

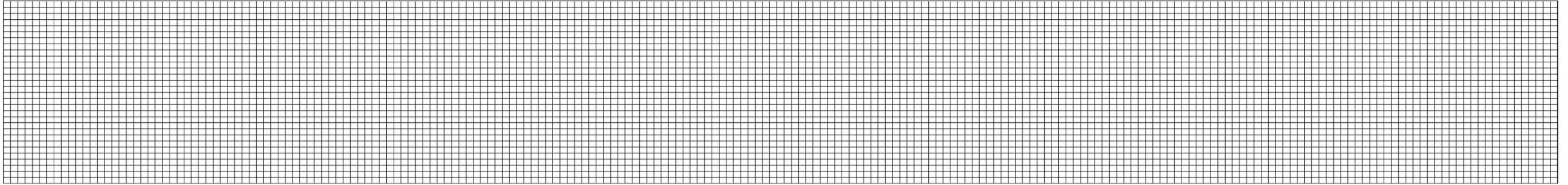
St Bride's Church East Kilbride

Date : July 2015

Update Report

Main Church Urgent Brick Repairs and Associated Works

Stallan-Brand



Main Church Envelope Repairs and Associated Works
St Brides Church, East Kilbride

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1.0 Overview

St Bride's Roman Catholic Church, including the Presbytery and Ancillary Buildings, is a Category 'A' listed Gillespie, Kidd and Coia Church in East Kilbride, completed in 1963-4.

For the visitor to the newly completed St Bride's Church in the 1960s the impact of the building would have been in its scale and prominence above the town, the uncompromising mass of the brickwork and the surprising quality of the natural light piercing the church interior.

Some of the original impact has been lost due to changes to the building and its setting over time. It is difficult for new visitors to fully appreciate the quality of the church interior, for example, when the majority of the natural light sources have been blocked. This report aims to point out why the building is important and how it can be conserved for the appreciation and enjoyment of future generations as a place of worship.

The Church is a Scottish interpretation of the brutalist style of 1960's architecture and is one of the finest buildings to be produced by one of the most influential Scottish practices of the era.

St Bride's has been hailed as an amazing piece of contemporary ecclesiastical architecture and received the RIBA bronze medal for architecture in 1964, for the area of the Glasgow Institute of Architects.

The building is an asset within the community and can be significant in encouraging the parish to flourish and contribute to the upkeep of the building and also to reach out to the wider community.

Purpose / Scope:

The purpose of this report is to outline the methodology and costs for the urgent repairs required to the Main Church brick envelope and associated works to address issues resulting from serious water ingress. Works to the roof to address the main water ingress are anticipated to commence mid-late 2015 as part of a separate phase of works. Any roof works described in this report are for information only and the application relates to the brickwork and associated works only.

A visual inspection of the building was carried out in 2012 by the design team from the ground and surveys were carried out by specialists to assess the repairs and replacements that would be required to make the building weathertight and maintainable in the future and to improve compliance with current regulations and standards where practicable without affecting the character and main features. The condition of the existing building is outlined in the Section 3 of this report.

Approach:

Conserving a building which is 50 years old might appear more straight-forward than a traditional building with many layers of history, but it presents a different set of challenges. Architects working in the first half of the 20th century made a break with the past and embraced new building forms and materials, many of which were untested. Building details were invented to serve the architectural aesthetic and materials with a short life expectancy were often used out of view.

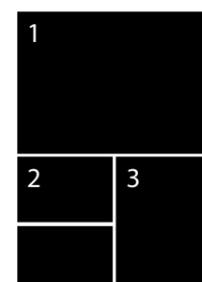
These issues inevitably occur at St Bride's. This - combined with the exposed site, water penetration over many years and a maintenance regime of patch repairs- has resulted in the deterioration of the building fabric and the loss of key features, such as the campanile (demolished) and the light wells in the church (lights with polycarbonate or flashed over). The ancillary buildings, being low rise and built into the contours, are not so exposed to the elements and can be accessed more easily for maintenance. Alterations to provide car parking, improved site security and disabled access have altered the setting of the group over time.

The conservation approach will focus on retaining and restoring the original features and character of St Bride's



Brutalism ... gained considerable momentum in the United Kingdom during the mid twentieth century, as economically depressed (and World War II-ravaged) communities sought inexpensive construction and design methods for low-cost housing, shopping centres, and government buildings. Nonetheless, many architects chose the Brutalist style even when they had large budgets, as they appreciated the 'honesty', the sculptural qualities, and perhaps, the uncompromising, anti-bourgeois, nature of the style.

Wikipedia



1. West Elevation (pre 1983) *
 2. Interior - looking towards altar *
 3. East Wall - Interior *

* Images courtesy of Glasgow School of Art archive

2.0 History & Property

Location:

East Kilbride was a small village, home to 2500 people in the 1940s when it was identified as a potential site for one of the new towns. It became Scotland's first designated New Town in 1947 and the first building began in 1948.

The Church of St Bride was the first Roman Catholic Church to be built in the new town. The church is prominently sited on a high banking overlooking Whitemoss Road between Laigh Common and St Andrew's & St Brides High School.

The site was chosen for its prominent, central location and elevation, as the Church was to be a "jewel in the crown" of the town.

East Kilbride is approximately 180 metres above mean sea level (Glasgow airport is 26 meters amsl) and the site is very exposed at the top of steep banking off Whitemoss Road.

