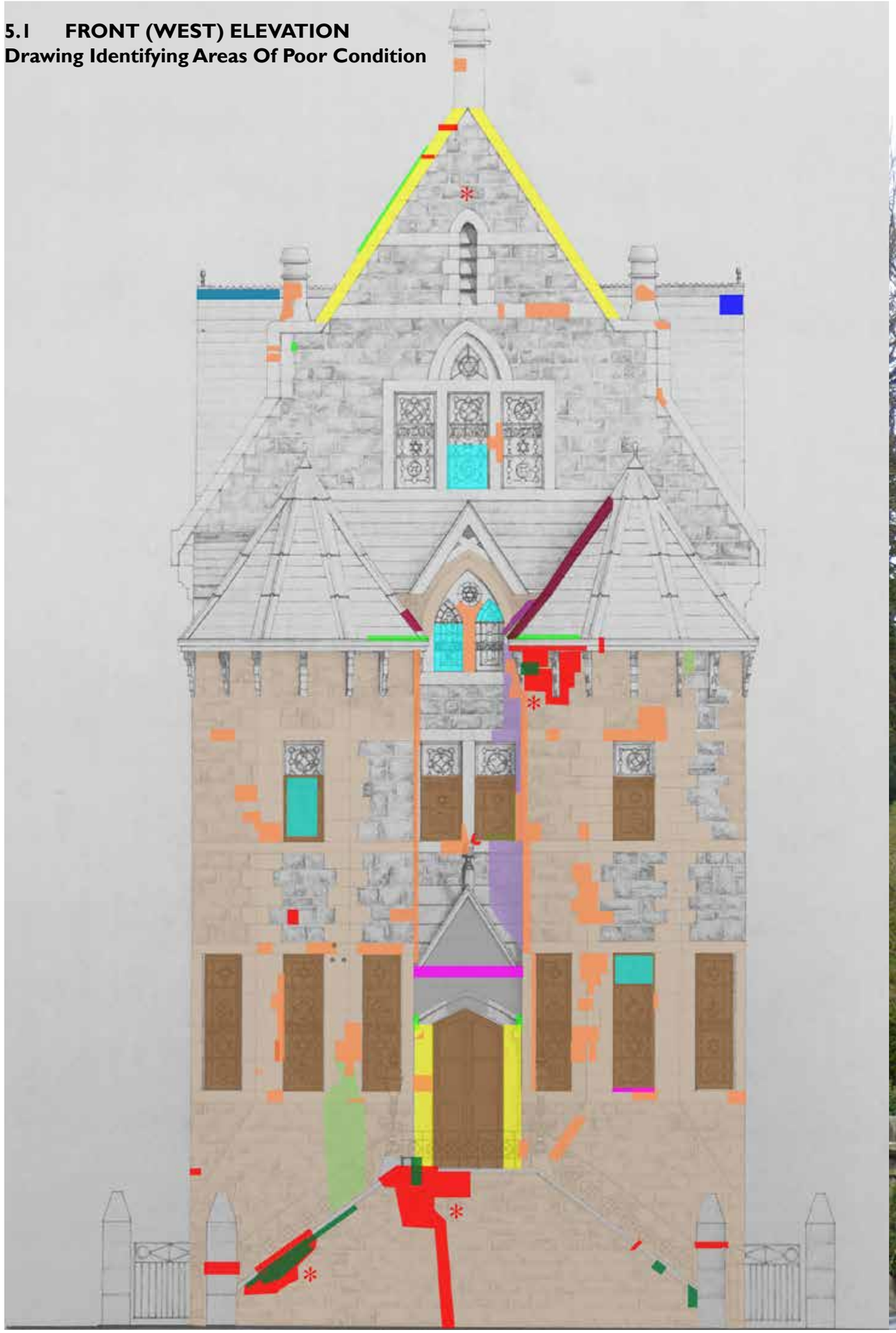
5.1 FRONT (WEST) ELEVATION
Drawing Identifying Areas Of Poor Condition



Legend to Colours on Drawing

- Damage to Stone (or brick or cement)
- Severe Stone Delamination
- Stone Delamination
- Damp to Masonry
- Open Joints (re-pointing advised)
- Cement Pointing (non-breathable)
- Vegetation Growing up Walls
- Root Damage to Stone
- Broken or Blocked Vent in Wall
- Metal Fixings in Stone
- Hole in Stone (old drainage hole)
- Openings Blocked-up/Covered (cannot be seen)
- Broken Glass to Window
- Damaged/Rotten Timber Window Frame
- Damaged or Lost Rainwater Goods
- Missing Slates
- Slipped Slates
- Leadwork Missing
- Open Joints in Ridge
- Barge/Soffit Boards needing refurbishment
- Damage to Concrete Step
- Open Manhole (unsafe)
- Lost Plywood Floor
- Unsafe Plywood / Timber Floor
- Damaged Ceiling
- Damaged Plaster to Walls

5.1 FRONT (WEST) ELEVATION
Drawing Identifying Areas Of Poor Condition



5.2 SIDE (NORTH) ELEVATION

Drawing Identifying Areas Of Poor Condition

Legend to Colours on Drawing

- Damage to Stone (or brick or cement)
- Severe Stone Delamination
- Stone Delamination
- Damp to Masonry
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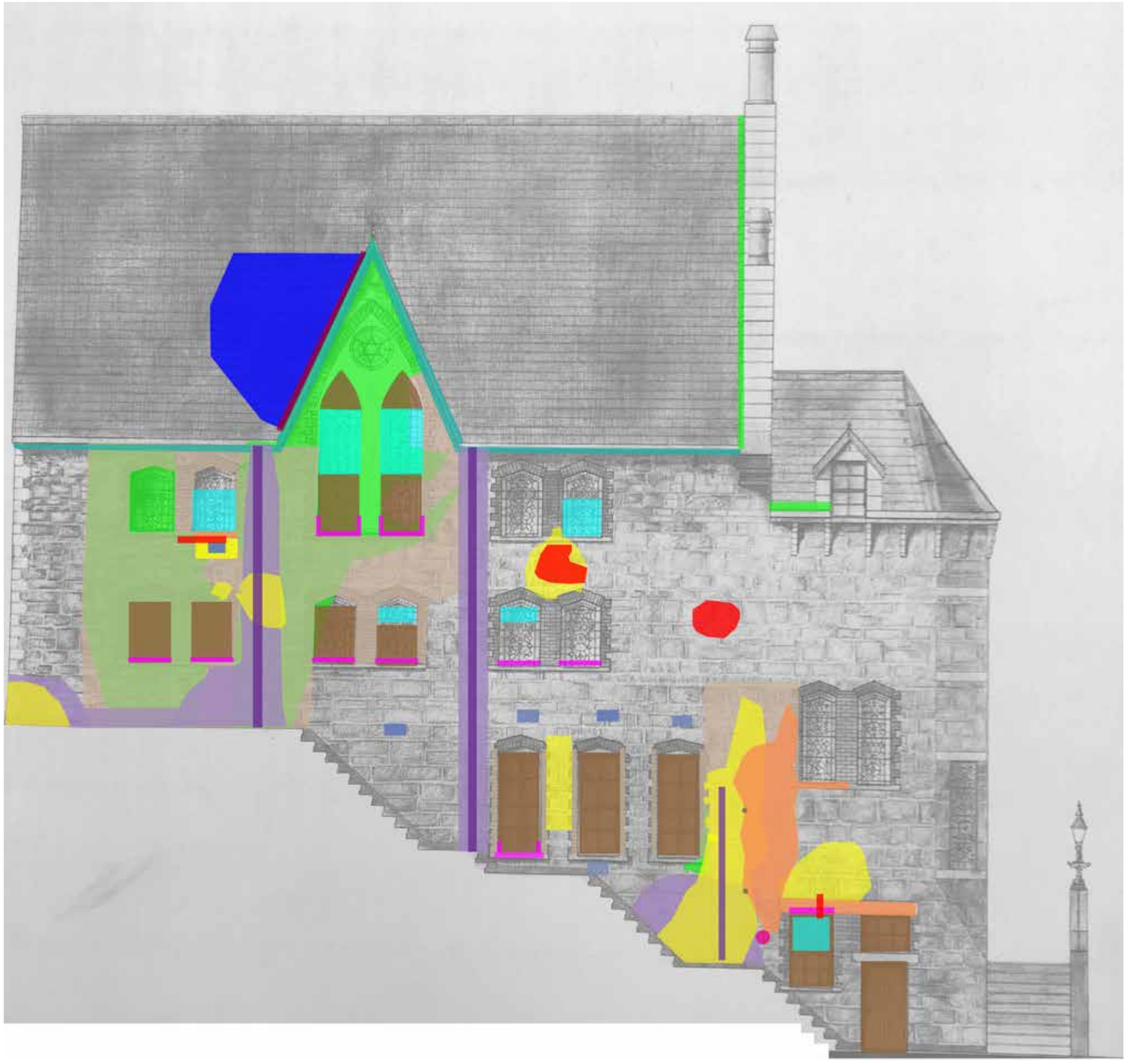
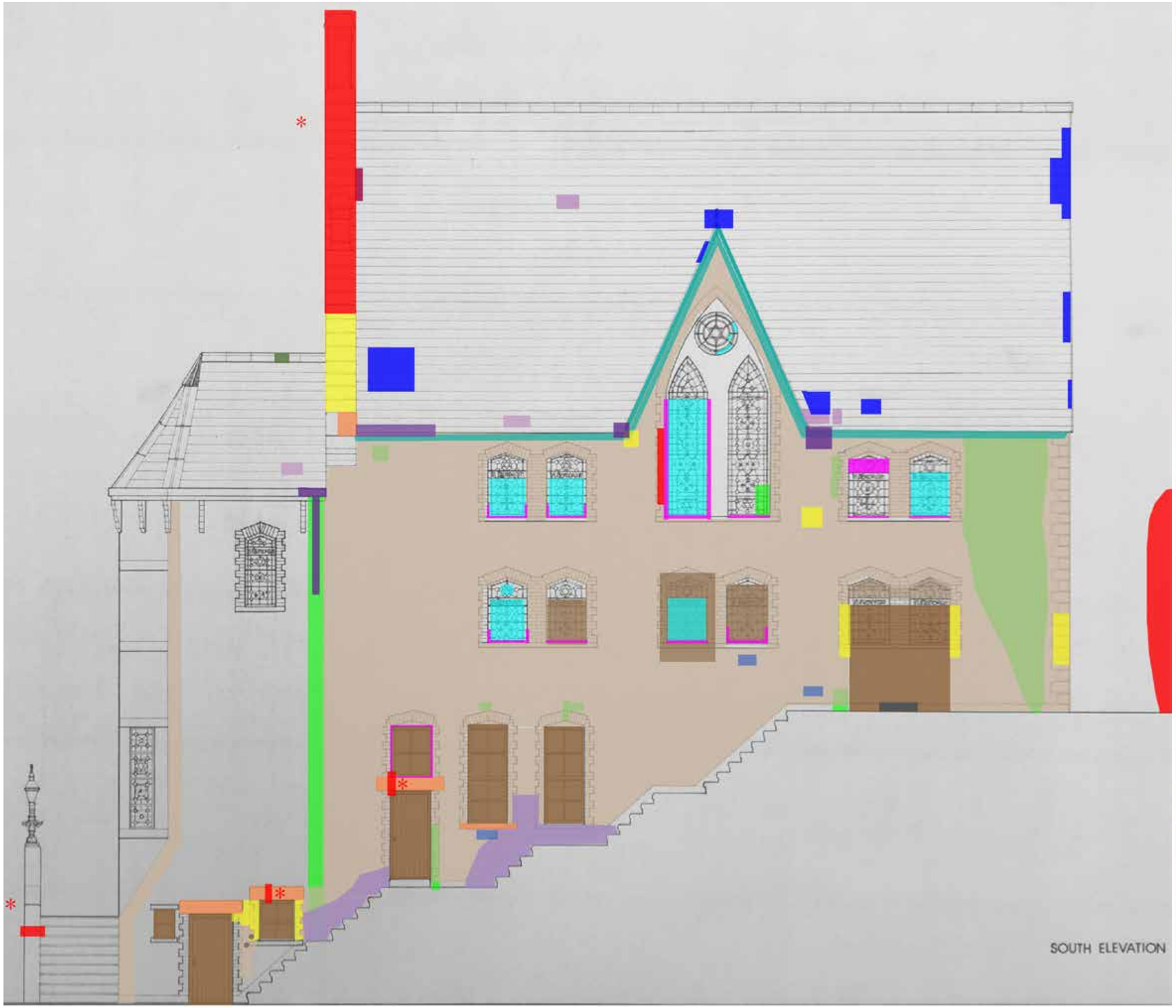
5.2 SIDE (NORTH) ELEVATION

Drawing Identifying Areas Of Poor Condition



5.3 SIDE (SOUTH) ELEVATION

Drawing Identifying Areas Of Poor Condition



Legend to Colours on Drawing

- Damage to Stone (or brick or cement)
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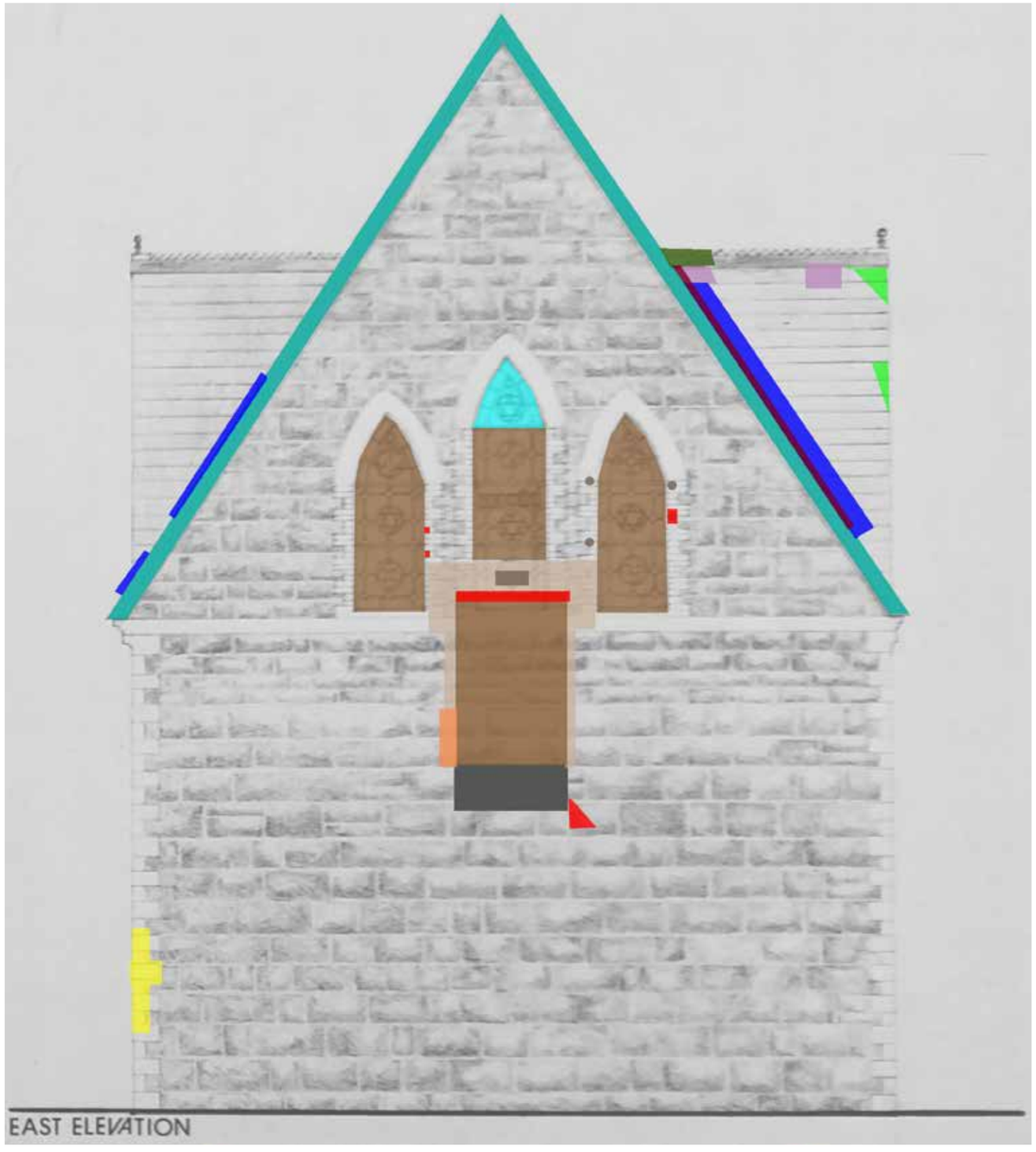
5.3 SIDE (SOUTH) ELEVATION
Drawing Identifying Areas Of Poor Condition

5.4 REAR (EAST) ELEVATION

Drawing Identifying Areas Of Poor Condition



Legend to Colours on Drawing

- Damage to Stone (or brick or cement)
- Severe Stone Delamination
- Stone Delamination
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- Open Joints (re-pointing advised)
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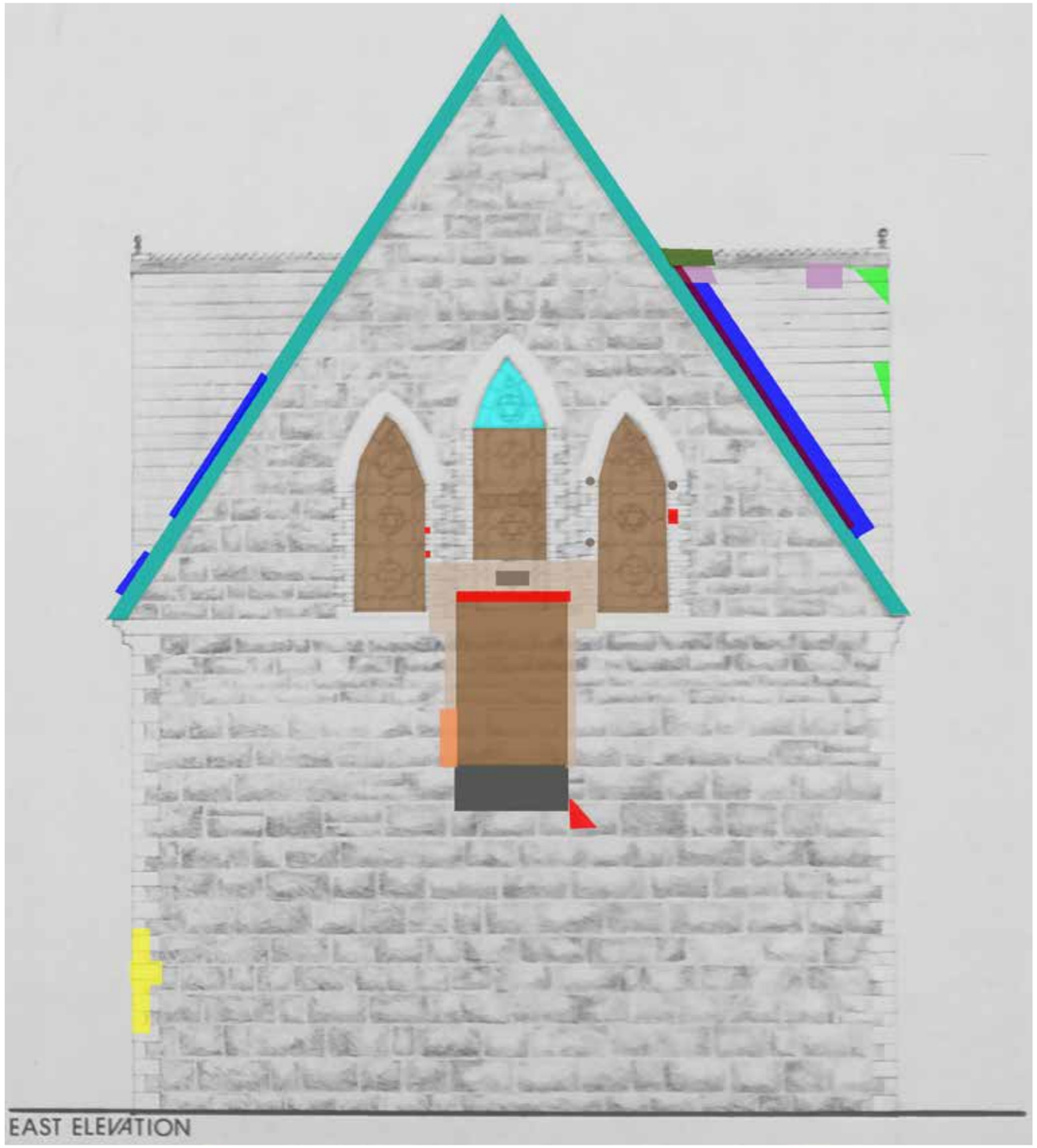
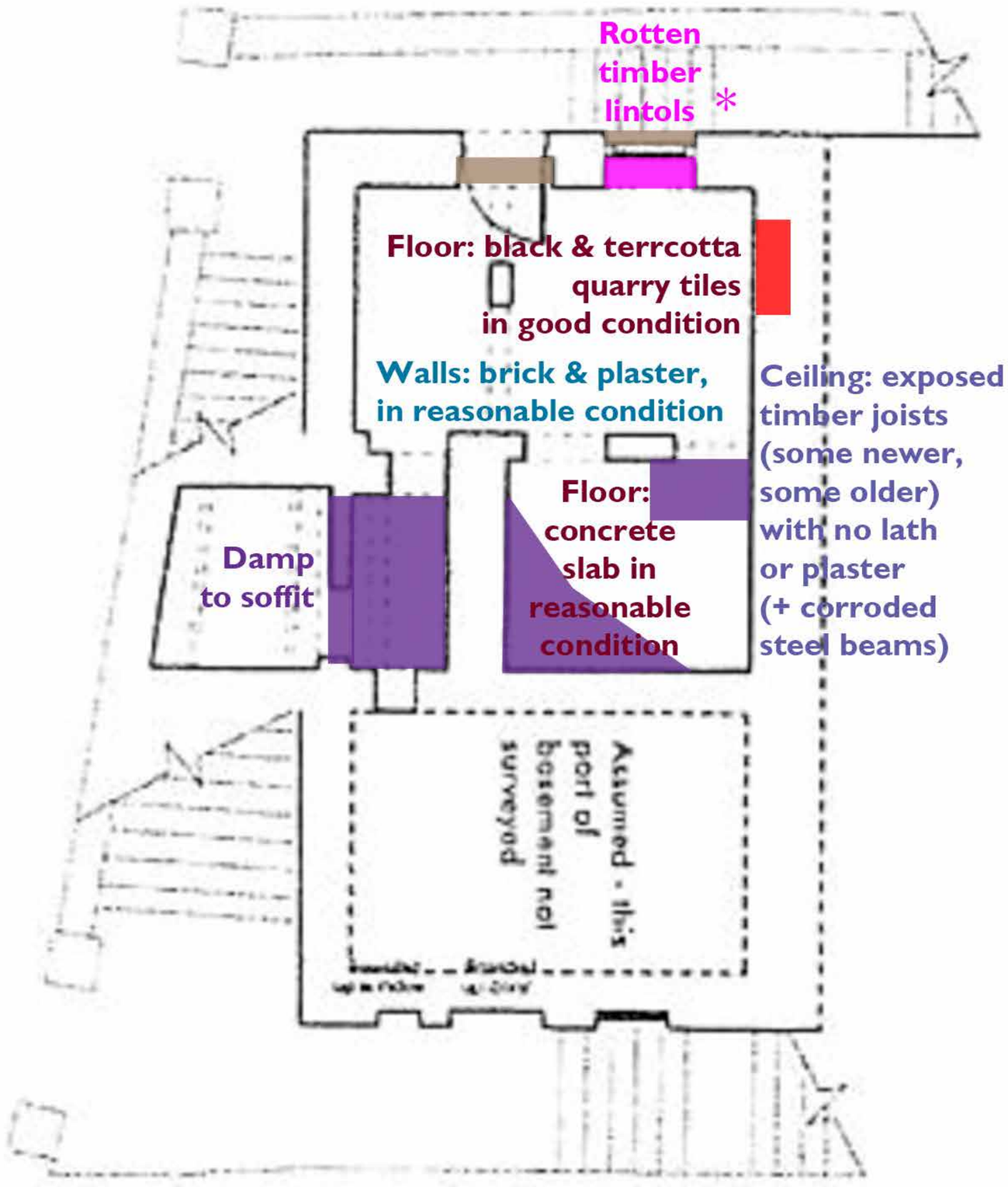
5.4 REAR (EAST) ELEVATION
Drawing Identifying Areas Of Poor Condition



5.5 LOWER GROUND FLOOR

Drawing Identifying Areas Of Poor Condition



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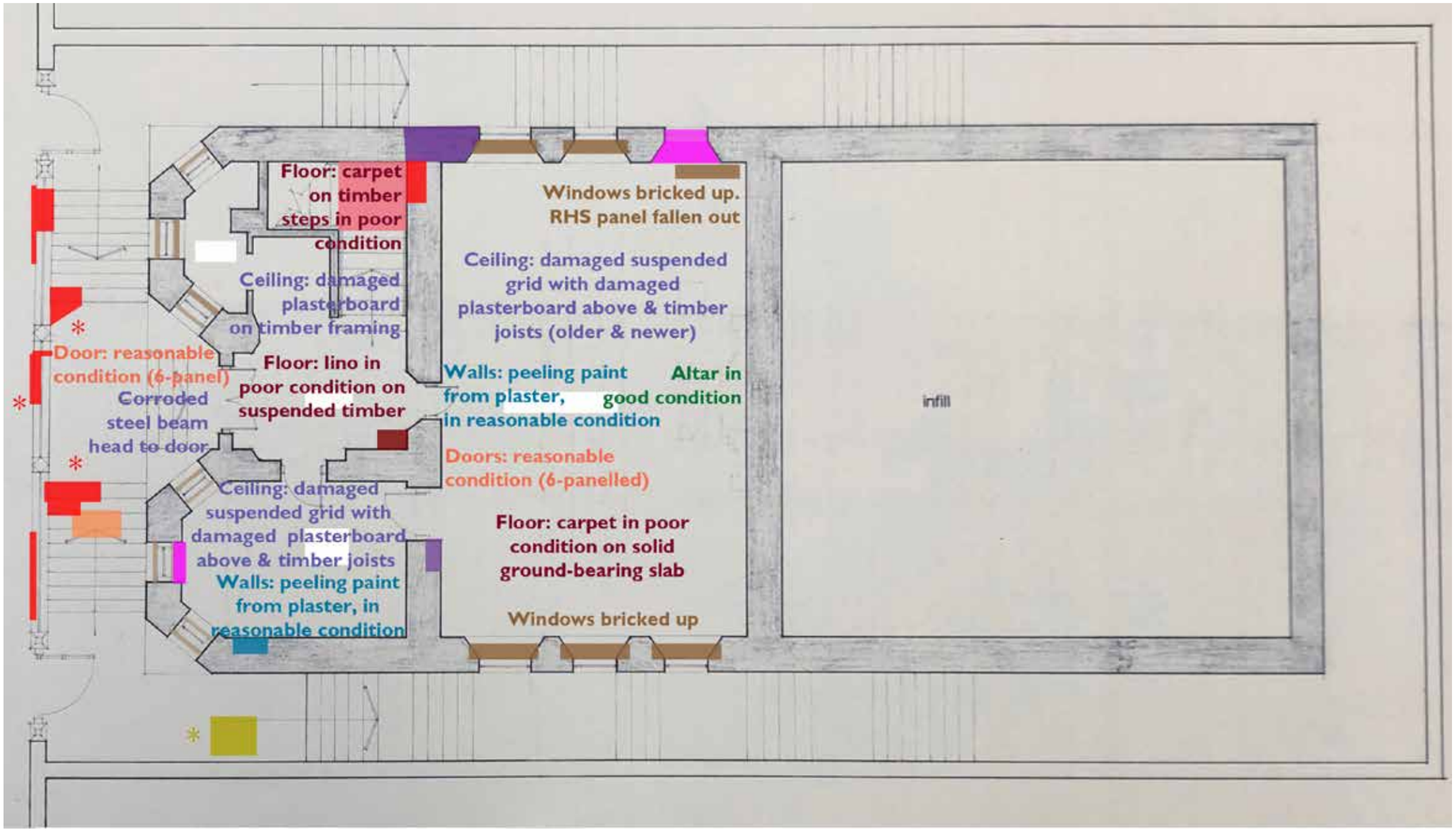
5.6 UPPER GROUND FLOOR PLAN
Drawing Identifying Areas Of Poor Condition



Legend to Colours on Drawing

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- Severe Stone Delamination
- Stone Delamination
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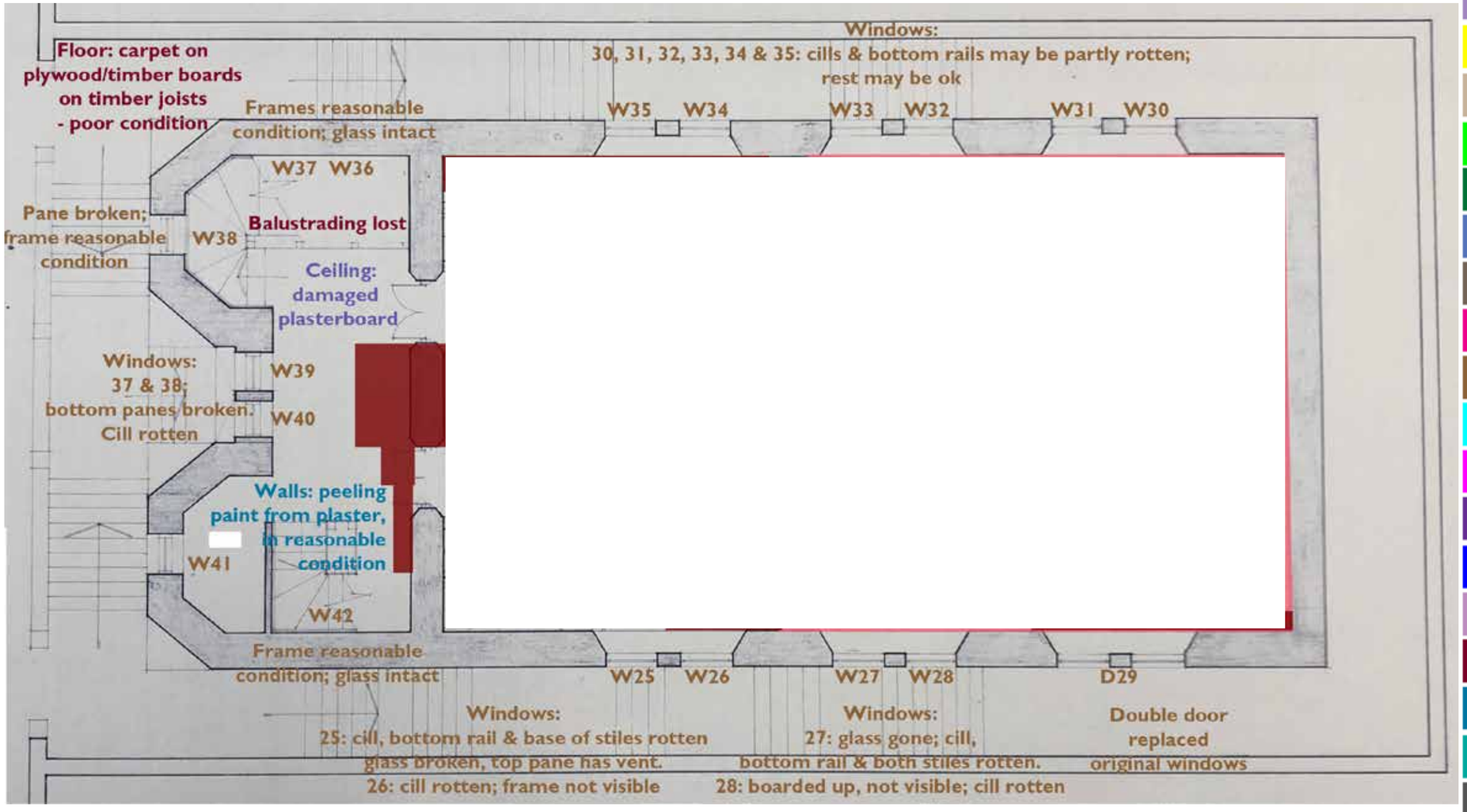
5.7 FIRST FLOOR PLAN (TO BE FURTHER DEVELOPED)

Drawing Identifying Areas Of Poor Condition



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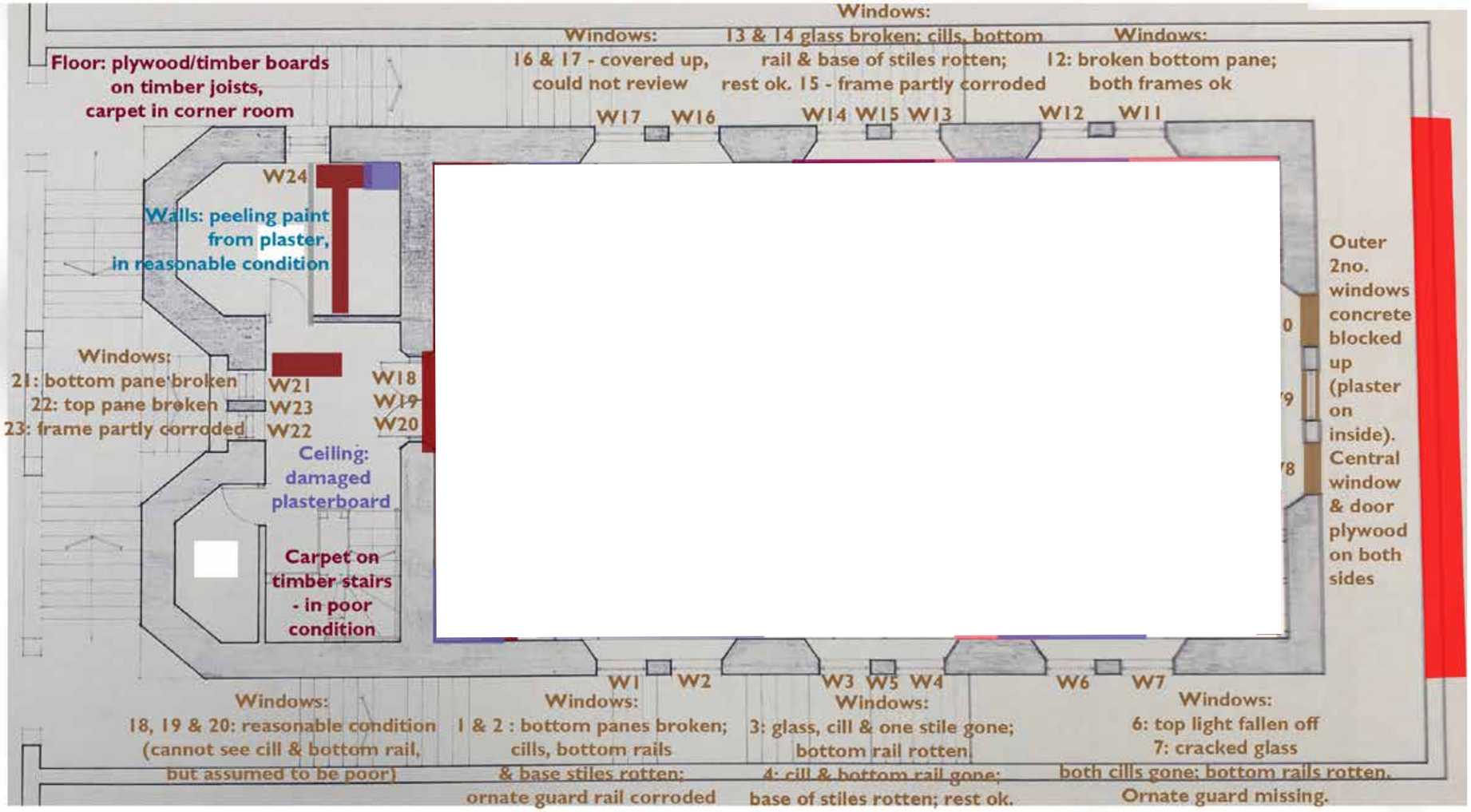
- Damaged Plaster to Walls

5.8 SECOND FLOOR PLAN (TO BE FURTHER DEVELOPED)

Drawing Identifying Areas Of Poor Condition



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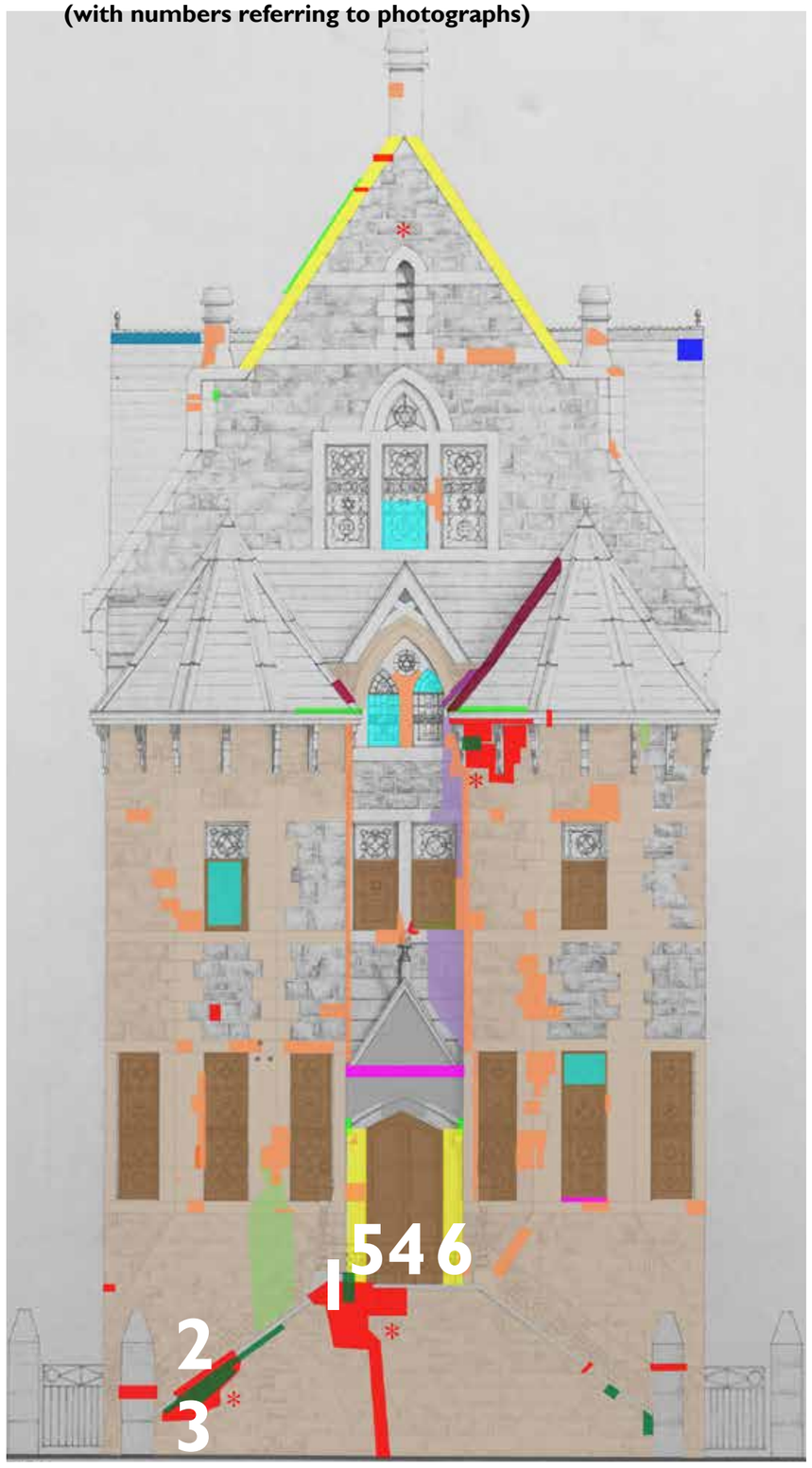
6.0 Building Condition Photographs

On the next series of pages are a series of photographs with the most obvious defects picked out and located on the elevations / plans, which sit alongside the photographs on the page.

6.1 FRONT (WEST) ELEVATION

Examples of Condition Issues with the Stonework (with numbers referring to photographs)



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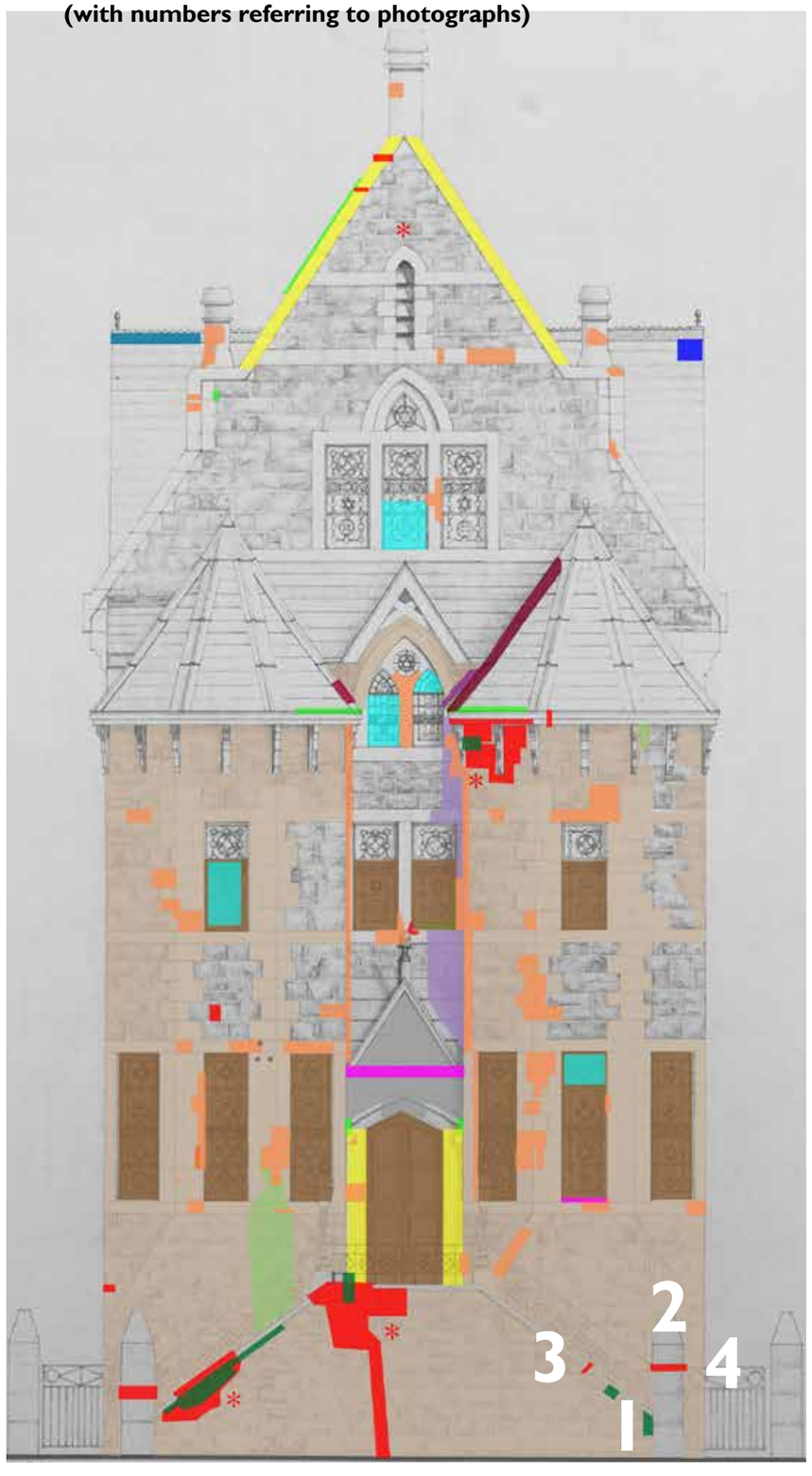
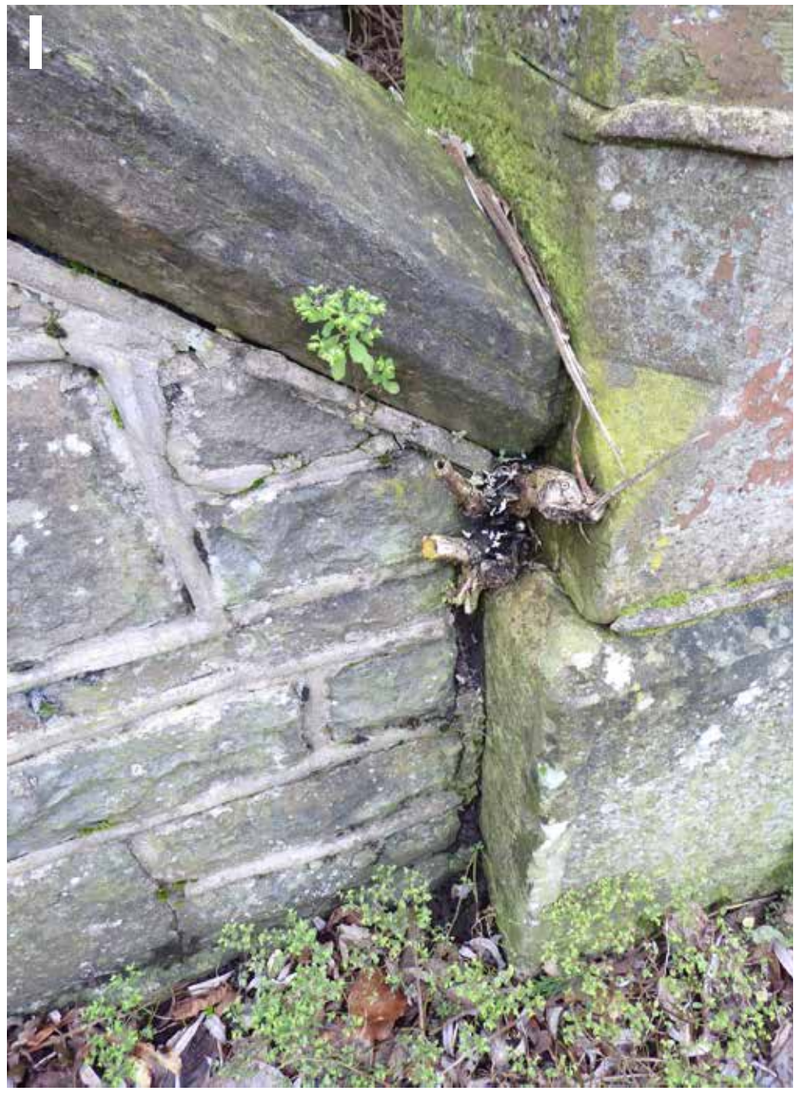
Examples of Condition Issues with the Stonework (with numbers referring to photographs)