The prevailing winds are from the south west and this is apparent from the weathering of the bricks on the elevations and the condition of the timber windows.

Site:

The main Church building, Presbytery + Church House, and Campanile tower (now demolished) were all grouped around a central Piazza which is the focal entrance point for all of the buildings and acts as a gathering space.

The Church is orientated on a north-south access, with the main entrance found within a recessed fold within the west elevation.

As pedestrian access would have been most common at this time, this heavily informed the grouping and orientation, allowing access from both Whitemoss Road and Plathorn Avenue.

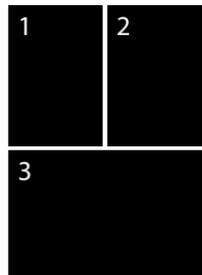
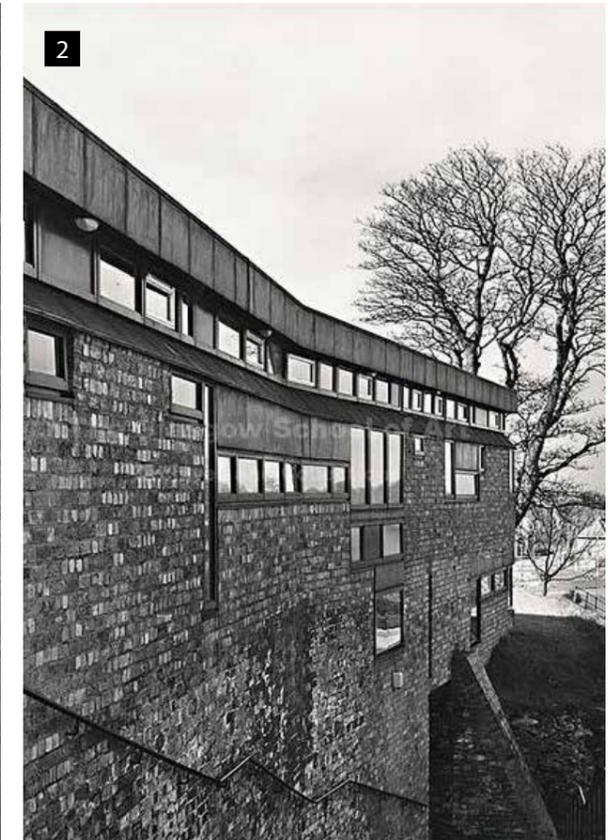
Taking advantage of the levels across the site, the Piazza, Church and Tower were situated and raised to the highest point on the site to give a sense of presence.

The Church House was able to be set into the slope with ancillary buildings below. The levels allowed a tunnel to be created, giving an internal connection between the Presbytery and Church House.

The tunnel, which separates the public and private functions of the church, is top lit with glass pavement lights, shining down onto a shrine to the Virgin Mother.

The Piazza itself is tarmac with red brick inserts forming a radial pattern in shape of sun and its rays, further defining the entrance to the church.

The grouping of the elements of the Church, Presbytery, Church House and Campanile was disrupted by the demolition of the 90ft Campanile in 1983.



1. Main Entrance off Piazza - West Elevation
 2. Church House North Elevation *
 3. Aerial View of Site

* Images courtesy of Glasgow School of Art

2.0 History & Property

Church:

The Church building itself is top lit with west facing vertical rooflights in the saw tooth roof, concealed by a brick parapet wall and light chimneys to the east wall. The main Church walls are facing brick externally and internally.

There are no visible windows on any of the 4 main Church elevations.

The simple rectangular plan is enriched by intricate and varying brickwork detailing.

The brick bond deliberately has no more than 4 to 5 occurrences of any one bond type in one row ending a richness and texture to the envelope and internals.

The principle entrance is in the west elevation off the Piazza. This elevation is a blind wall with blind slit windows at high level.

The main church entrance is concealed in a central cleft and the brickwork to the left of the entrance is chamfered. The north elevation has vertical patterns of cogging providing a richly textured surface. The east elevation has horizontal patterns of cogging contrasting with the north elevation.

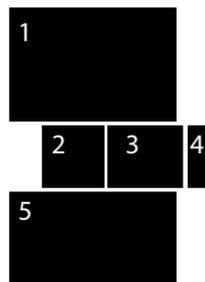
The south elevation has five stepped recesses in the upper part and a stepped projection to right at low level corresponding to the tabernacle in the interior.

The roof is constructed from fairly lightweight steel structural angle members with large spans running north-south. The saw toothed profile gives lengths of west facing vertical roof glazing.

Presbytery and Church House:

The Presbytery and Church House are also of brick construction, plastered internally due to the domestic use.

Timber and metal horizontal ribbon windows wrap around all sides of the Z-shaped plan, with a continuous clerestory creating a visual, floating flat roof.



- 1. View from West 2 *
- 2. North Elevation
- 3. View from Whitemoss Avenue
- 4. North East Corner
- 5. View from South West *

* Images courtesy of Glasgow School of Art

2.0 History & Property

Internals:

The plan of the Church, which seats approximately 800, is in the form of a broad rectangle.

The single volume was originally flooded with natural light from the roof with a timber slatted finish to screen the roof and baton lighting above.

The finishes are minimal and simple, with exposed brickwork throughout echoing the exterior of the building.