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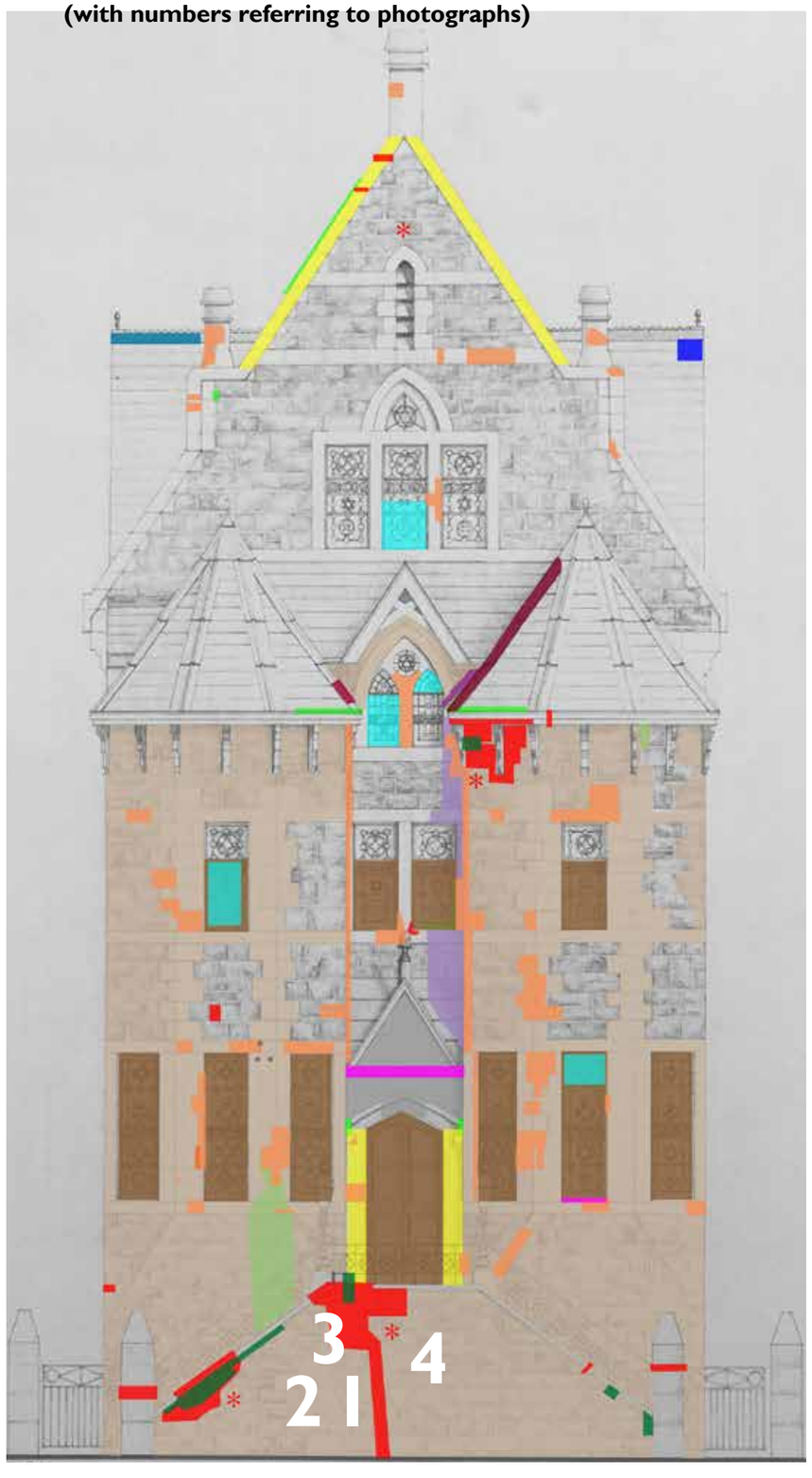
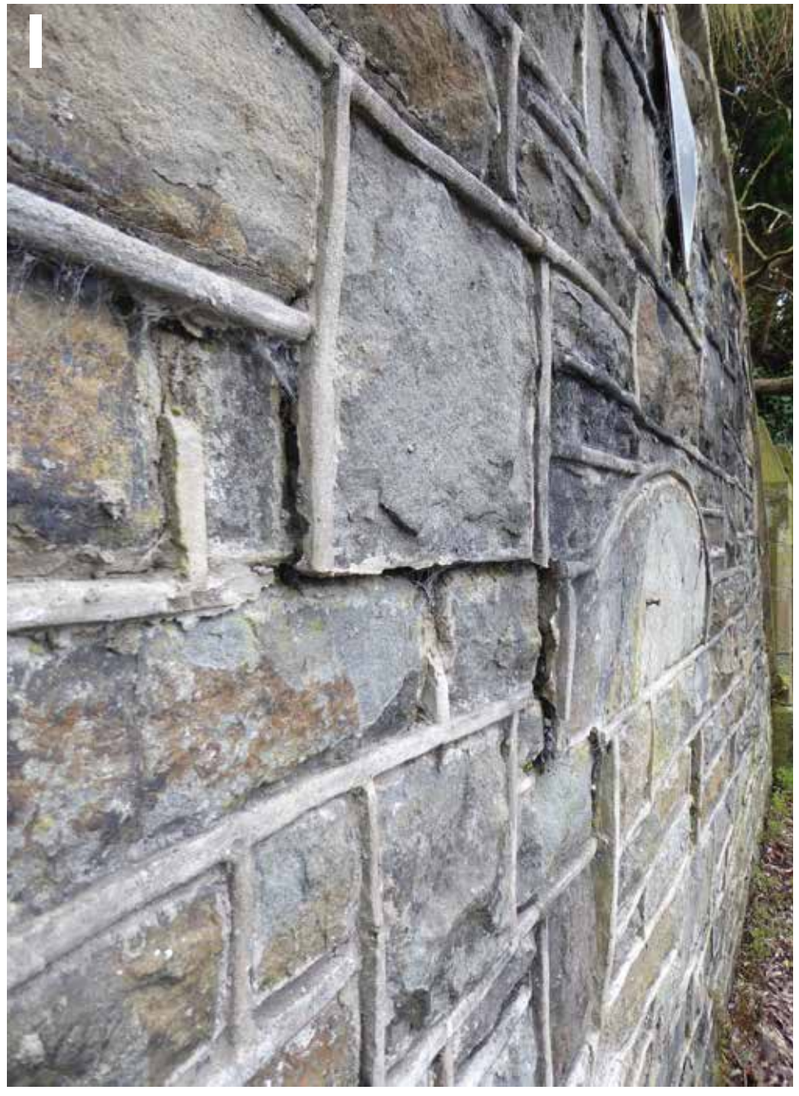
Examples of Condition Issues with the Stonework (with numbers referring to photographs)





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Examples of Condition Issues with the Stonework (with numbers referring to photographs)

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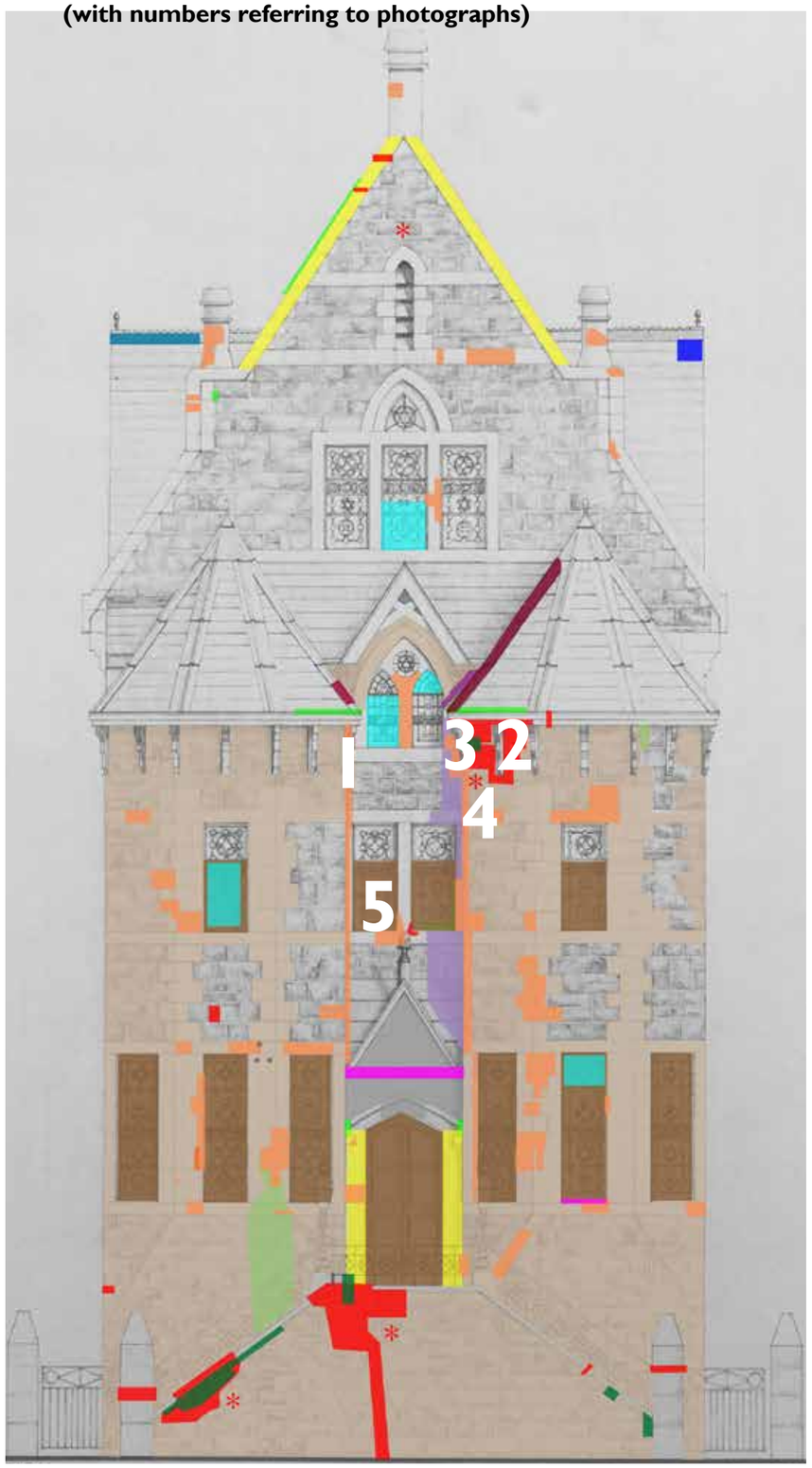

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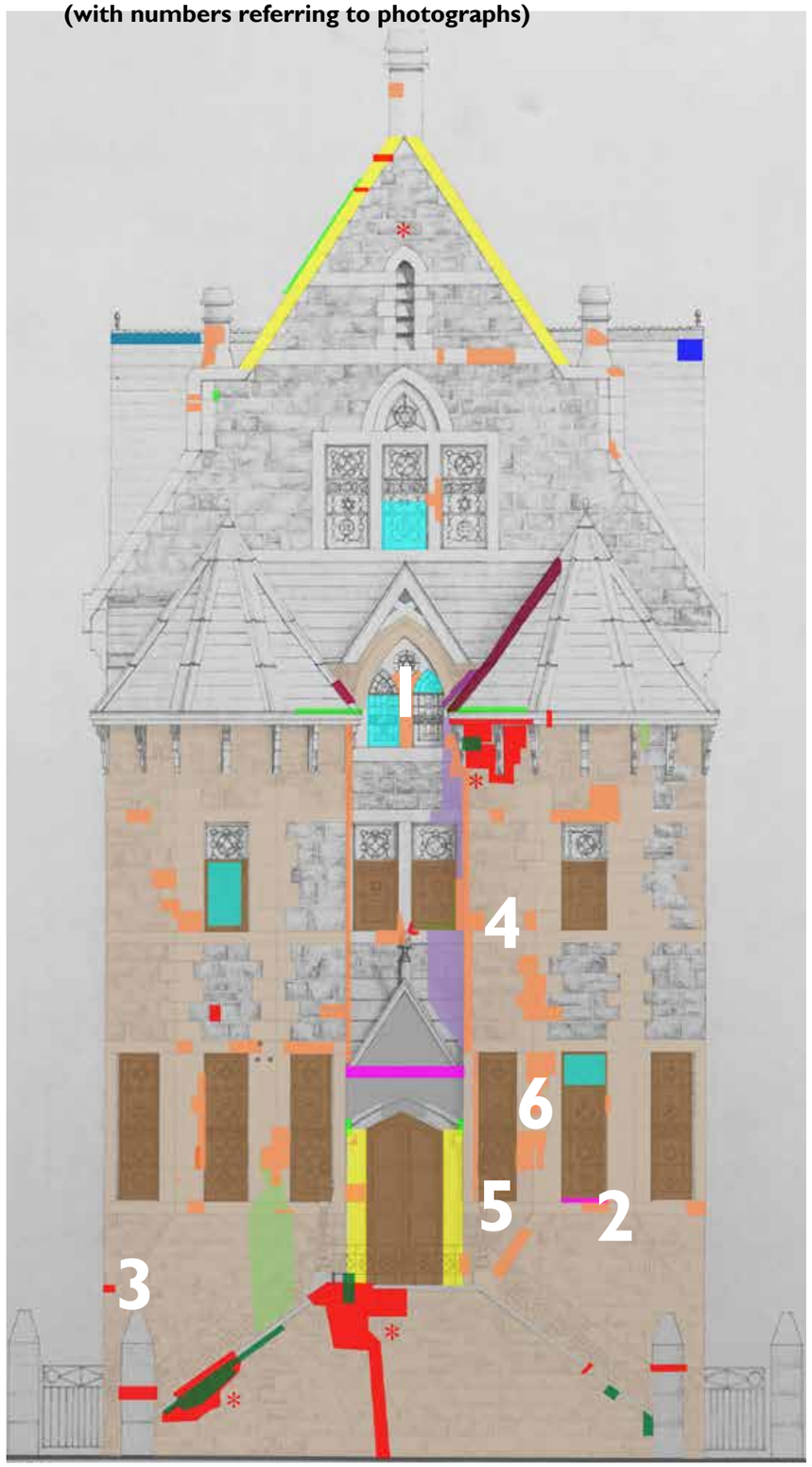
Examples of Condition Issues with the Stonework (with numbers referring to photographs)



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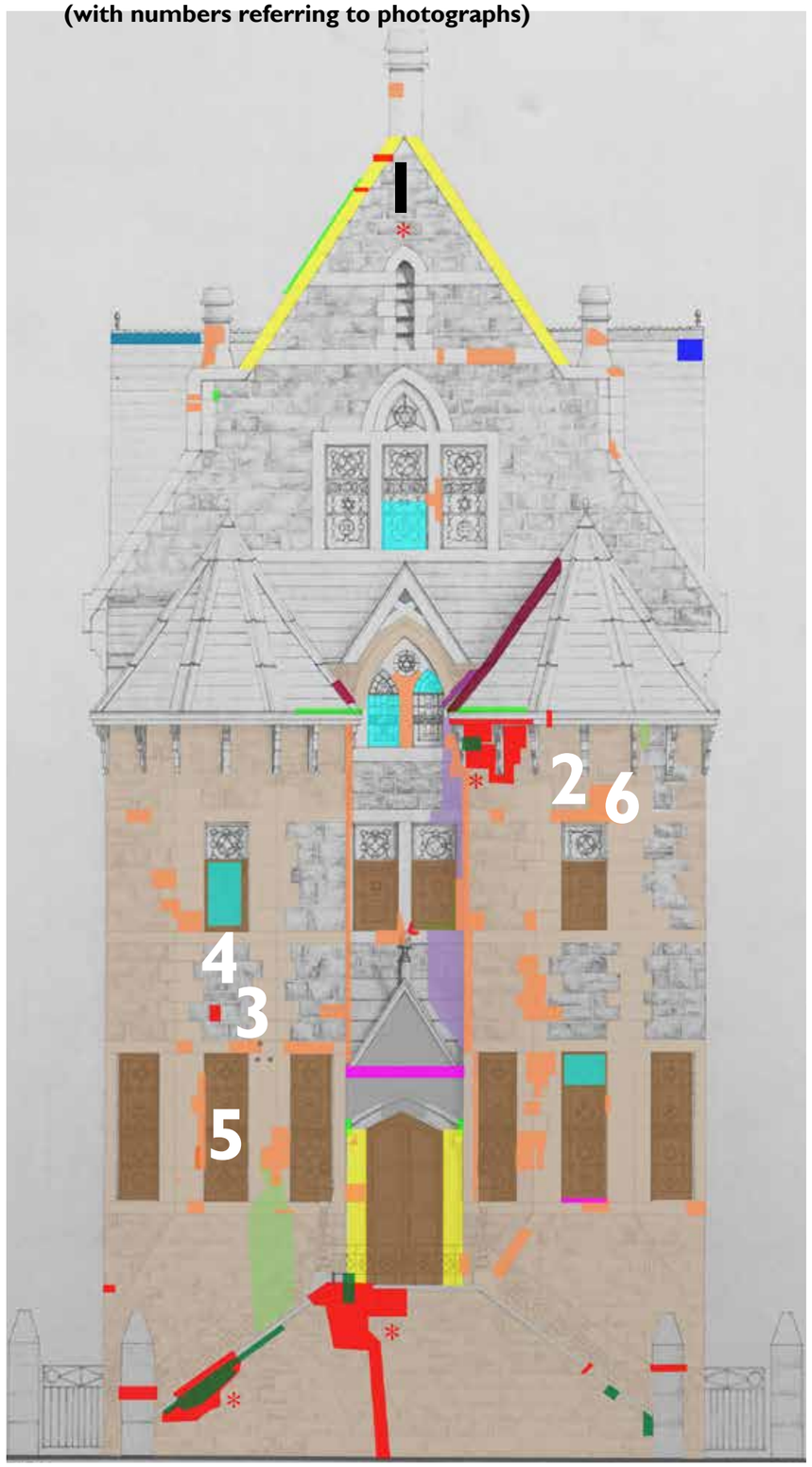
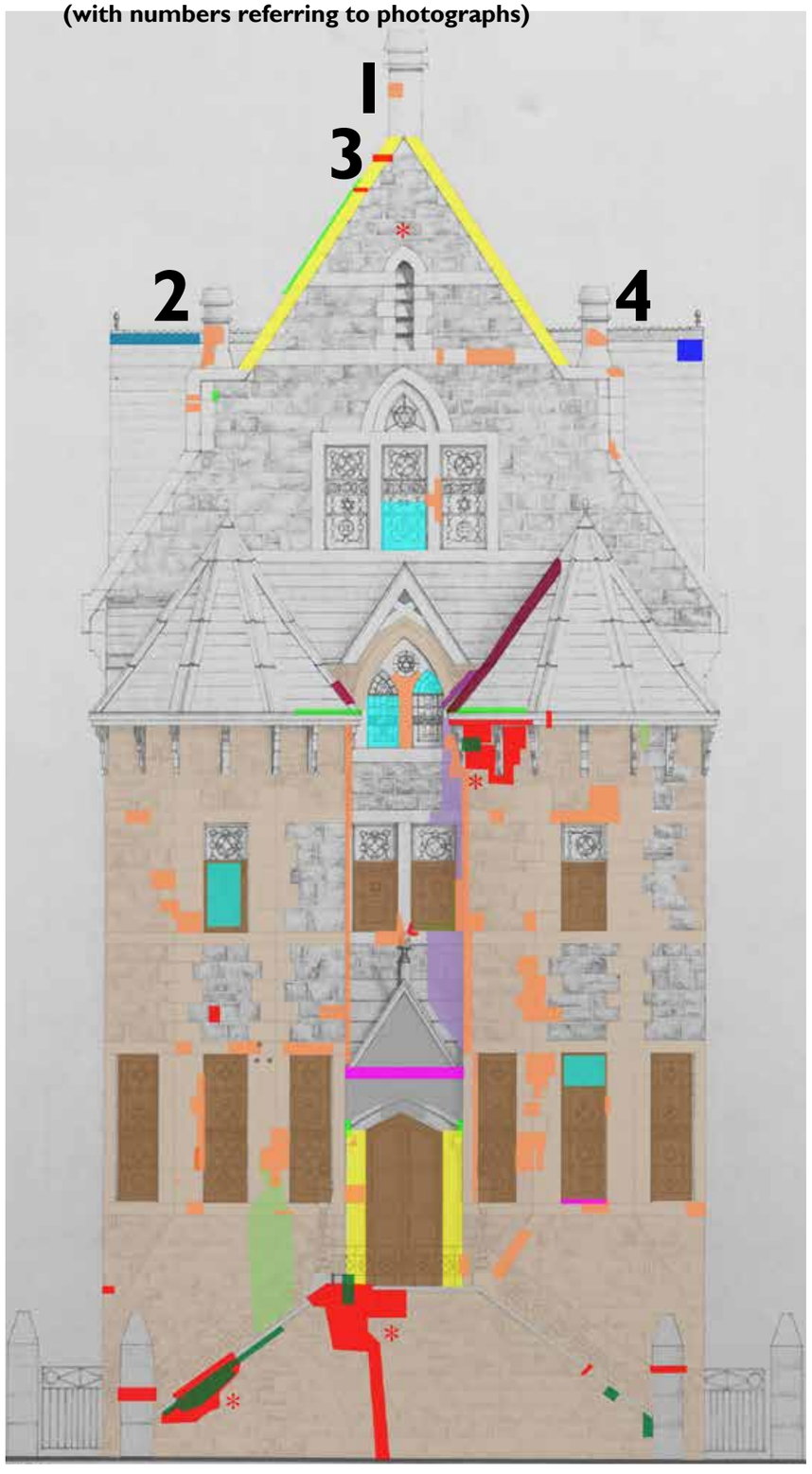
Examples of Condition Issues with the Stonework (with numbers referring to photographs)