Deep recesses along the east wall were originally lightwells with glazing to the head, designed to allow natural light down into the interior, changing during the day in response to the movement of the sun.

Additional natural lighting is provided by the three tall copper clad "dormers" projecting high above the roof line and throwing concealed light on to the Sanctuary.

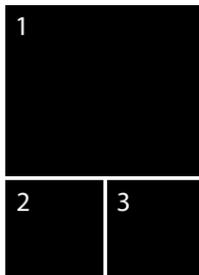
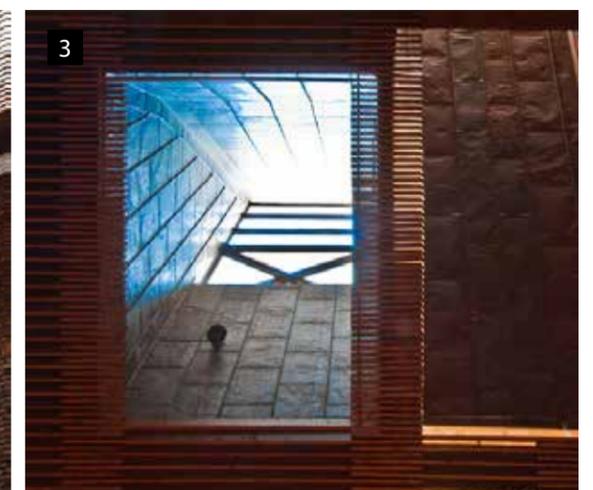
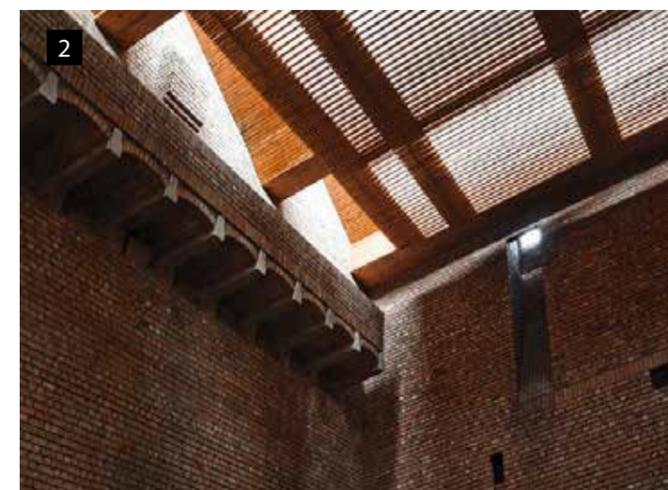
The main entrance doors are concealed in a tall, slot-like opening situated centrally in the west wall, and curving into the brick mass.

The floor is made up of granolithic concrete paving slabs set into a pattern with clay brick trim. The brick corresponds to the line of the fixed pews in the nave. The Altars, Font, Stoups, Foundations stone, etc are in Creetown granite.

The Gallery is a free standing concrete structure, accessed off a spiral stair concealed within a curved brick wall.

There is a recess behind the High Altar to the south, curved on one side and chamfered on the other with glazing over to give natural light to the altar area.

To the south elevation is the Altar, with Baldacchino above; an impressive 3 metre vaulted concrete cantilever supported from a horizontal beam behind.



1. View towards pulpit in East Wall #
 2. Internal South East Corner High Level
 3. Copper Towers from below

Images courtesy of Dan Farrar

3.0 Condition - Summary of Surveys

Condition:

This section outlines the observations and research carried out by the design team to assess the current condition of St. Brides Church.

Architect - RMJM in conjunction with Conservation Consultant Lesley Kerr:

An initial visual inspection from the ground, and archive search in 2012 identified the main areas for concern and establish specialist survey requirements. Information in the form of drawings, documents and photographs from the Glasgow School of Art archive was very useful, however the desktop study and archive search did not include any meaningful structural information. No information was found in the local statutory authorities archive. Information was found by the Diocese for the re-roofing carried out by the Toner Kerr Partnership in 1988 in June 2015.

Structural Engineer - Odin / Patrick Parsons:

A visual inspection and an archive review were carried out to identify the main areas for concern and establish specialist survey requirements. It was quickly identified that with no meaningful structural records available, testing would be required to establish the brick strength and the structural solution for the main walls.

ESG carried out disruptive testing under Odin's supervision in January 2012 to establish the strength of the bricks. 30 no bricks were removed for crushing and analysis and cores were drilled to allow the construction method to be established by borescope. Records of the removed brick locations and holes for borescopes are included in the Appendix.

Mason Evans carried out a geotechnical study under Odin's supervision and no issues with the ground conditions or contamination were identified.

Odin carried out Structural back check calculations on the foundations, walls and roof structure of the Main Church based on the surveys carried out and their report based on these findings is included with the application. The roof calculations were re-run in June 2015 taking into account the 1988 information discovered on the re-roofing and conclusions corroborated by the current Structural Engineer, Patrick Parsons.

M+E Engineer - Henderson Warnock:

A visual inspection of the mechanical and electrical services was carried out to establish the condition of the existing mechanical and electrical installation.

Surveyor - GL Surveys:

A topographical survey was carried out in January 2006 for the Diocese of Motherwell under the instruction of Guy Logan. The survey information was used to prepare the site / Location Plan included in Section 9: Appendices.