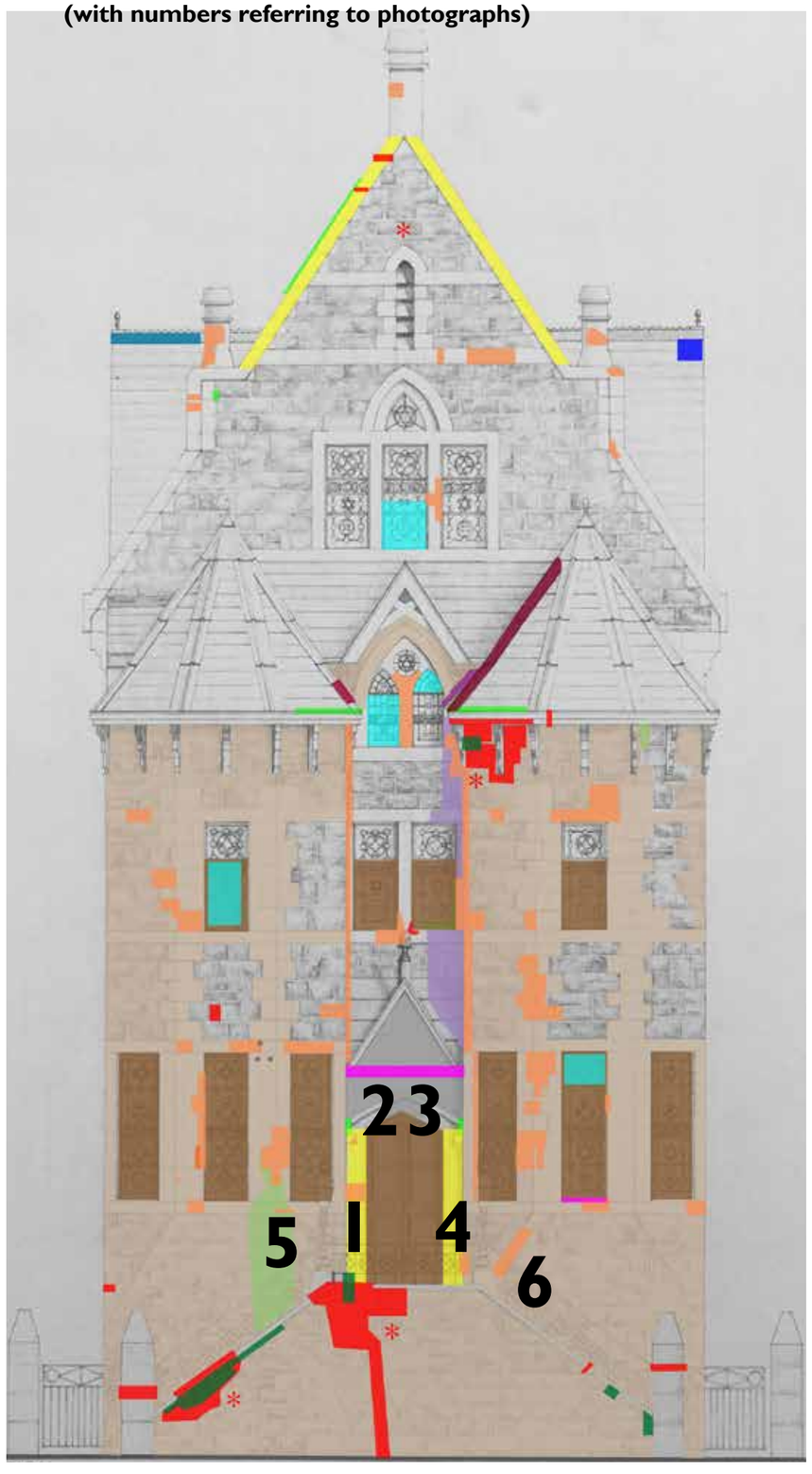
6.1 FRONT (WEST) ELEVATION

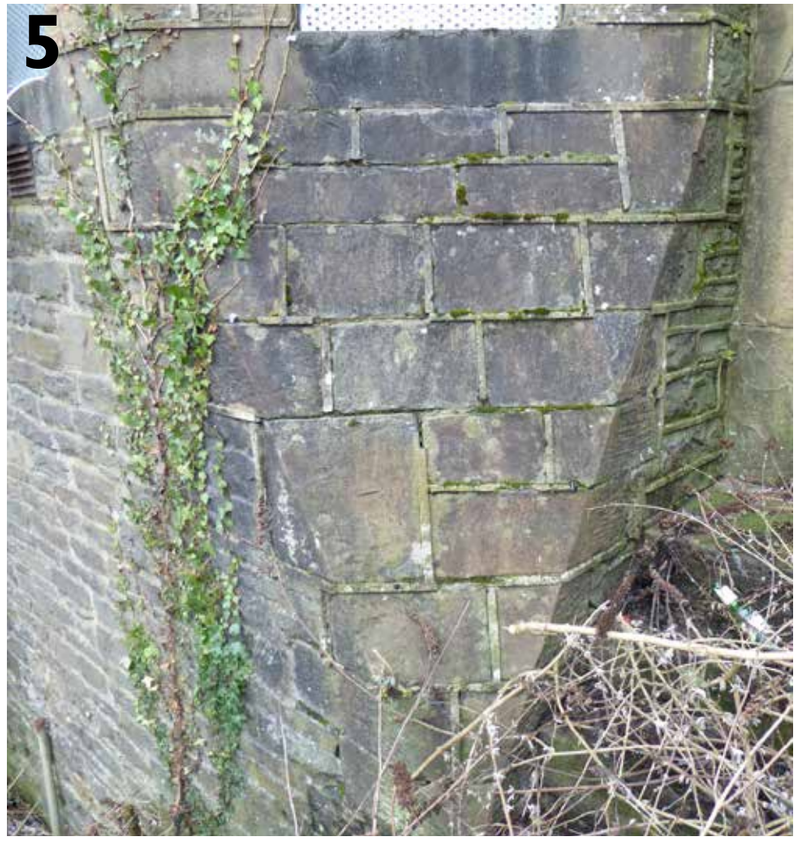
Examples of Condition Issues with the Stonework (with numbers referring to photographs)



6.1 FRONT (WEST) ELEVATION

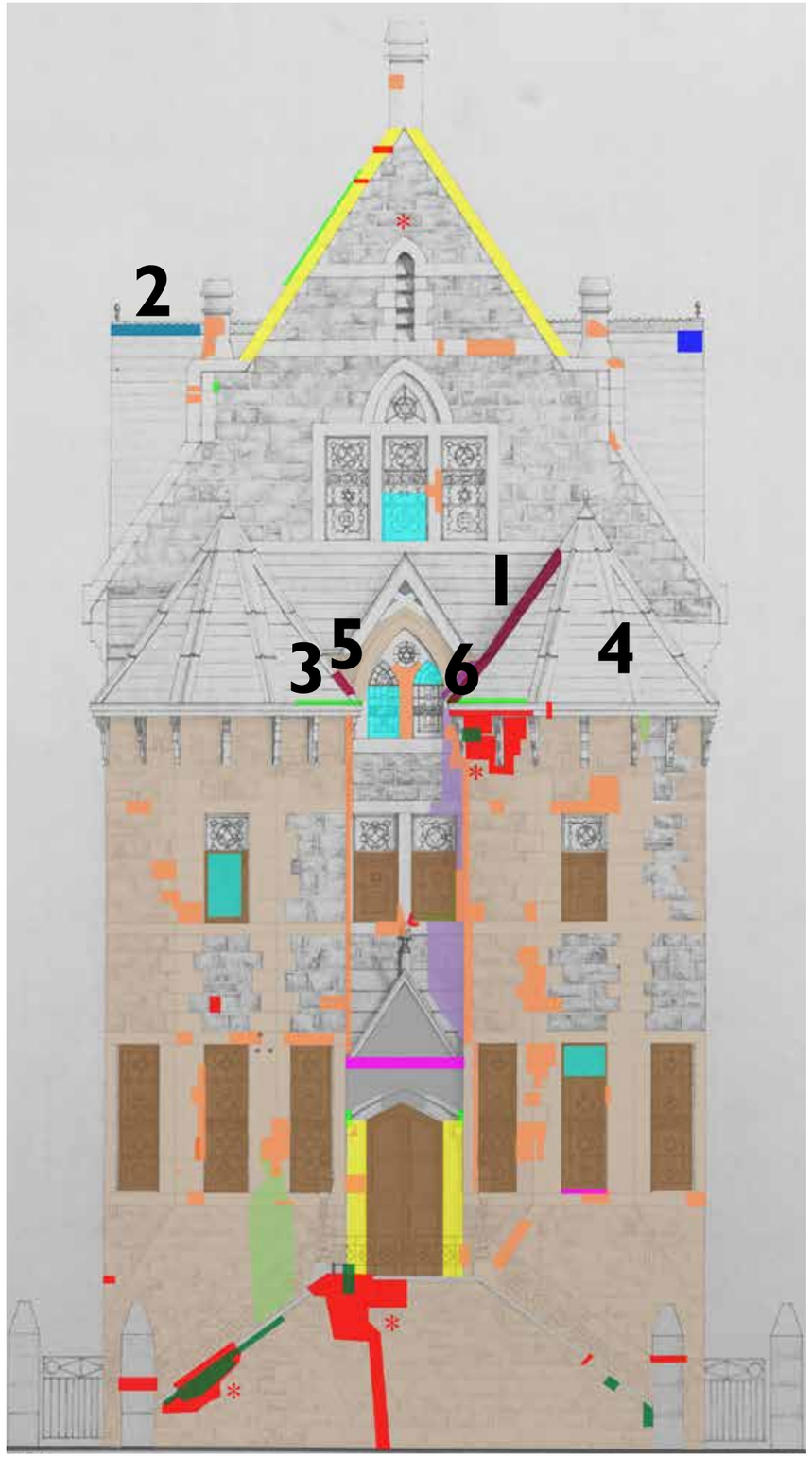
Examples of Condition Issues with the Stonework (with numbers referring to photographs)

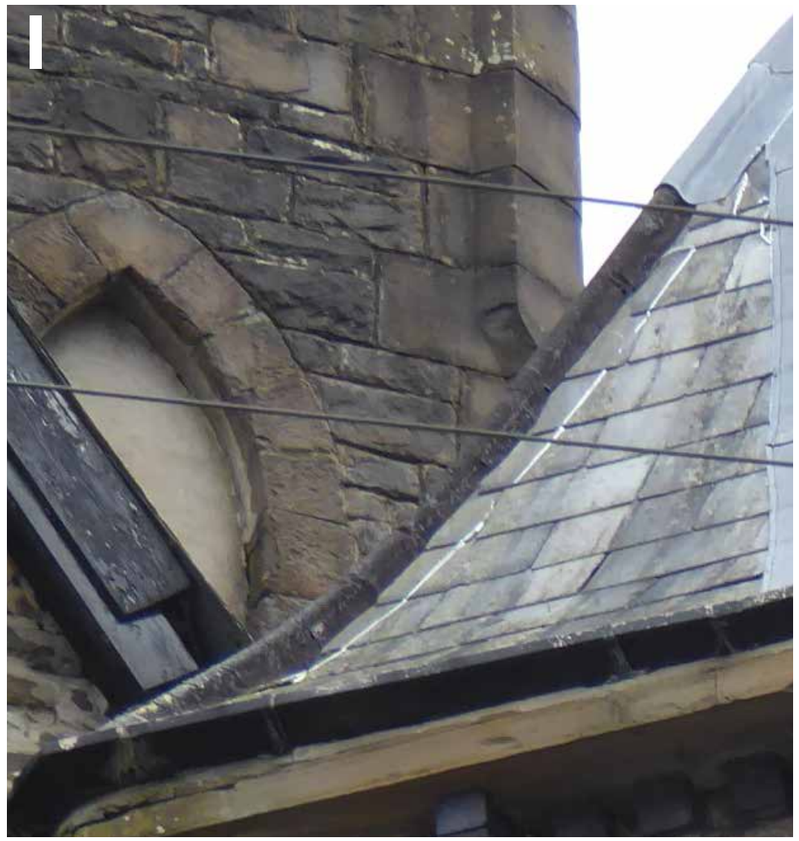




6.1 FRONT (WEST) ELEVATION

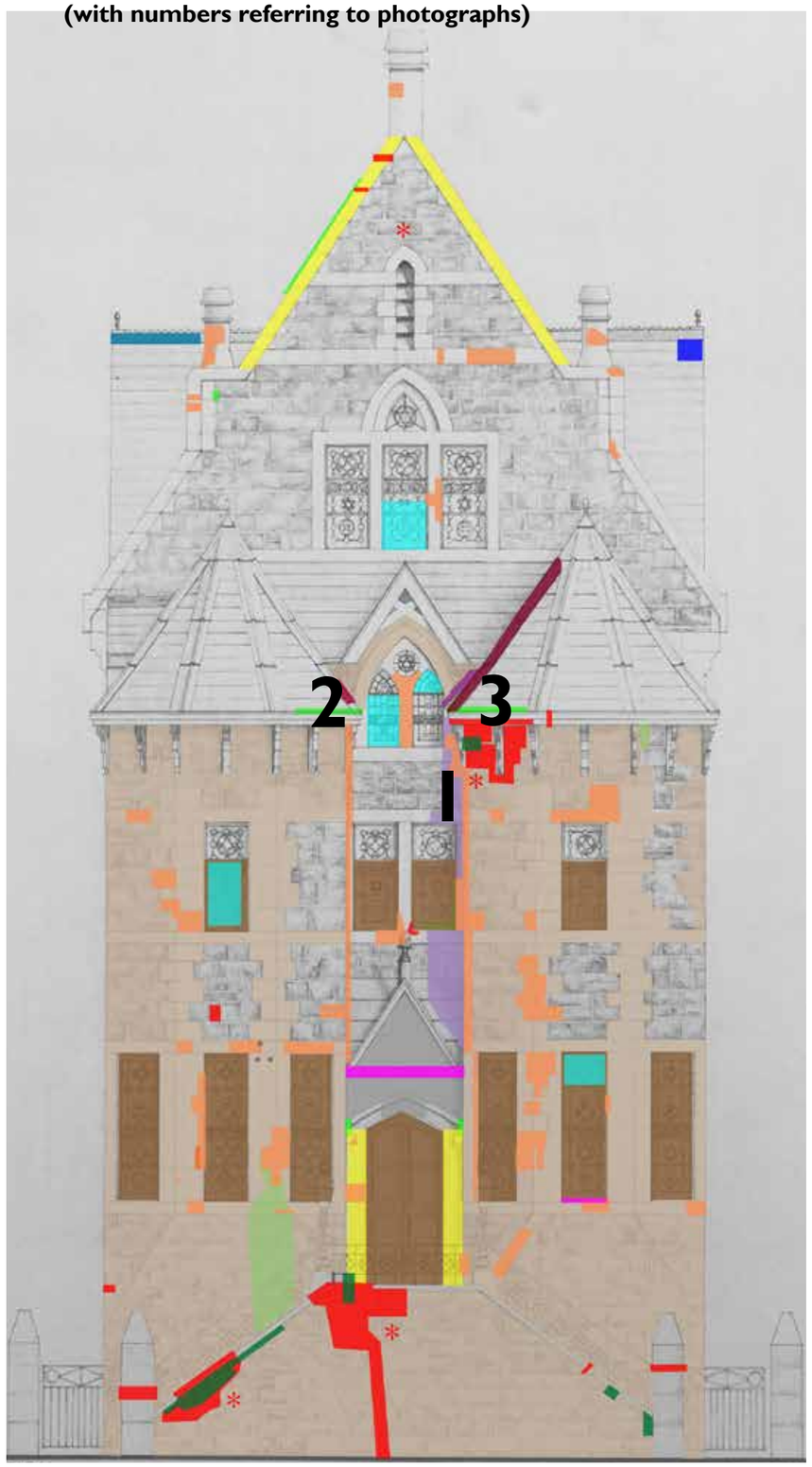
Examples of Condition Issues with the Roof
(with numbers referring to photographs)





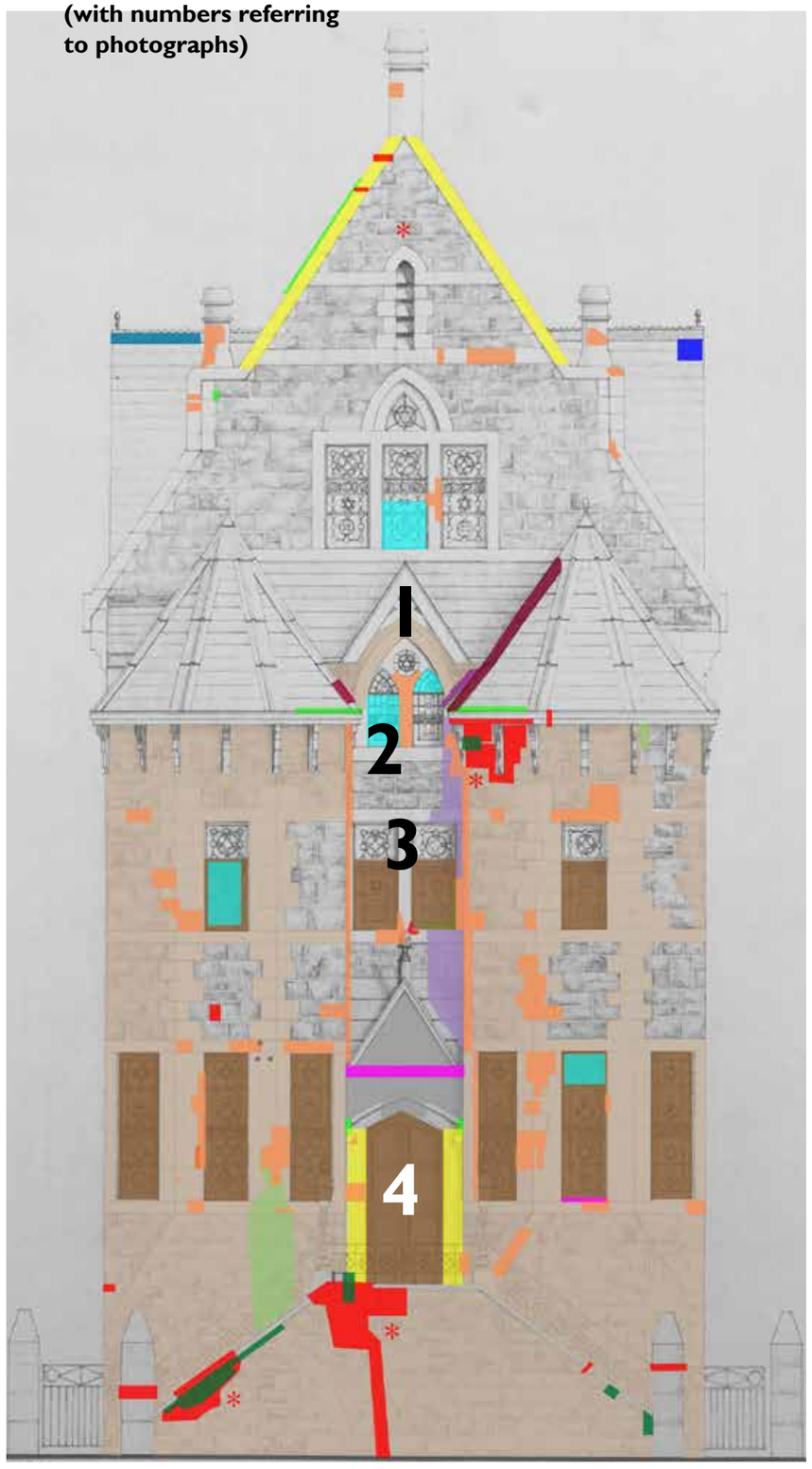
6.1 FRONT (WEST) ELEVATION

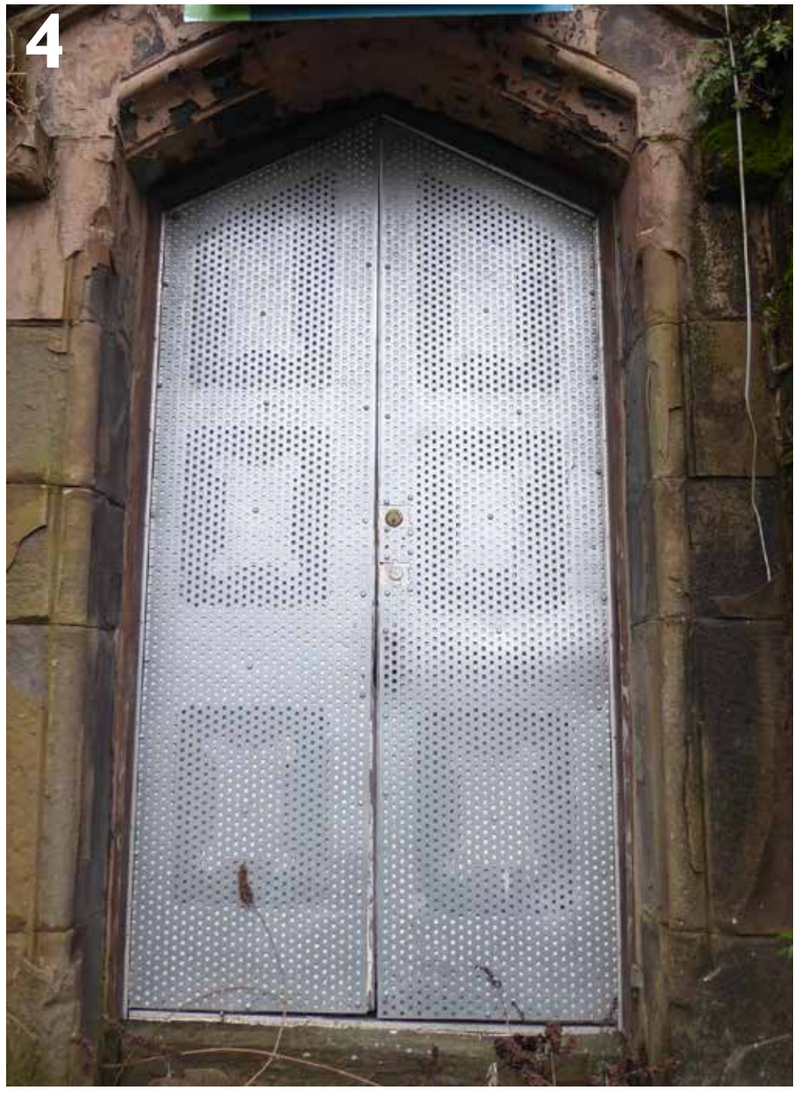
Examples of Condition Issues with the Rainwater Goods (with numbers referring to photographs)



6.1 FRONT (WEST) ELEVATION

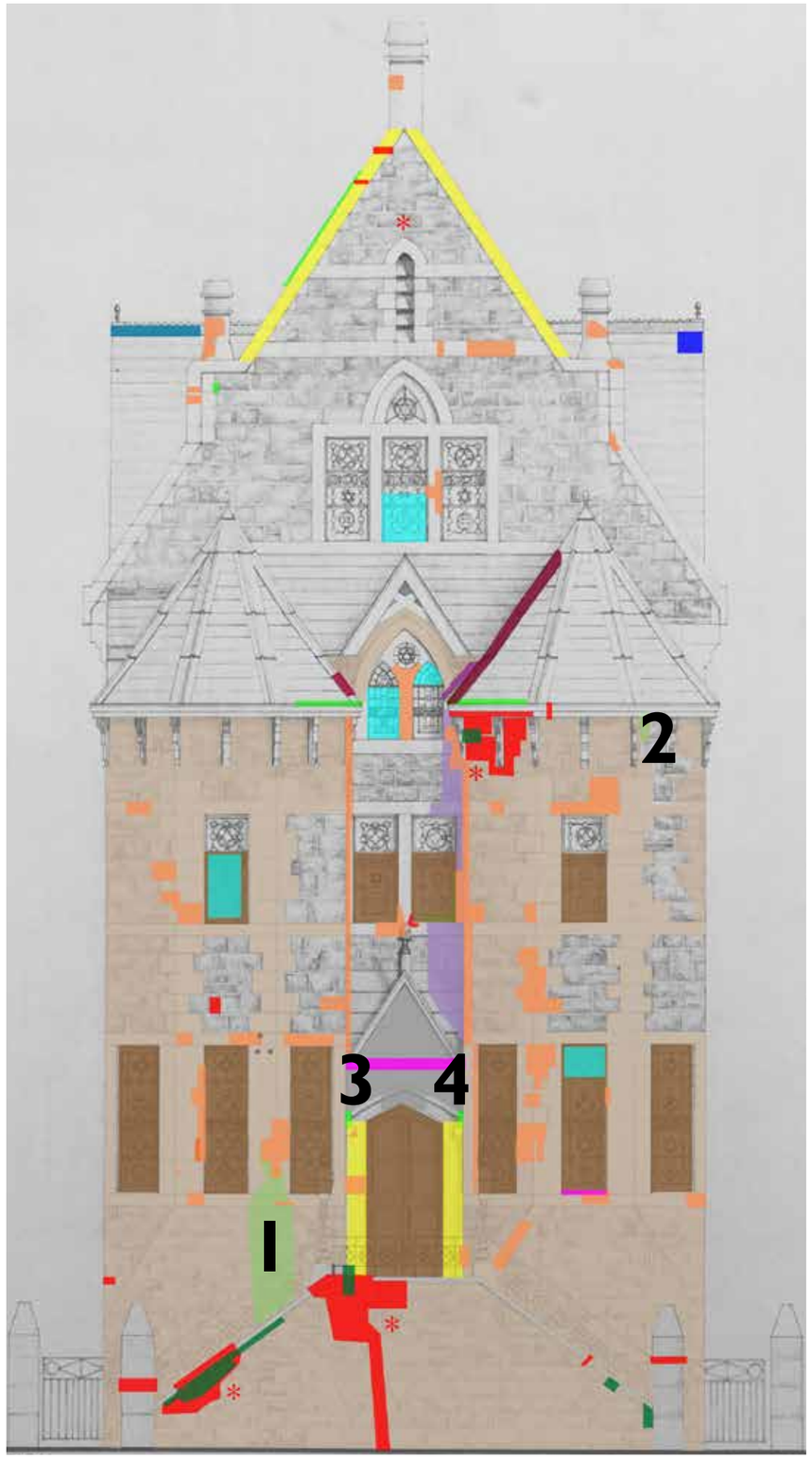
Examples of Condition Issues with the Windows & Door (with numbers referring to photographs)





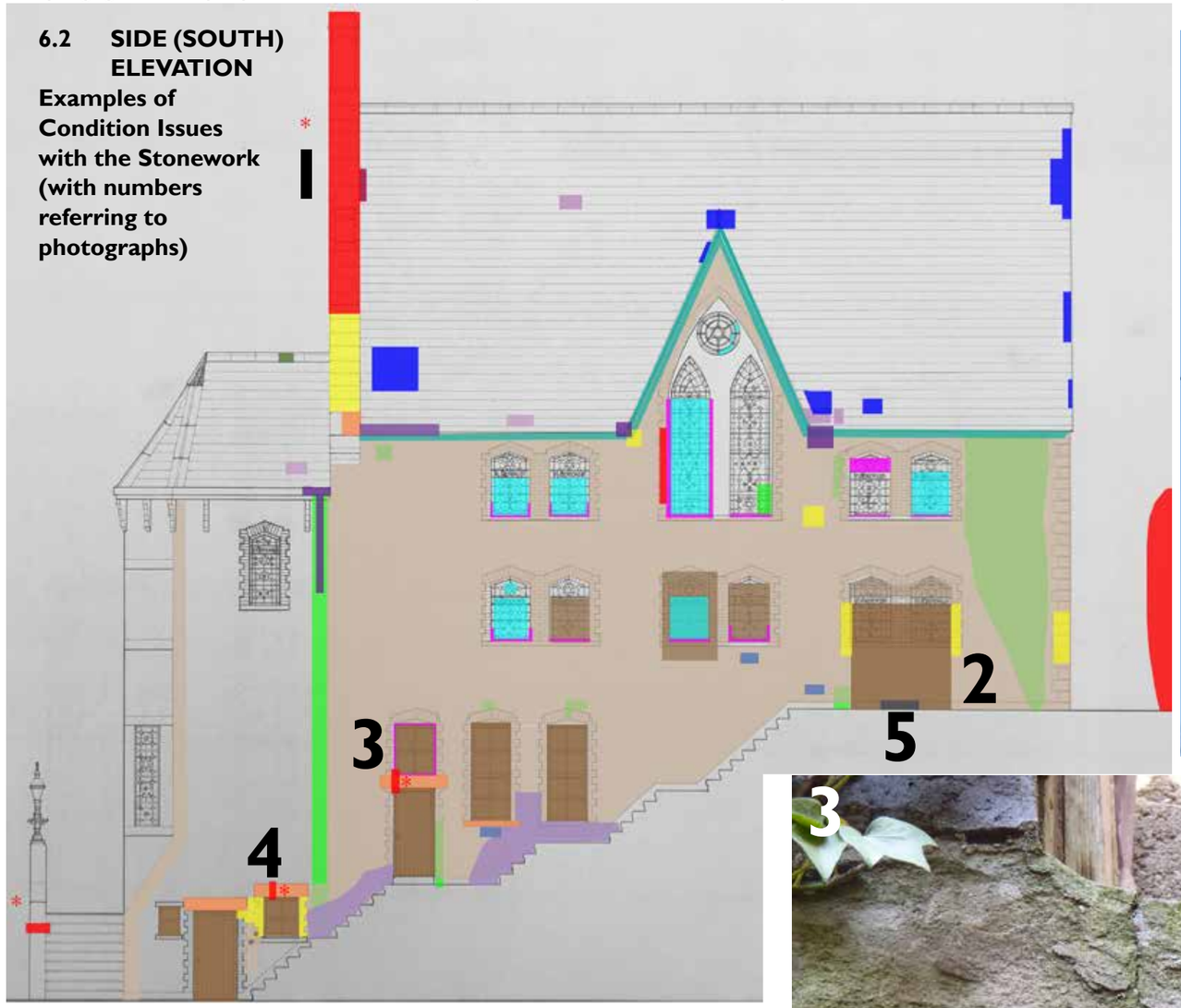
6.1 FRONT (WEST) ELEVATION

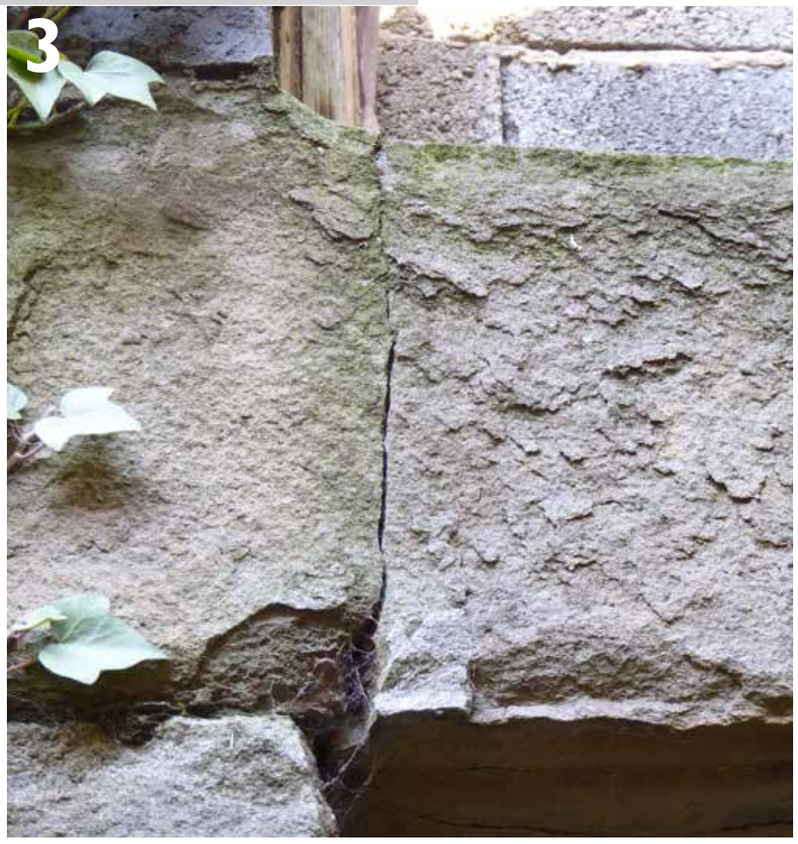
Examples of Condition Issues with Vegetation
(with numbers referring to photographs)



6.2 SIDE (SOUTH) ELEVATION

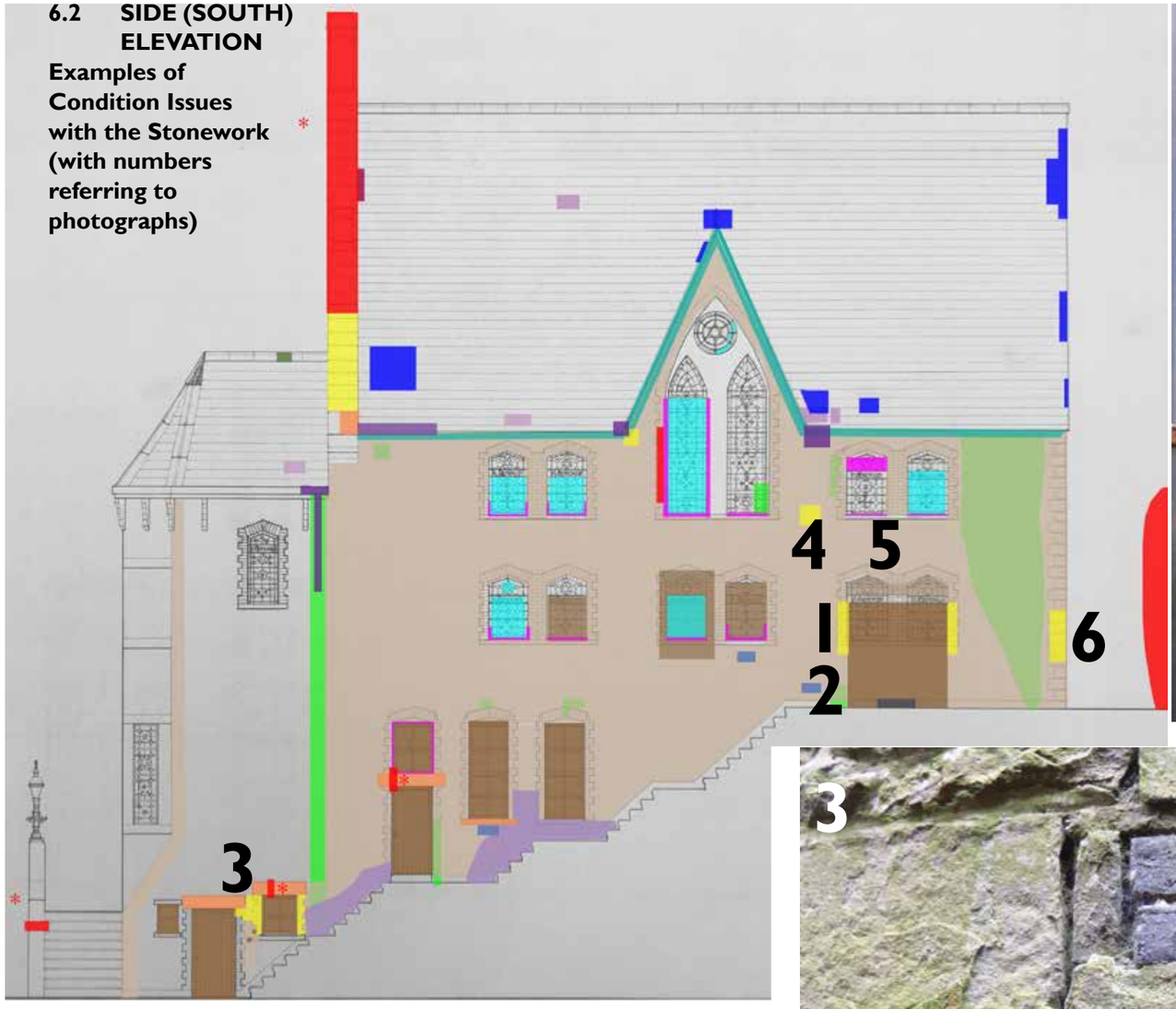
Examples of Condition Issues with the Stonework (with numbers referring to photographs)

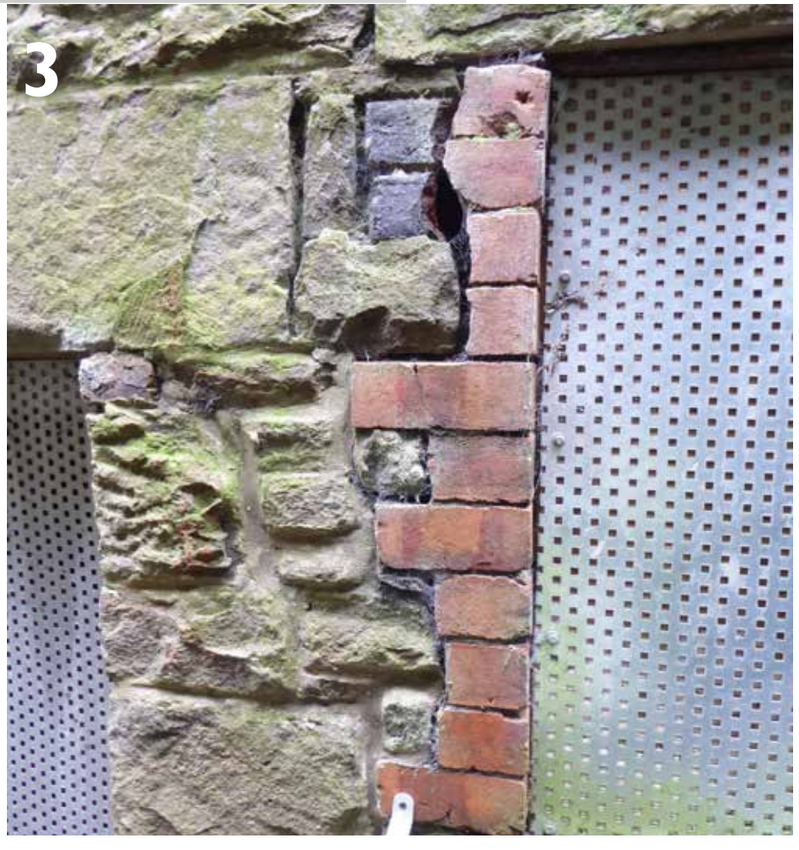




6.2 SIDE (SOUTH) ELEVATION

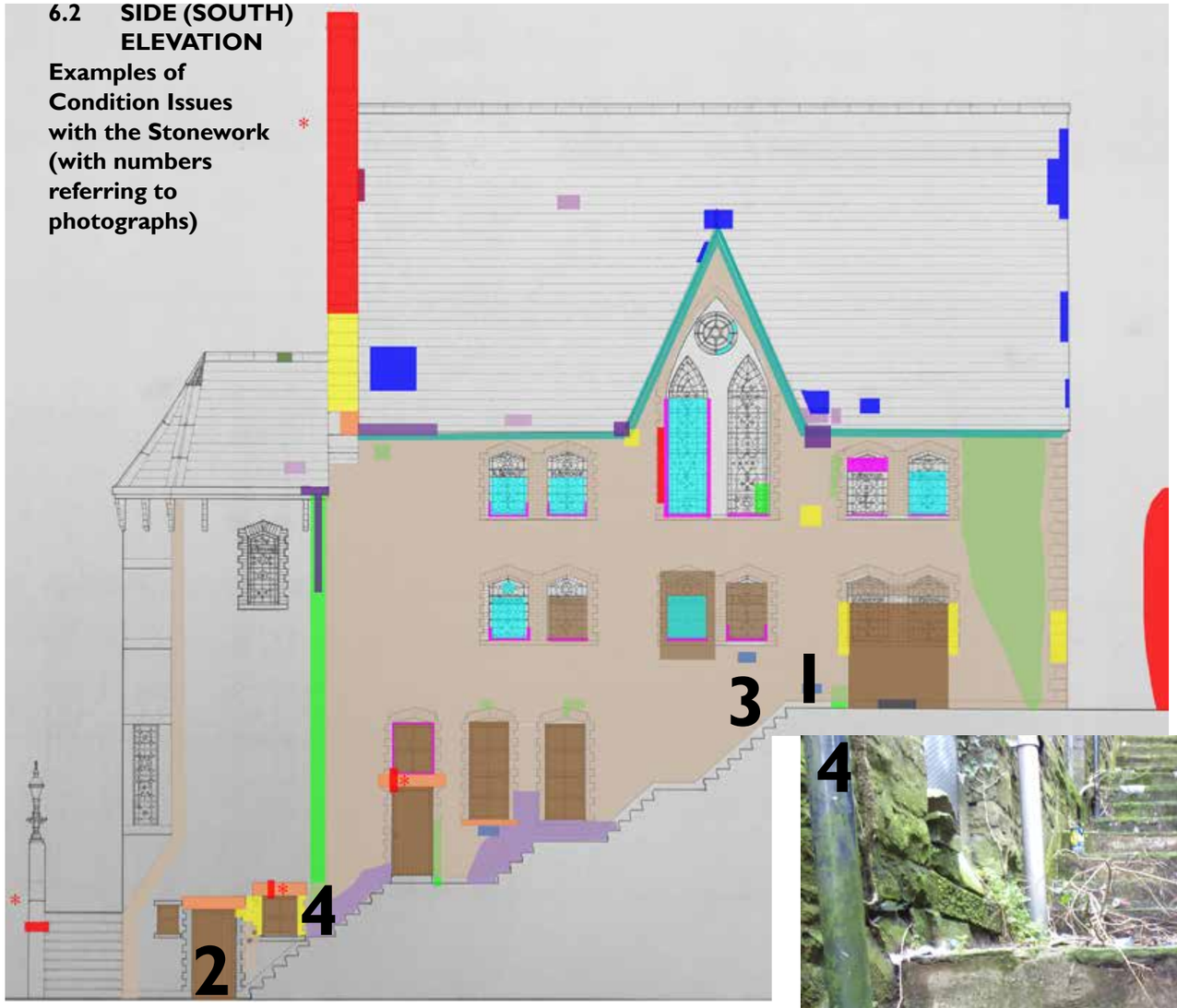
Examples of Condition Issues with the Stonework (with numbers referring to photographs)