Surveyor - Becker Surveys:

Becker surveys carried out a full dimensional survey in November 2011. This survey was to establish all features as the original design intent drawings were not accurate representation of the as built conditions and a record was required of alterations made following completion of the building in 1963.

The survey information was used to prepare the Stallan Brand drawings included in Section 9: Appendices.

Asbestos Specialist - Enviraz:

Enviraz carried out a Refurbishment Asbestos Survey in the Church House and Main Church plant room in February 2012. The plant room and one existing window in the Church House were opened up by Nimmo Joinery to allow inspection. The roofs were not disturbed as these are known to contain asbestos.

Generally findings suggested a very low potential for fibre release based on the materials sampled. Refer to the Enviraz report which is attached with the application.

Rot Specialist - Peter Cox:

Peter Cox carried out a survey in February 2012. One existing window in the Church House was opened up by Nimmo Joinery to allow inspection. There is evidence of wet rot and severe deterioration to windows not yet replaced.

The sheathing to copper cladding and flashings was also found to be wet and in poor condition. The internal brick leaf of the high level parapet wall to the west elevation of the Church was found to be very wet inside and there was water in the cavity on the Church south elevation.

Mortar joints were open at high level allowing water ingress.

Ecology Survey - Envirocentre:

Envirocentre carried out a bat survey in July 2015. A report of their finding is included with the application.

Further Surveys Required:

A CCTV survey of the drainage is proposed for July 2015.

A scaffold will be erected in July 2015 to allow visual inspection of the roof truss ends to the south elevation. The north truss ends are visible from the viewing gallery and via access panels in the timber boarding. A full fabric condition survey will be required by a specialist masonry contractor prior to works commencing.

Opening up will be required to fully establish truss end conditions and support arrangements.

Opening up will be required to the South Elevation following propping of the Baldacchino and support beam to allow the beam dimensions and support method to be fully established.

Investigation of possible movement to the east elevation in the north east and south east corners

Full checks and surveys will be required by a specialist contractor to establish the condition an effectiveness of the existing DPCs and DPMs.

Survey to establish existing floor slab thickness and composition.

Further checks will be required by a specialist contractor and surveyor under the Structural Engineer's supervision to the east elevation at high level towards Whitemoss Road to establish if there is movement within the wall at this location.

3.0 Condition - External Walls

It is anticipated that external wall repair will commence early 2016, following installation of the remedial wall ties. Funding is in place for the remedial wall tie installation, however further funding applications are ongoing for the main brick repairs.

Condition:

This section outlines the observations and research carried out by the design team to assess the current condition of St. Brides Church.

General:

Please note that a full fabric survey still requires to be carried out by a specialist masonry contractor. The following section is based upon a visual inspection from the ground by the design team and specialist rot, asbestos and structural surveys.

Due to the high altitude of the site, the effects of snow and precipitation can be seen in the washed out joints of all buildings at low level off the Piazza (1) and fungal growth where bricks have been constantly wet. This has also raised structural concerns on the implications for the Church roof which has a saw tooth profile and would allow snow to potentially sit on the roof for extended periods of time. There is also evidence of extensive brick spalling due to the exposed nature of the site (2).

External Walls:

The east exit from the church was previously blocked off and a plant room built at the bottom of the steps to this door in the past. This plant area has now been removed and the door reinstated, however repairs will be required where the Plant Room was previously sited (3). The ground is also very wet to the east elevation at the french drain location running towards the north.

The south elevation has five stepped recesses in the parapet wall with rainwater goods (4) and these recesses have leadwork around the openings above the hoppers. A stepped projection to right at low level corresponding to the tabernacle in the interior. The existing roof light over this projection has been covered over due to water ingress (5). The Baldacchino above the altar; an impressive 3 metre vaulted concrete cantilever supported from a horizontal beam behind corresponding to the height of the stepped projection. The state of the support brickwork for the Baldacchino, due to constant wetting and potential loss of structural strength and stability as a result of this, has been raised as a serious concern by the Structural Engineer.

At the west entrance to the church, the mortar joints at low level have been washed out and there is evidence of severe weathering and brick spalling (1) above the level of the adjacent buildings.

The north elevation has vertical patterns of cogging (6) to which lead cappings have been added, providing a richly textured surface. Rainwater goods have been added externally on both this and the south elevation ; most likely following issues with water ingress when these were originally in the cavity of the Counterfort Wall. The external downpipes have hoppers at the top just below the gutter line at the main roof gutters.

The connection between the roof outlets and the hopper will have to be investigated to establish if the connection is clear.



1. Raked out mortar joints / algae growth



2. Brick spalling



3. East Elevation Plant Room Removal



4. Addition of rainwater goods



5. Evidence of cogging



6. Addition of flashing to light

3.0 Condition - Main Roof

It is anticipated that roof renewal will commence late 2015 and funding is in place for this element of the works.

Roof:

Water ingress behind the altar on the south elevation and internally over the entrance between the Church and Presbytery is an ongoing issue and requires further opening up and investigation (1).

The main roof was replaced in 1988. This work included removing two courses of brick from the outer leaf, replacing the roof finish with metal cladding, new parapet internal linings, new parapet flashings, replacement of georgian wired glass

to vertical lights with polycarbonate and the re-roofing of the raised flat roof sections to the west. These higher roof area were added at some point previously to create plant areas internally.

Flashings and repairs to the main roof parapet (2) have been carried out, with a metal profiled cladding now evident on the inside face.