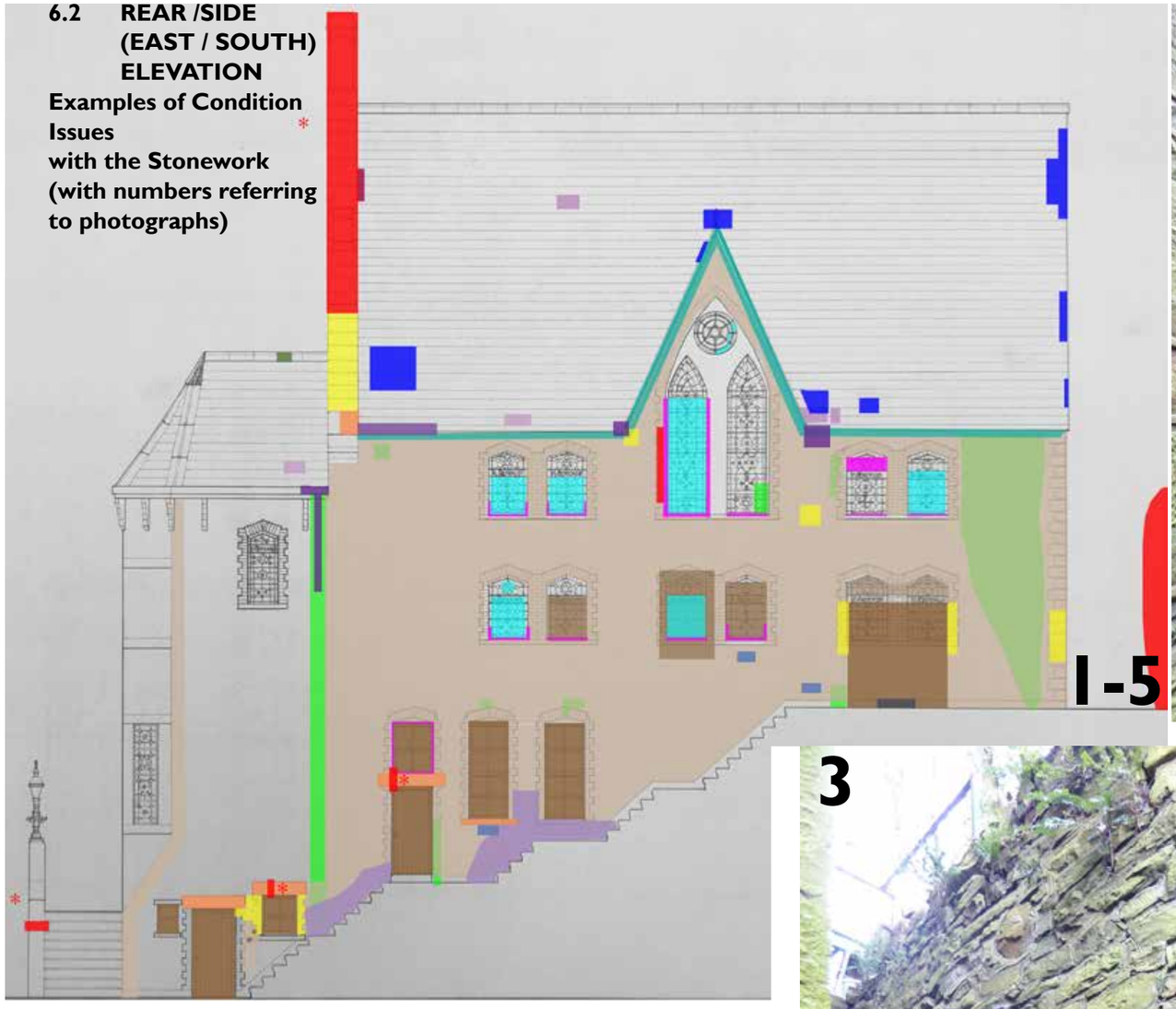
6.2 SIDE (SOUTH) ELEVATION

Examples of Condition Issues with the Stonework (with numbers referring to photographs)



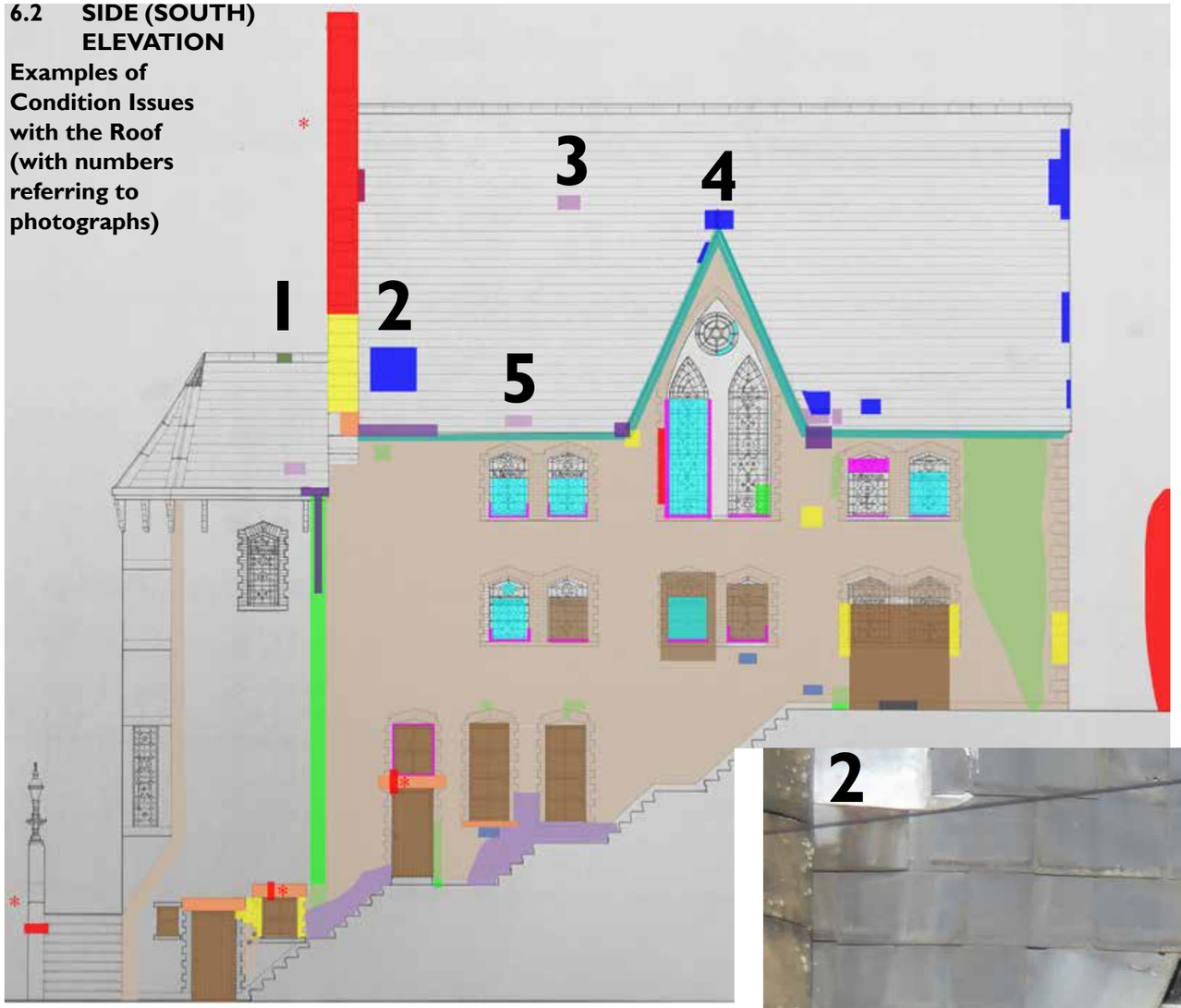
6.2 REAR /SIDE (EAST / SOUTH) ELEVATION

Examples of Condition Issues with the Stonework (with numbers referring to photographs)



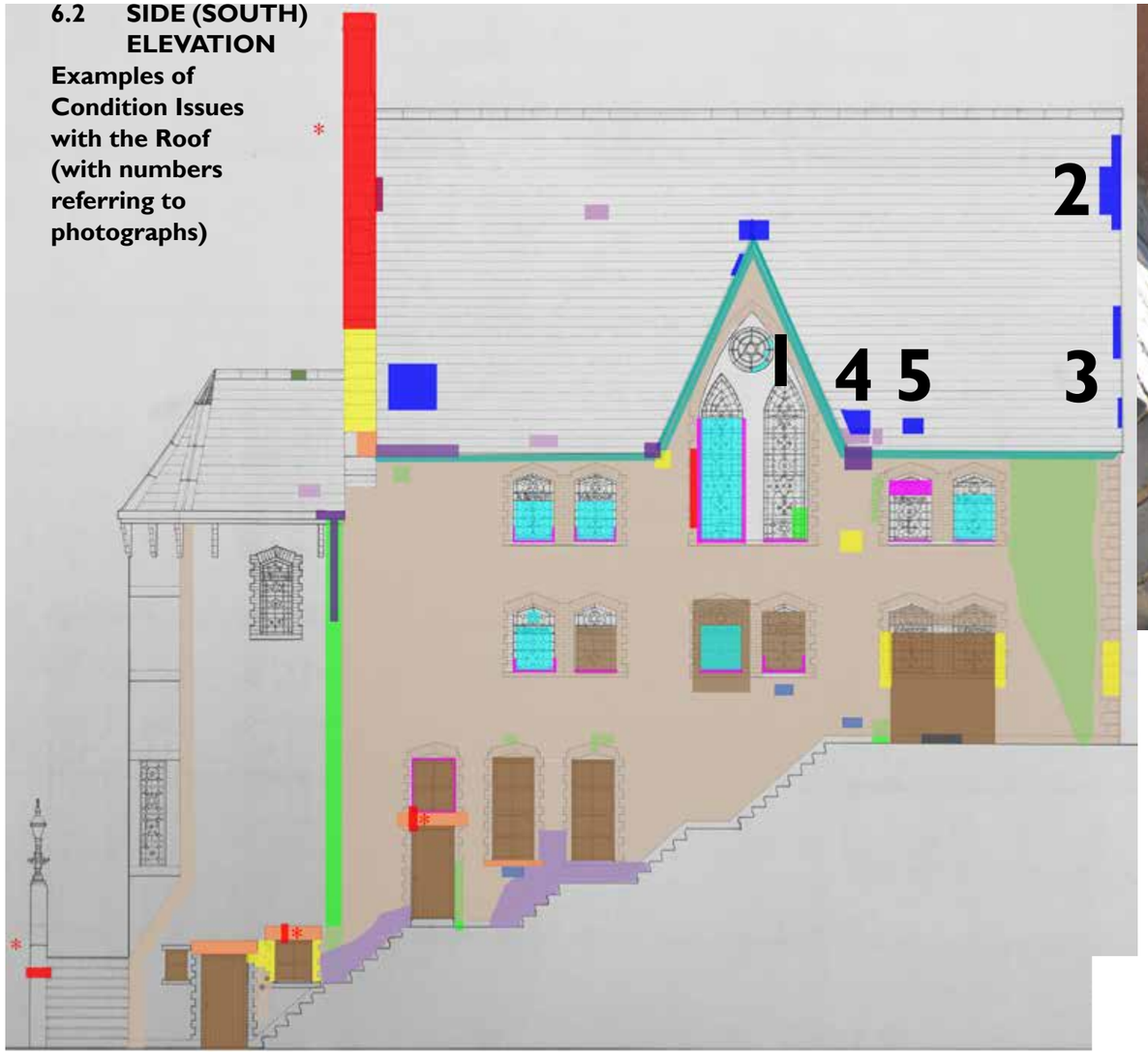
6.2 SIDE (SOUTH) ELEVATION

Examples of Condition Issues with the Roof (with numbers referring to photographs)



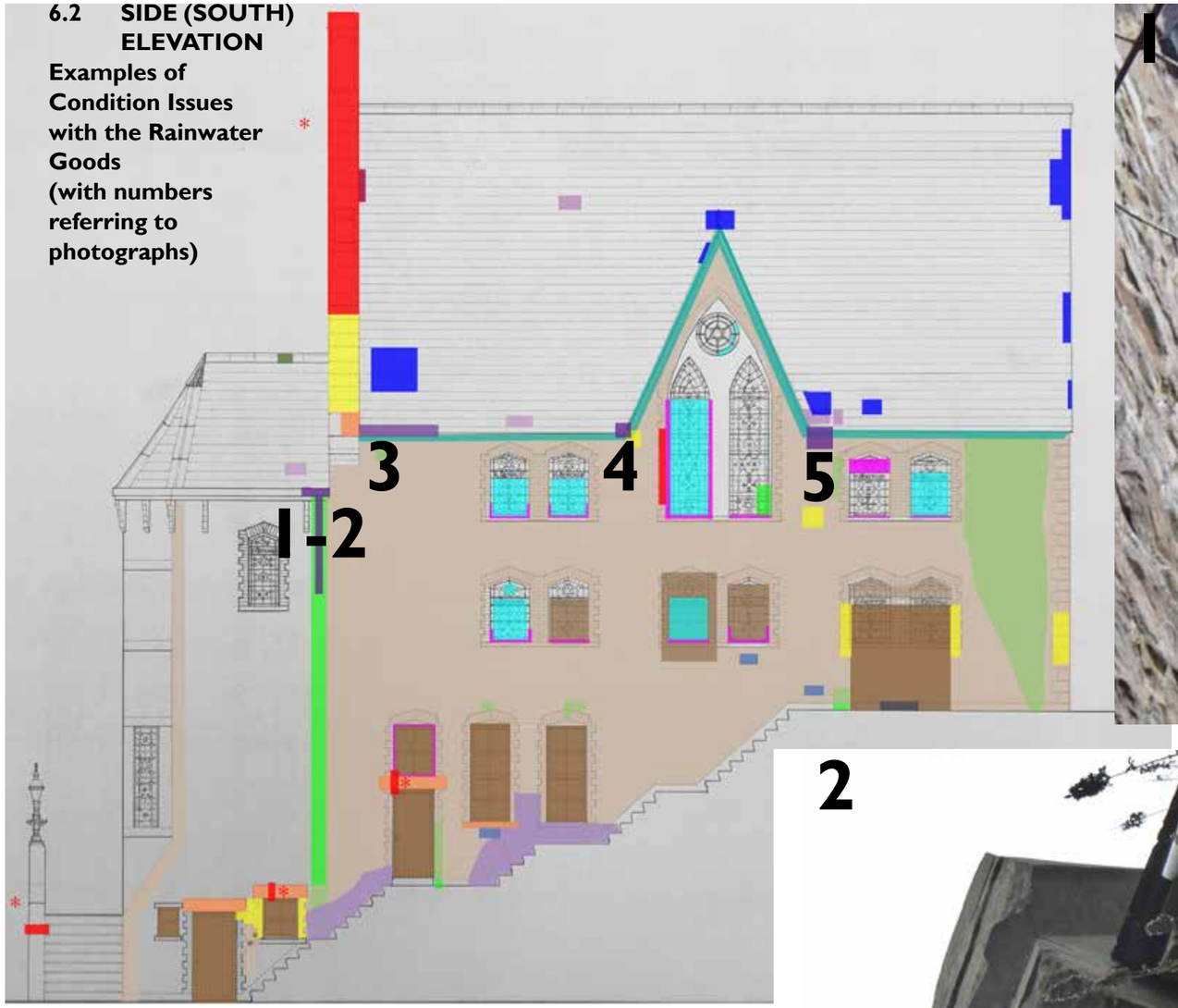
6.2 SIDE (SOUTH) ELEVATION

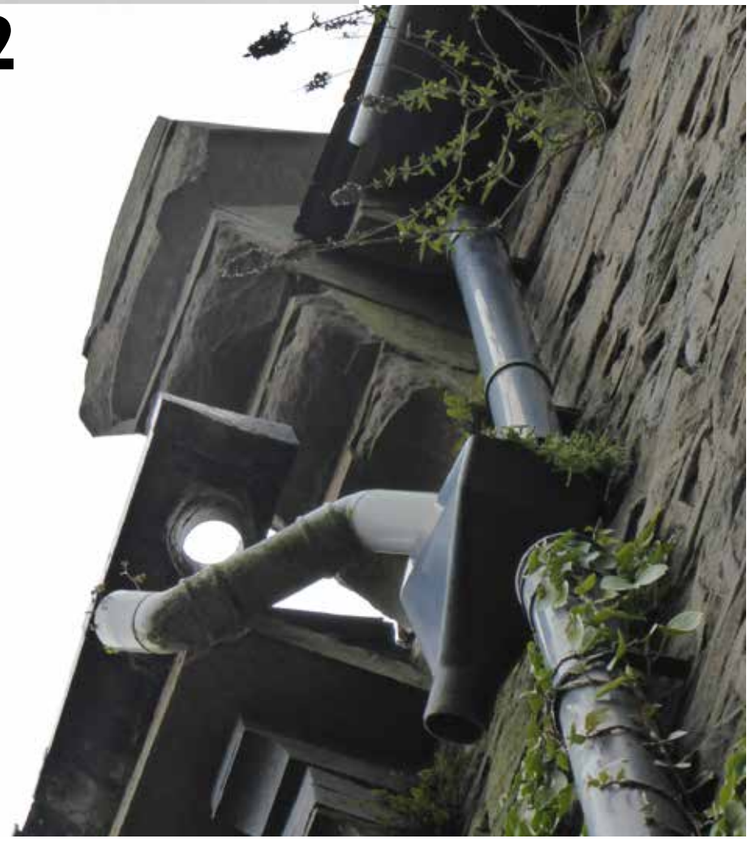
Examples of Condition Issues with the Roof (with numbers referring to photographs)

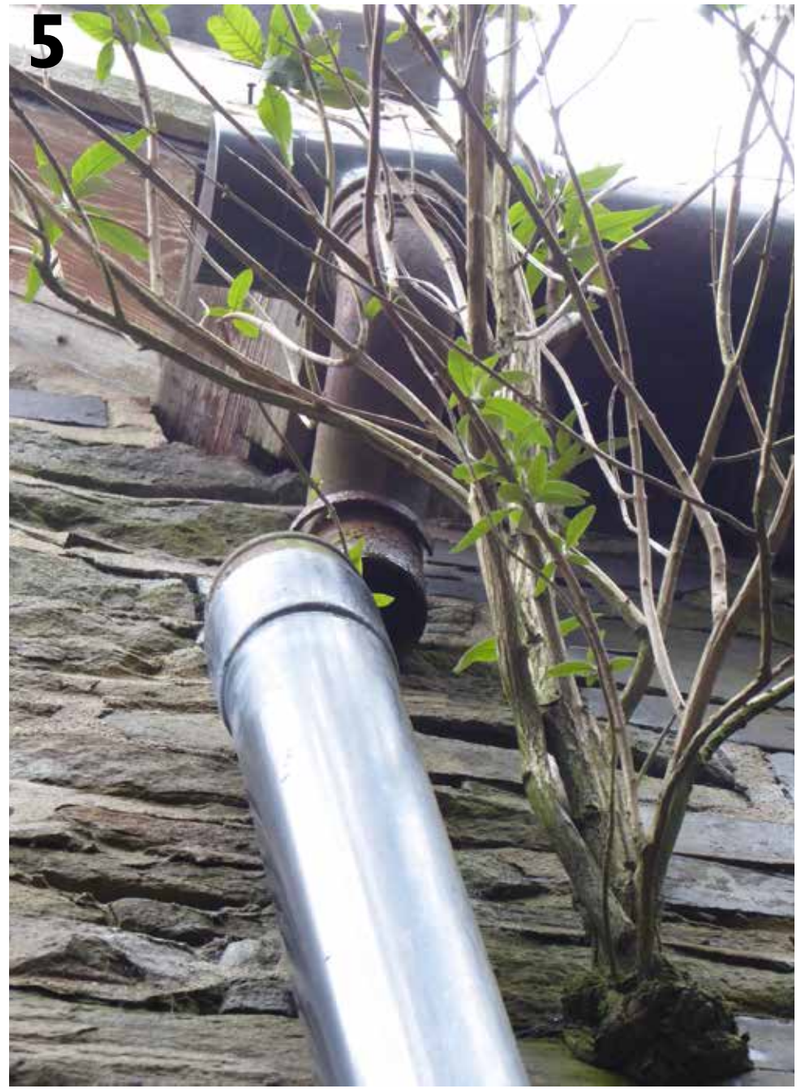


6.2 SIDE (SOUTH) ELEVATION

Examples of Condition Issues with the Rainwater Goods (with numbers referring to photographs)

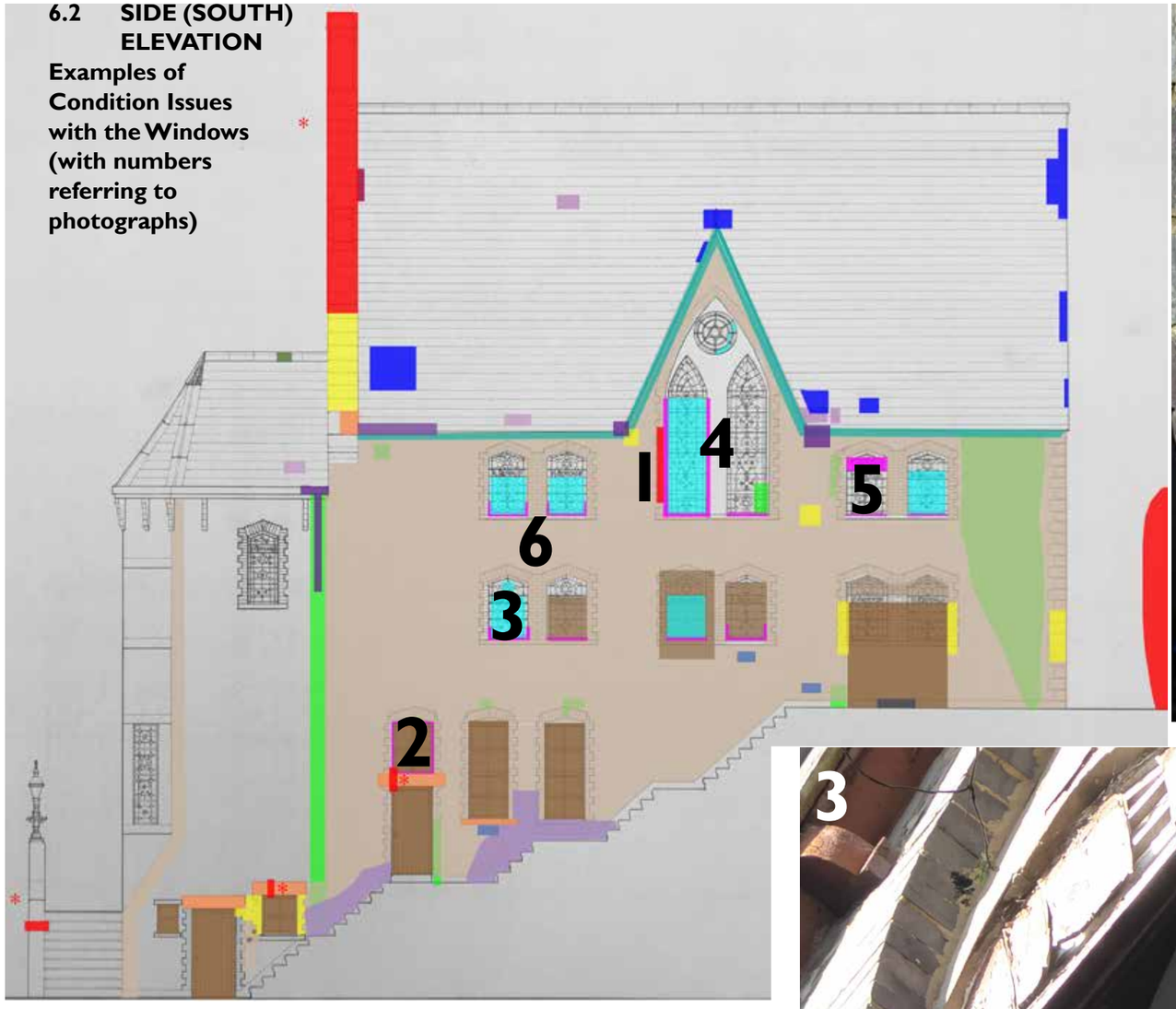






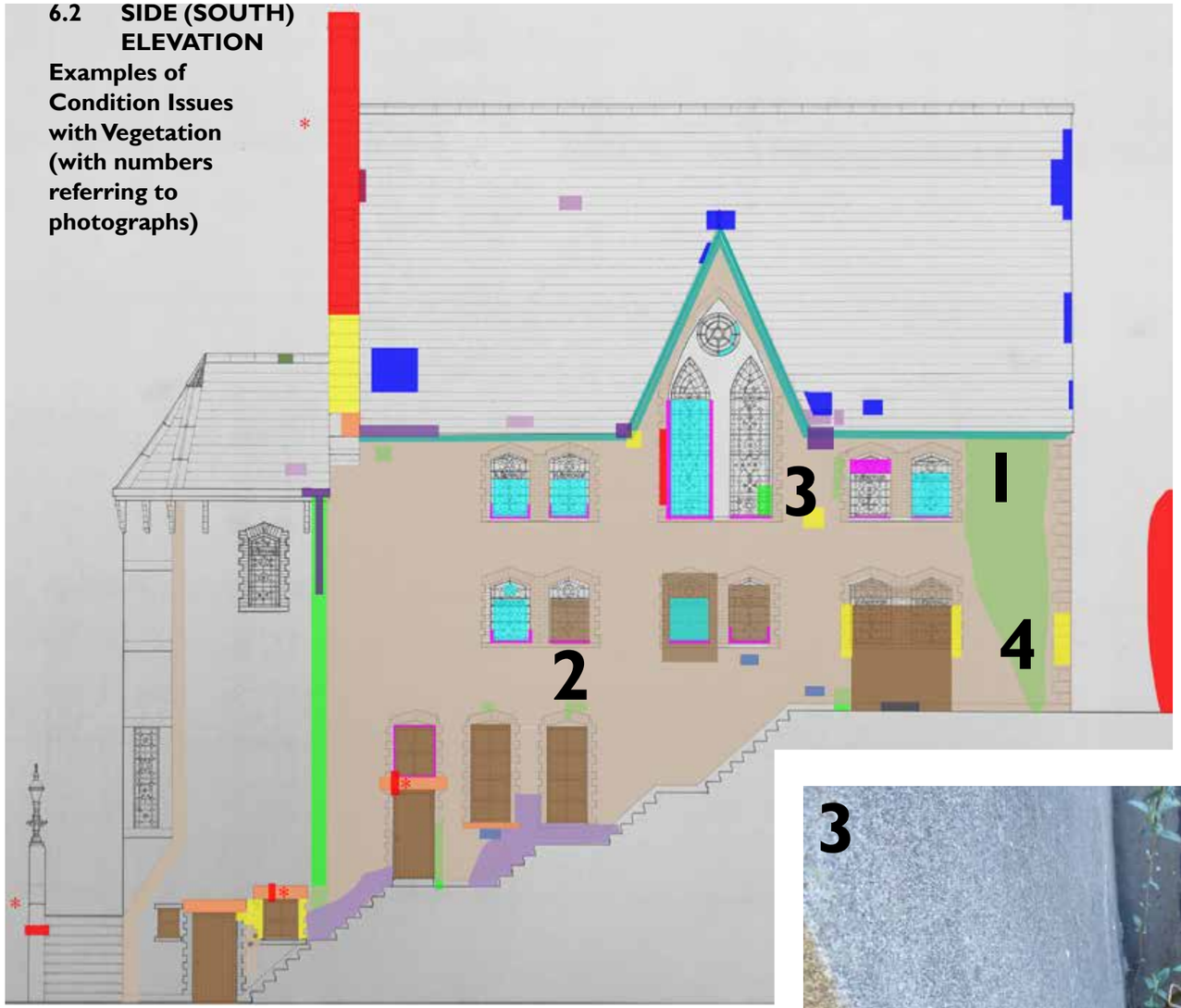
6.2 SIDE (SOUTH) ELEVATION

Examples of Condition Issues with the Windows (with numbers referring to photographs)



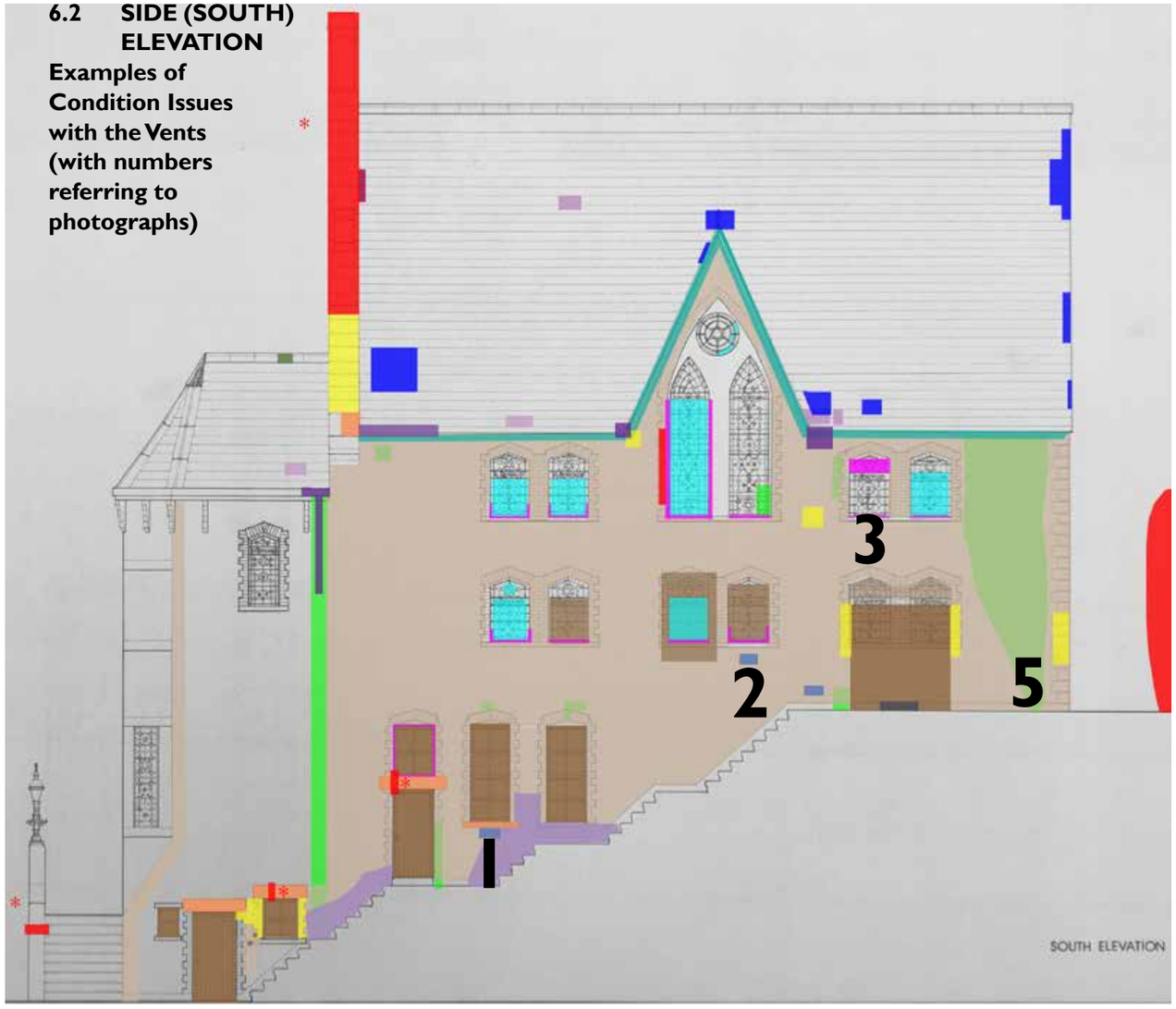
6.2 SIDE (SOUTH) ELEVATION

Examples of Condition Issues with Vegetation (with numbers referring to photographs)



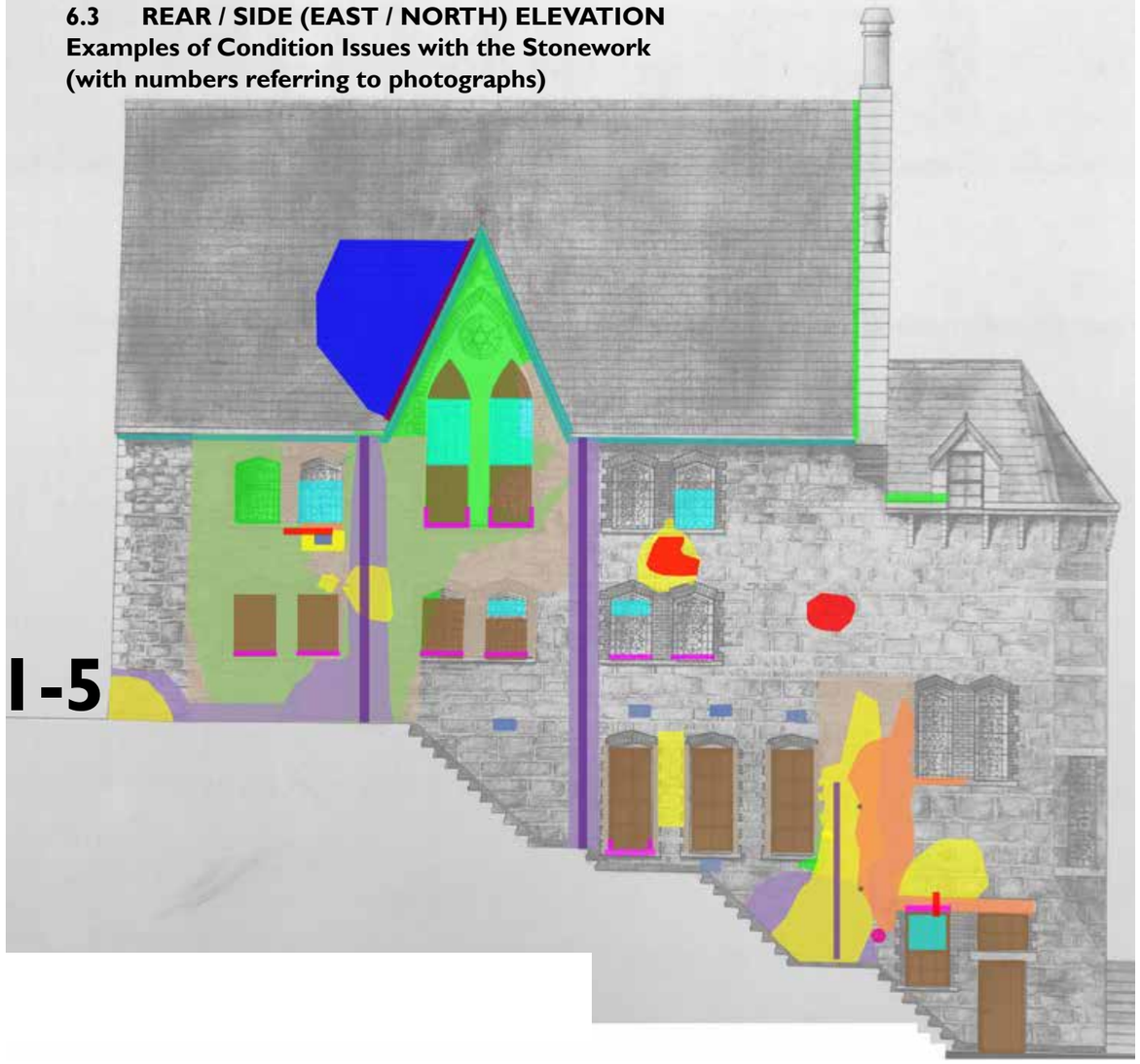
6.2 SIDE (SOUTH) ELEVATION

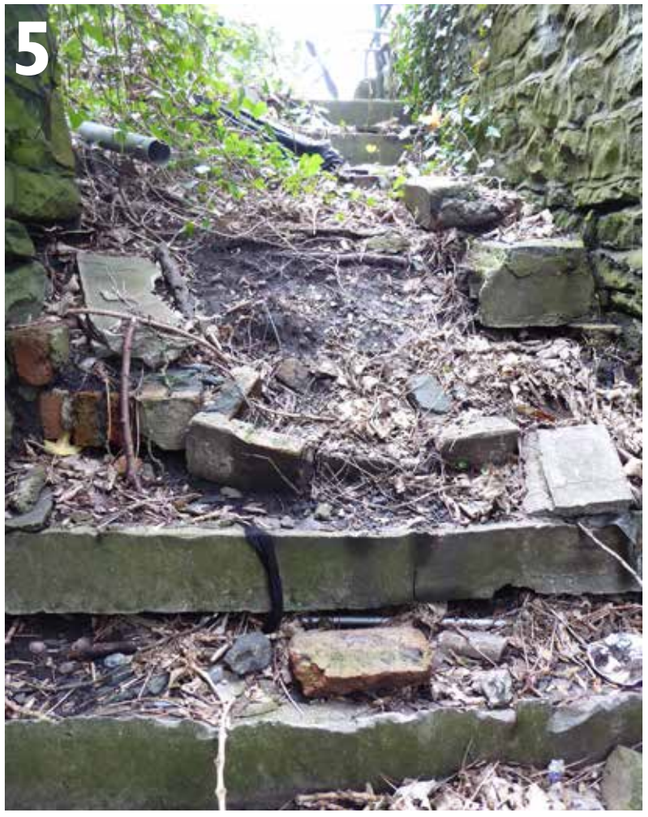
Examples of Condition Issues with the Vents (with numbers referring to photographs)



6.3 REAR / SIDE (EAST / NORTH) ELEVATION

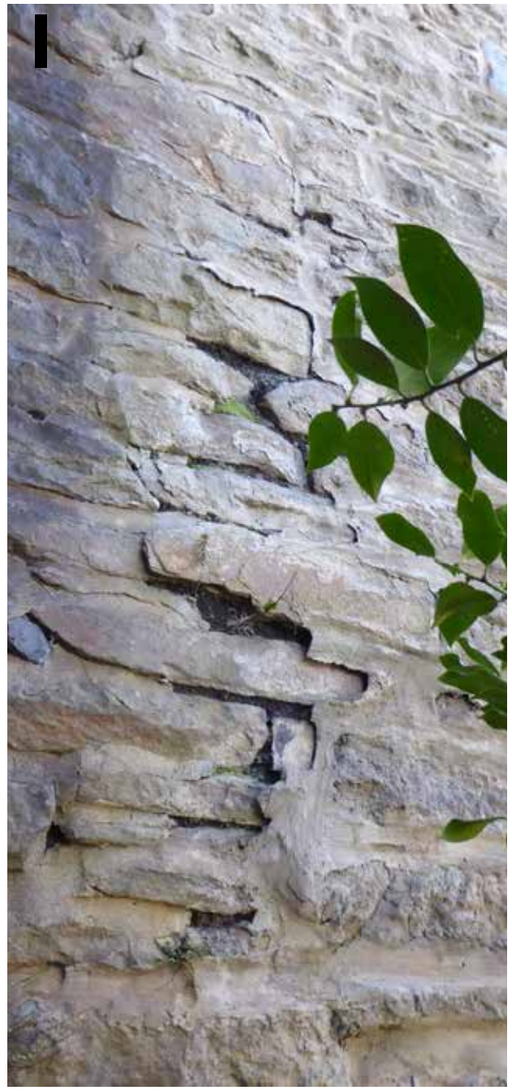
Examples of Condition Issues with the Stonework
(with numbers referring to photographs)