The angled roof sections have also been replaced and again a metal profiled cladding (3) is the current finish.

The vertical glazing, which was originally patent glazing has been replaced with a translucent polycarbonate, however the polycarbonate is now almost opaque and restricts light into the

main church (4).

The original roof profile has been altered with raised flat roof sections where this would originally have been at gutter level. This is the area to the west of the last sawtooth ridge (5+6). This was to form a plantroom to the south west when the original underfloor heating system failed, however the new heating plant was ineffective and the area is now used for storage. A roof access hatch gives access to the flat roof areas and this is in fairly poor condition (6).

The area to the north-west was also closed in beyond the main entrance vertical slot (5). The original wired glass can be seen in these areas closed in with the raised roof (8).

When the higher flat roof was installed, some time before 1988, the previously external brick parapet upstand became internal. This is coated with a black bituminous type paint (7), consistent with the original specification found in the Glasgow School of Art archive.

Due to the sawtooth profile of the roof, it is difficult to access the roof to clear the gutters and some leaf guards are missing. This is a concern, particularly when there is snow on the roof which cannot be easily cleared (4).

Snow loading, as previously mentioned, has also been noted as a serious concern due to the lightweight roof structure.



1. Flashed over altar light



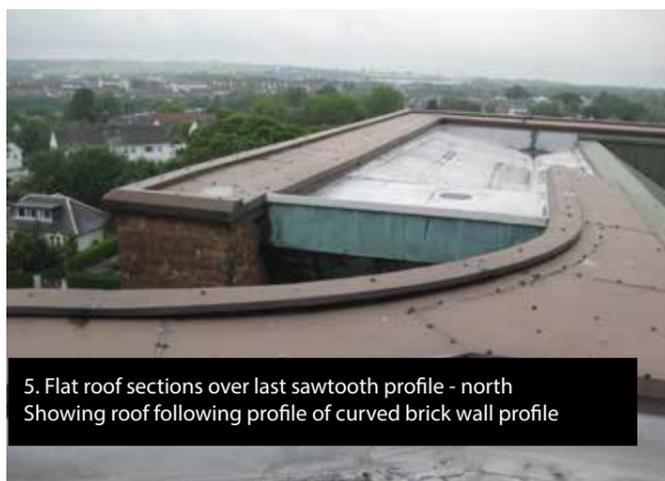
2. Patch repairs to main roof parapet capping



3. Metal cladding to inside face of parapet upstand



4. Polycarbonate vertical lights + gutter



5. Flat roof sections over last sawtooth profile - north
Showing roof following profile of curved brick wall profile



6. Flat roof section - south



7. Bituminous finish to closed in parapet



8. Original wired georgian glass vertical light Tabernacle

3.0 Condition - Roof Features and Flashings (for information only)

Copper Light Dormers to Roof :

Three tall dormers provide additional natural light to the High Altar and Lady Church areas. These have a steel frame with timber framing above and below and are copper clad internally and externally. The copper is green patinated externally and dark brown internally (1-6). The dormers are very exposed as they project above the roof line. The timber vertical lights externally are in very poor repair requiring the integrity to be checked, and the copper cladding externally shows signs of deterioration with open joints allowing water ingress. There have been patch repairs, however there is evidence of continued water ingress through these elements. Internally, access across the voids below the lights, to a small door leading to an area to the south west, is via a very narrow walkway with no edge protection (6).



1. South West Dormer



2. Patch Repairs



3. Windows to Dormers



4. Copper Light Dormer

Rainwater and Hoppers :

The original roof drainage detail had gutters between the sawtooth sections dressed into rainwater downpipes within the counterfort wall to the north and south. This was changed at some point to a gutter with outlets down to an internal drainage run with hoppers and external downpipes located at the end of the sawtooth roof lowest points to the north and south. To the south elevation, the hoppers are located at the slots in the parapet wall (10). It is understood the leadwork to these recesses was added as part of this modification. The cast iron hoppers and downpipes show signs of rusting and lack of maintenance (7) and investigation is required to check the below ground drainage and the connection between the roof outlets and the hoppers.



5. Copper Deterioration



6. Internal Bracing to Lights and Access Door



7. Hoppers Main Roof



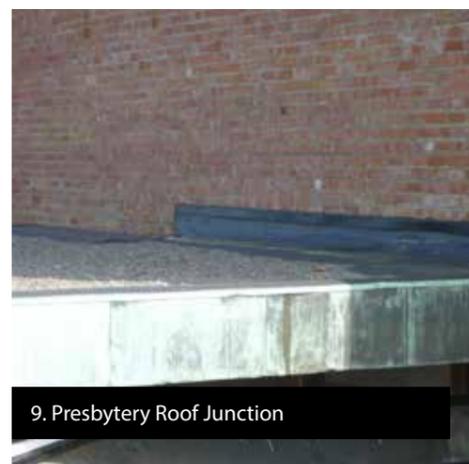
8. East Wall Light Chimneys Top Open, Bottom Flashed Over

Light chimneys:

There are light chimneys along the deeper east elevation, which have polycarbonate at the head added in 1988 (8). The polycarbonate is very opaque due to age and limits the natural light entering the Main Church through these chimneys as originally intended.

Flashed Junctions:

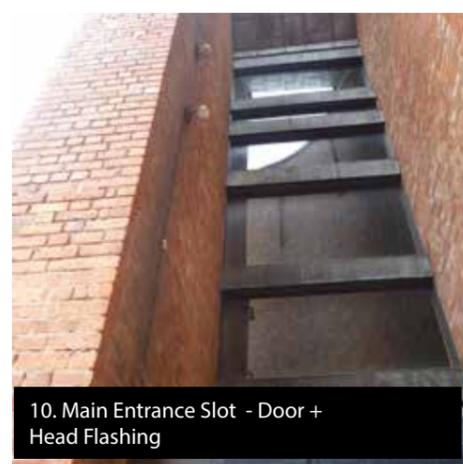
There is regular water ingress at the junction between the presbytery roof and the Main Church which is over the entrance off Plattthorn Drive (9). Repairs to the flashing have not been successful in stopping this water penetration.



9. Presbytery Roof Junction

Rooflight over Spiral Stair :

The rooflight over the spiral stair has been altered from the original design and replaced with a polycarbonate cowl. Some original timber framing is still in place and shows signs of past water ingress (11+12).



10. Main Entrance Slot - Door + Head Flashing



11. Cowl over Spiral Stair



12. Framing / Bracing to Top of Spiral Stair

Flashing Over Main Entrance Doors in West Elevation:

The main doors have a large apron flashing and while this area is fairly protected being within the west wall, this area is more exposed at the top and the flashings are not in good repair.

3.0 Condition - Structure

It is anticipated that remedial wall tie installation will commence mid-late 2015 prior to main roof works and funding is in place for this element of the works.

Structure :

The main church building measures approximately 33m long x 24m wide x 15.5m high and is of monolithic masonry construction with no internal floor plates and a lightweight roof supported by steel trusses spanning in the 'long' direction, which is approximately 32m.

There is no apparent "structural redundancy" in the building. The masonry walls of the building provide main vertical load bearing elements and resistance to the lateral wind loads. There is virtually no other aspect of the building which provides lateral stability. Odin's calculations suggest that the masonry counterfort walls are structurally inadequate to perform under worst case wind loading as defined in the current British Standard and parameters defined within the current British Standard for the design of masonry.

Based on this, Odin strongly recommended remedial wall tie insertion with stainless steel wall ties to ensure the walls continued to perform and ensure the leaves were tied together effectively.

The general construction of the outer leaf to the North, West and South elevations is an outer leaf 2 bricks thick, inner leaf 2 bricks thick with columns/counterfort consisting one brick square approximately 1150mm to 1500mm apart (centres vary). Leaves are tied together using vertical twist ties connected into the columns at approximately 450mm vertical and 1m horizontal centres. Ties found were generally in good condition with no signs of corrosion but small amounts of mortar was found on the them. The cavity thickness is typically 340mm at north and south, 450mm to the west and 800mm to the east.

To the East elevation, the construction is an outer leaf 1 brick thick with 100mm cavity ties to an inner skin of brickwork (1 brick thick). The inner side of the external wall has brick columns approximately 1.5m apart. The inner leaf assumed to be 2 bricks thick and is approximately 750mm - 850mm from the outer leaf skin. The outer cavity ties were spaced at 450mm vertical and 900mm horizontal centres with no corrosion evident and some mortar found on the ties;

A visual inspection and an archive review were carried out to identify the main areas for concern and establish specialist survey requirements. It was quickly identified that with no meaningful structural records available, testing would be required to establish the brick strength and the structural solution for the main walls.

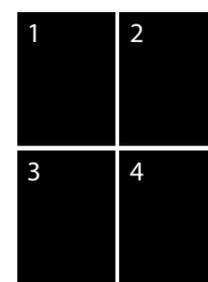
ESG carried out disruptive testing under Odin's supervision was carried out in January 2012 to establish the strength of the bricks. 30 no bricks were removed for crushing and analysis and cores were drilled to allow the construction method to be established by borescope.

The roof is a light weight steel framed "sawtooth" arrangement with gutters at the bottom of the troughs. The profile of the roof is likely to attract significant snow loads caused by 'drift' action and due to the nature of the lightweight structural members and large spans, Odin noted that the existing trusses would be unlikely to withstand the loads applied using the current British Standards and recommended no additional loads were applied.

The trusses are formed with steel angle members bolted together in a 'back to back' arrangement with an overall depth of 2.75m in 10 no. bays of 2.95m running north to south. The bays are at circa 4650mm centres running east to west.

The truss was altered in 1988 with strengthening to the existing girders. Z Purlins to take the new standing seam roof were added and the base gutter angle may have been relocated at this time.

The original steel angle members forming the steel trusses do not appear to have any signs of fire protection or corrosion protection and corrosion was apparent in areas where there had been continual water ingress, particularly where truss ends met the external cavity walls.