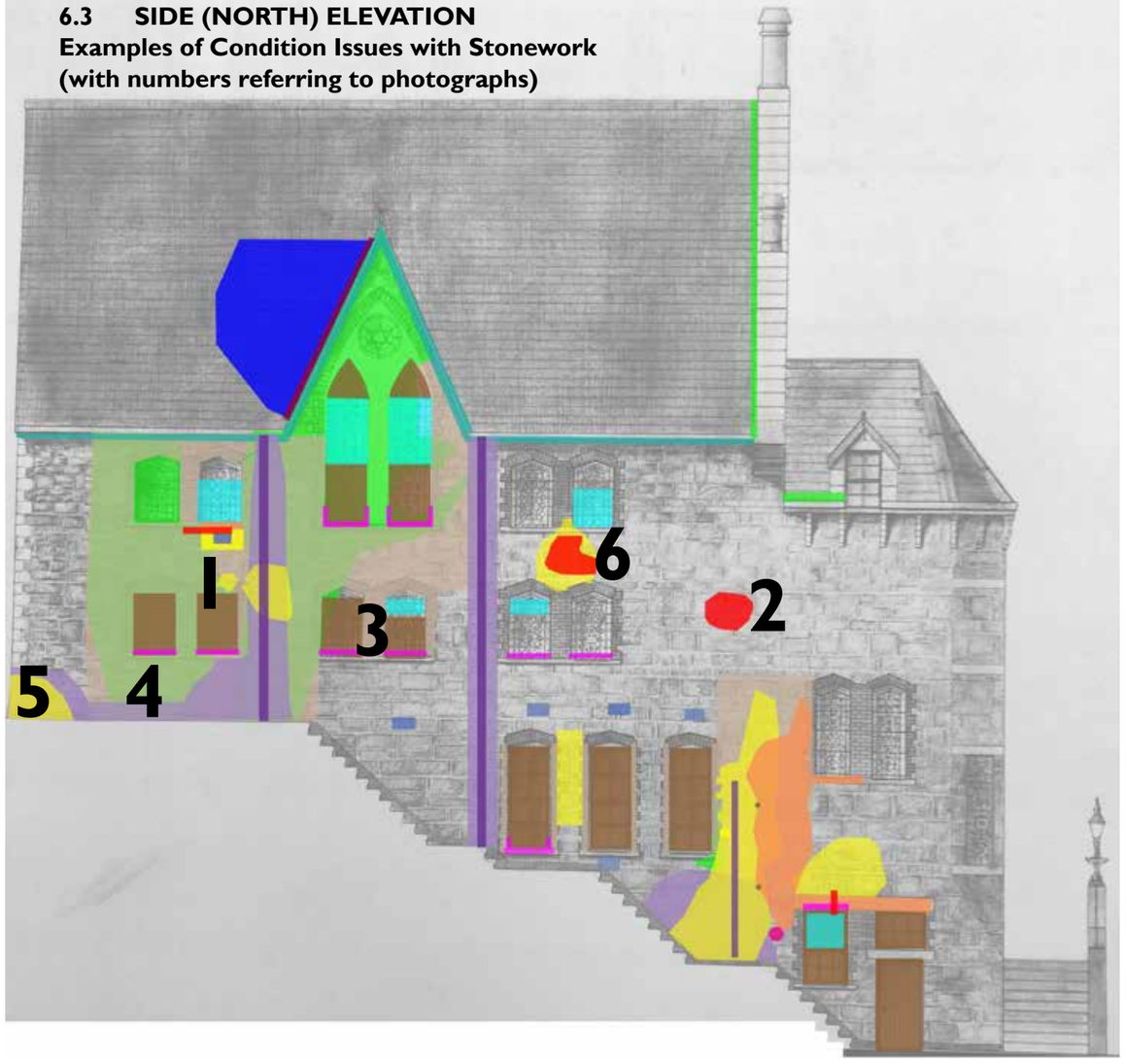
6.3 SIDE (NORTH) ELEVATION

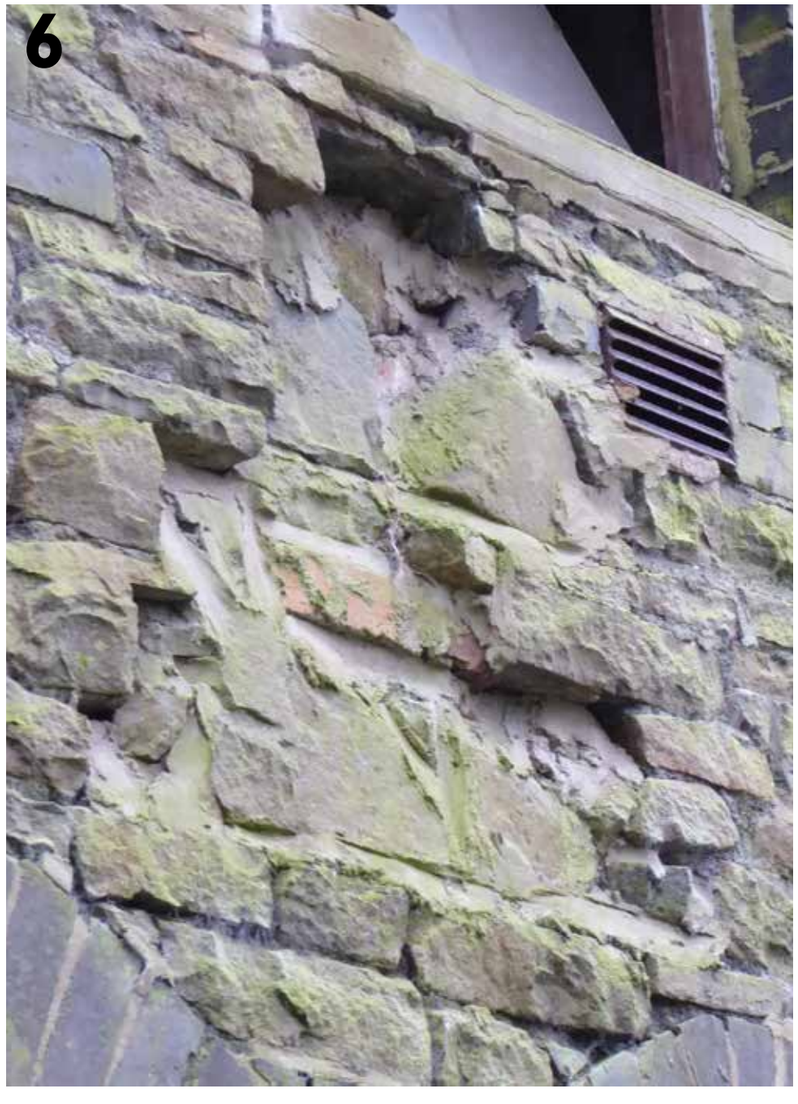
Examples of Condition Issues with Stonework
(with numbers referring to photographs)



6.3 SIDE (NORTH) ELEVATION

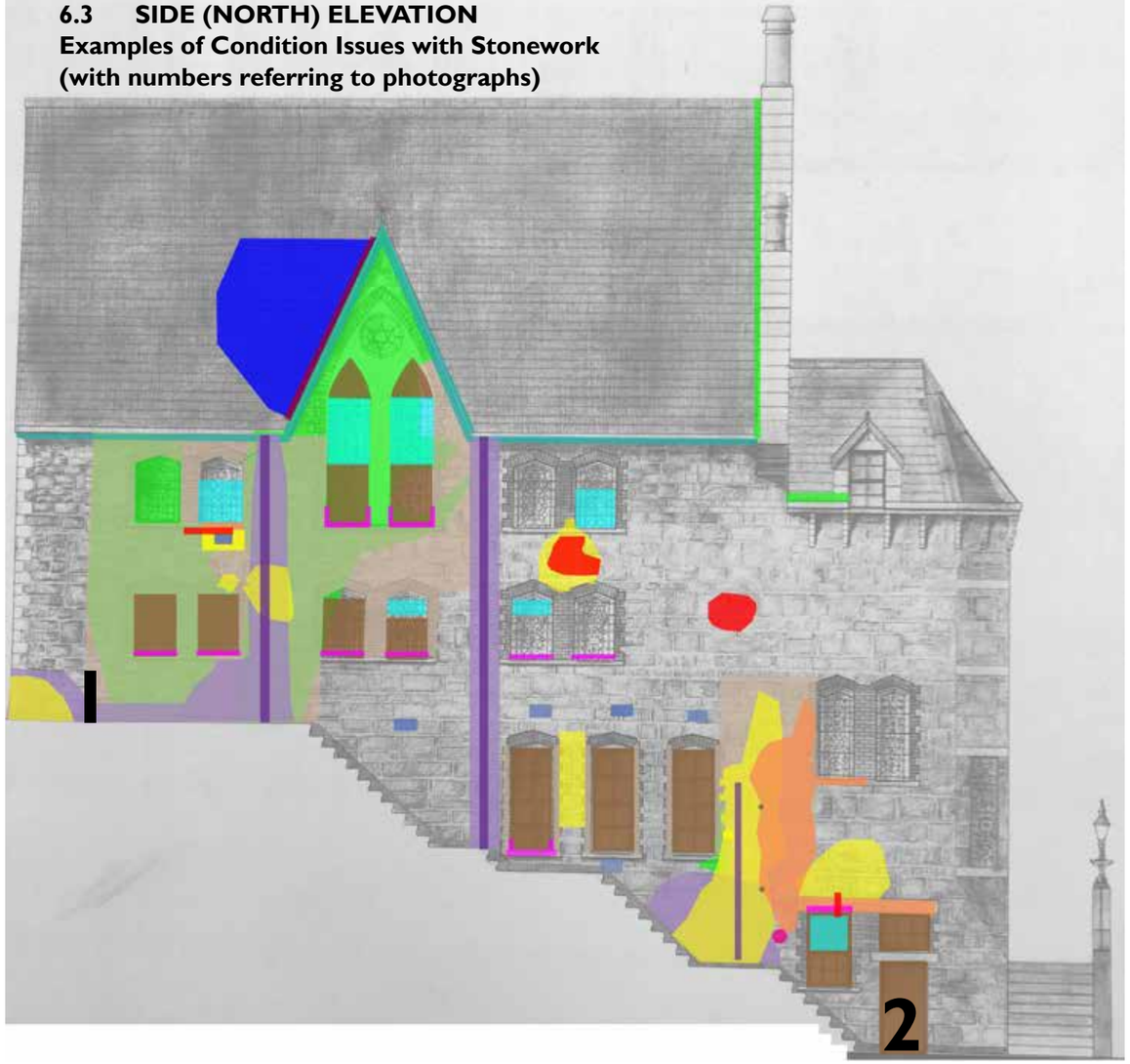
Examples of Condition Issues with Stonework
(with numbers referring to photographs)





6.3 SIDE (NORTH) ELEVATION

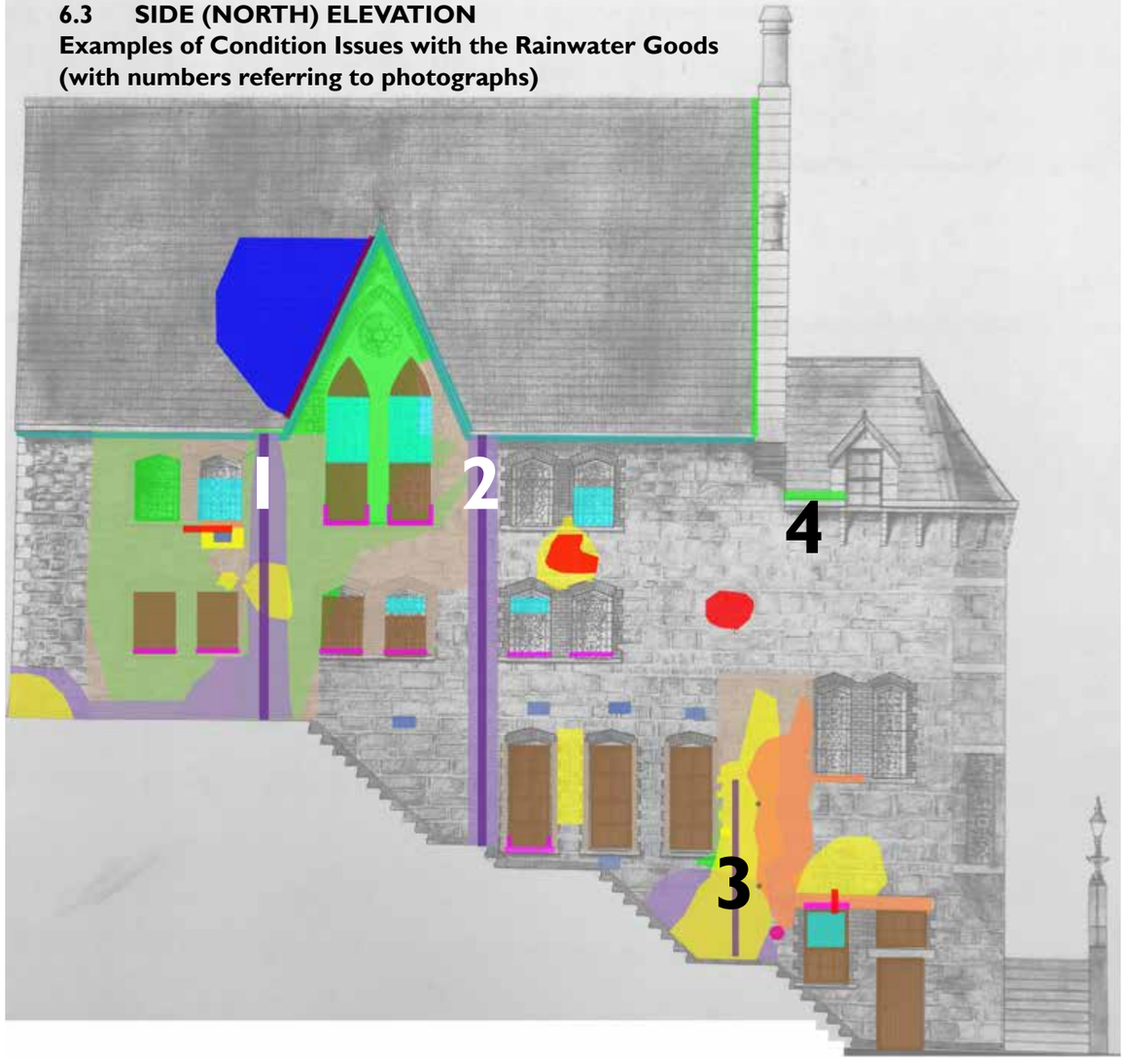
Examples of Condition Issues with Stonework
(with numbers referring to photographs)



6.3 SIDE (NORTH) ELEVATION

Examples of Condition Issues with the Roof (with numbers referring to photographs)

6.3 SIDE (NORTH) ELEVATION
Examples of Condition Issues with the Rainwater Goods (with numbers referring to photographs)



6.3 SIDE (NORTH) ELEVATION
Examples of Condition Issues with Windows
(with numbers referring to photographs)

6.3 SIDE (NORTH) ELEVATION

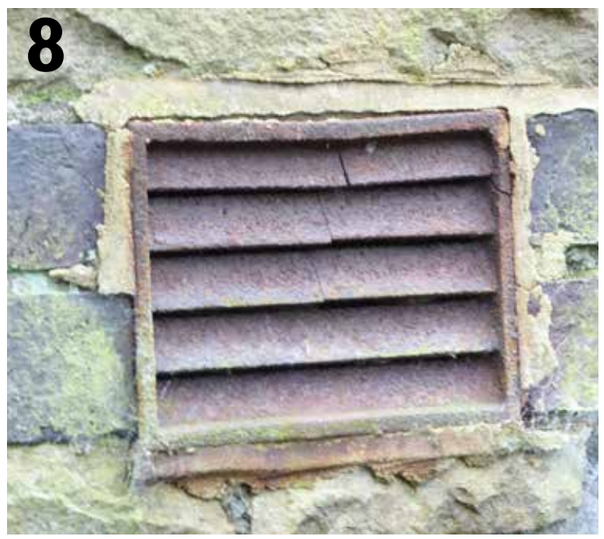
Examples of Condition Issues with Windows
(with numbers referring to photographs)

6.3 SIDE (NORTH) ELEVATION

Examples of Condition Issues with Vegetation
(with numbers referring to photographs)

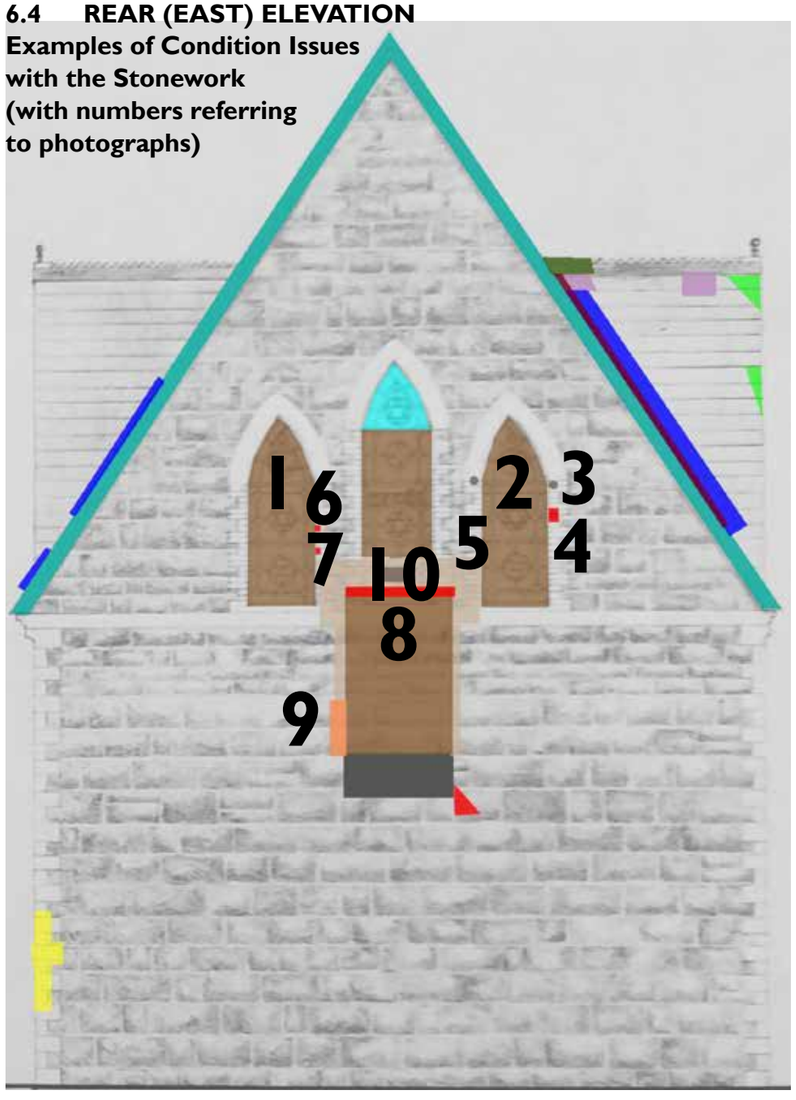
6.3 SIDE (NORTH) ELEVATION

Examples of Condition Issues with the Vents
(with numbers referring to photographs)



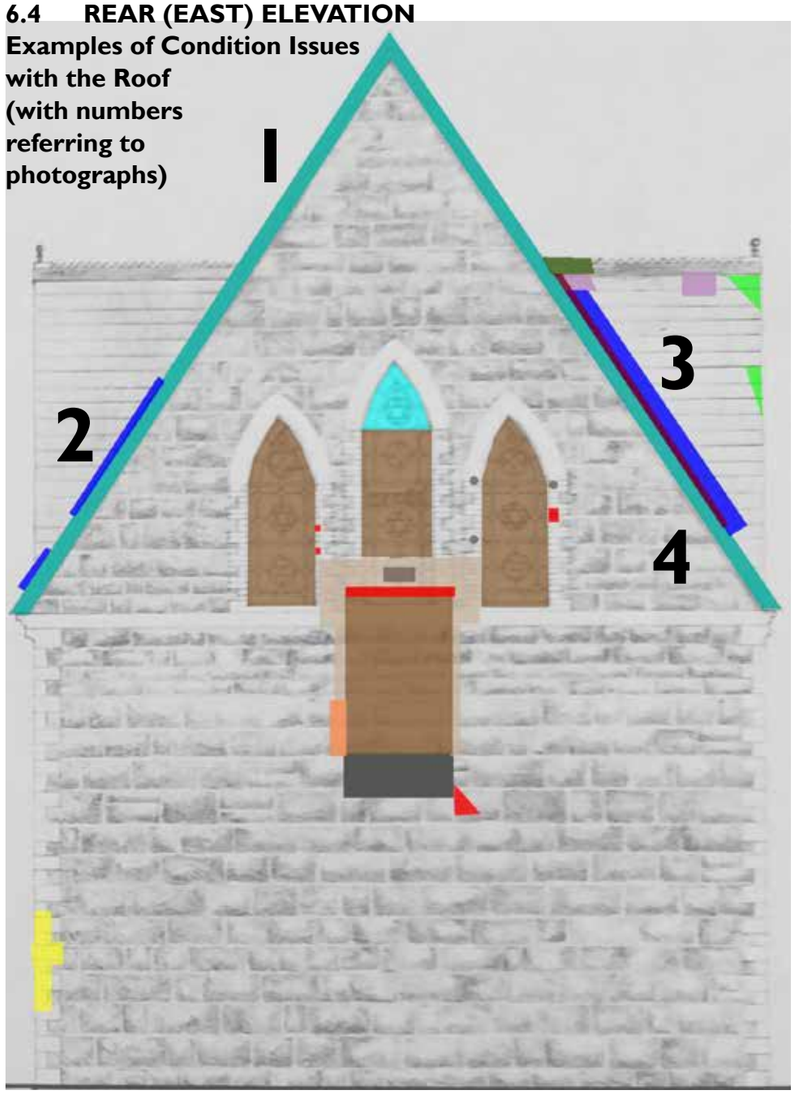
6.4 REAR (EAST) ELEVATION

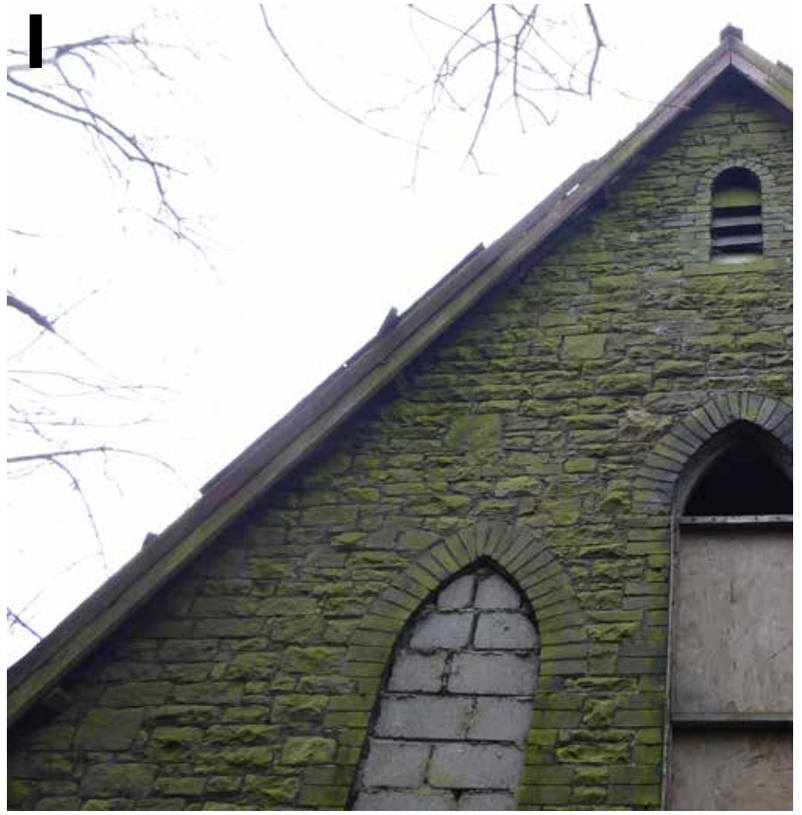
Examples of Condition Issues with the Stonework (with numbers referring to photographs)



6.4 REAR (EAST) ELEVATION

Examples of Condition Issues with the Roof (with numbers referring to photographs)





6.4 REAR (EAST) ELEVATION

Examples of Condition Issues with the Windows (with numbers referring to photographs)