1. Lightweight Roof Truss
 2. Roof Truss Connection Detail
 3. Vertical Cavity showing Twist Wall
 4. Mortar on Cavity Wall Ties

3.0 Condition - Envelope Plan Diagram

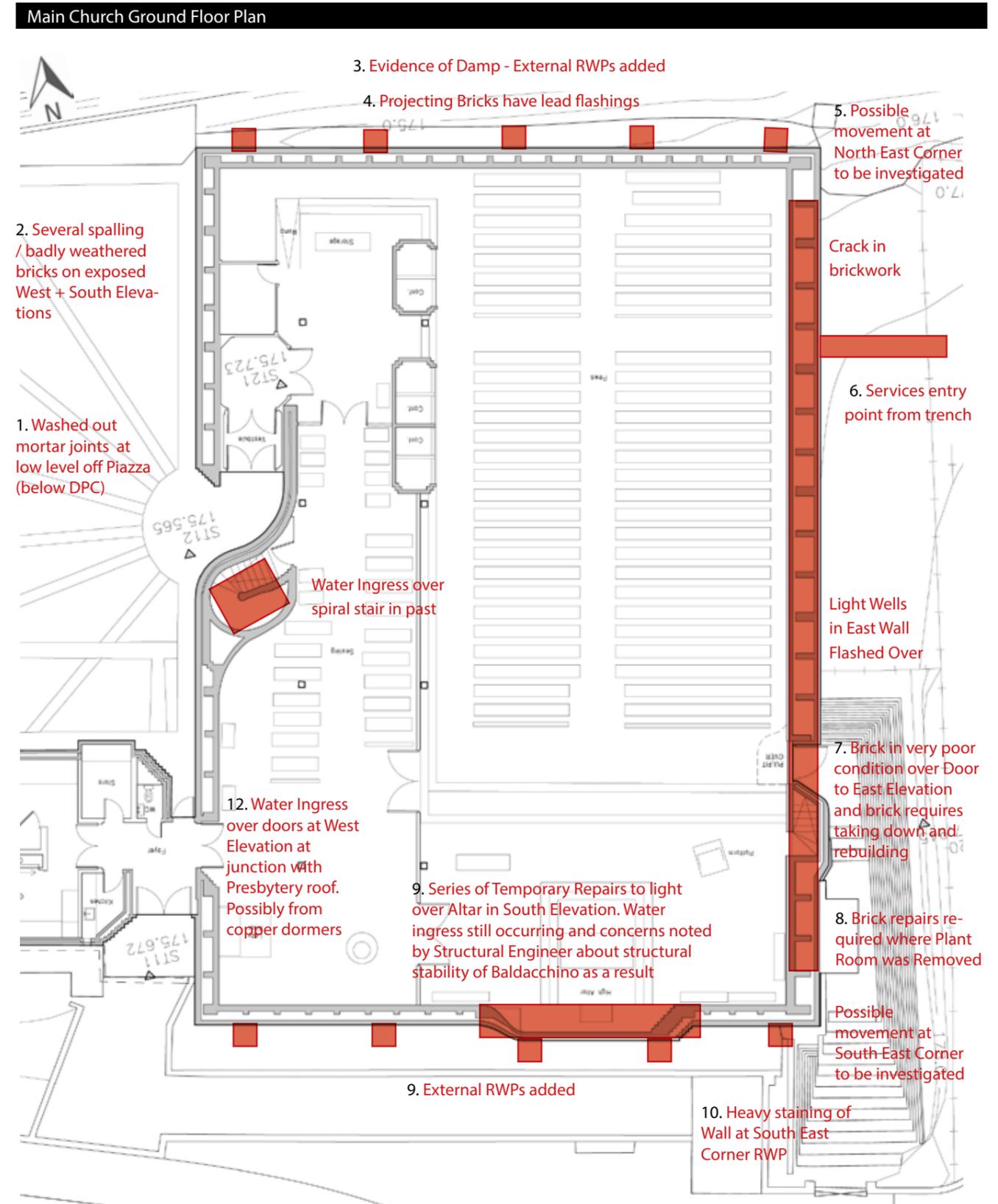
Brick Envelope :

- Most significant weathering / spalling to the west elevation however brick repairs and repointing are required to all elevations.
- The main entrance slot is fairly protected, but the small flat roof and heavy flashing require replacement and there is staining visible at external light cabling
- Ongoing water ingress generally noted at junctions. Patch repairs and overflashings have not been effective and are unsightly.
- Significant ongoing water ingress to the South wall, particularly at the light over the altar has led to repairs being carried out to the main beam supporting the large cantilever concrete canopy inside. The beam depends wholly for its stability on the 'tight fit' between the beam and the mortar which is consistently wet.

- Rainwater downpipes have been moved from the cavity to external on the North and South Elevations at some point, probably due to water leakage issues. Rainwater goods in poor repair and damp / staining / water leaks are apparent. Investigation required of connection between roof gutters and hoppers.
- Possible movement at North East and South East corners
- Roof finishes taken over lights to chimneys in East Wall and at altar do not allow natural light penetration and leaks apparent. Original glazing replaced with polycarbonate and flashed over in some low level locations. Some original georgian wired vertical lights remain in roofed over area at high level.
- The north elevation is in the best condition
- The DPC/DPM does not seem to be continuous and requires further investigation

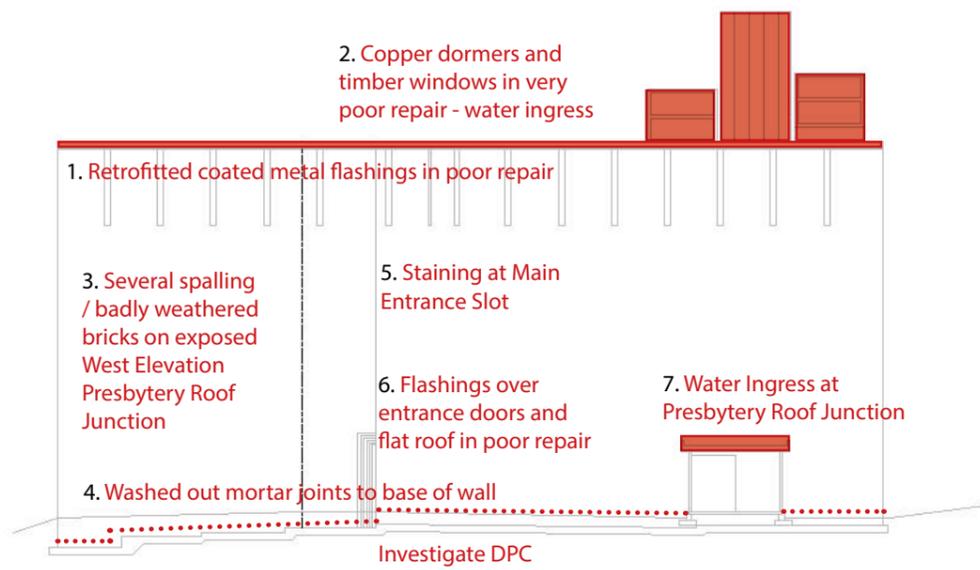


1. Washed Out Joints
 2. Spalling / weathered brick
 3. Damp at external RWPS
 4. Lead Flashings
 5. Possible movement
 6. Service Entry Point
 7. Brick over east entrance
 9. Repairs / external RWP
 8. Plant Room Removed
 9. Repairs / external RWP
 10. Staining to Brickwork
 11. Presbytery Roof Junction

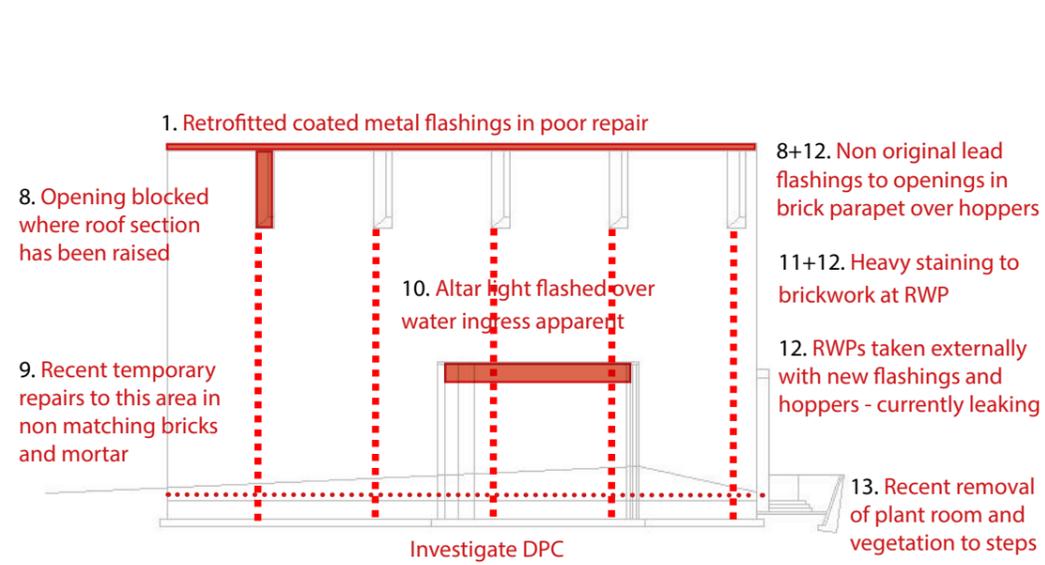


3.0 Condition - Envelope Elevation Diagrams

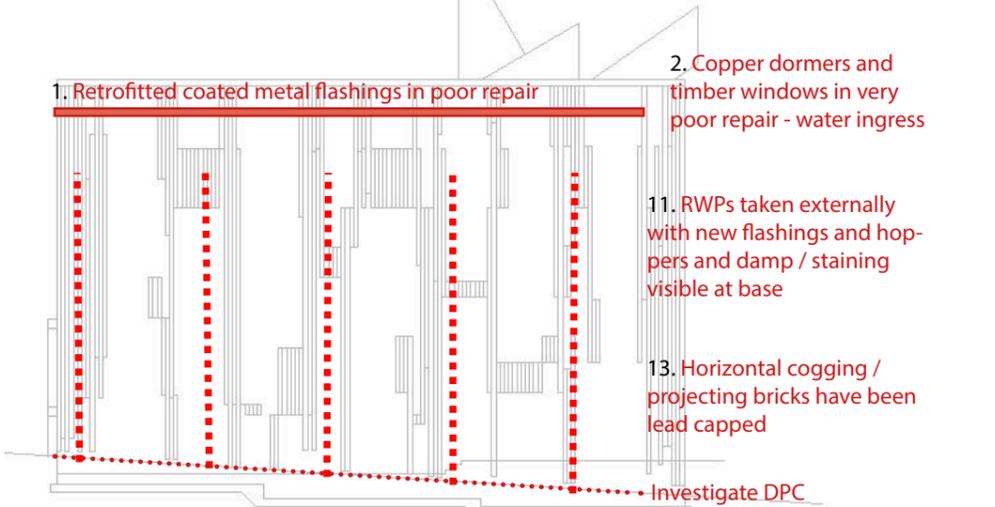
West Elevation



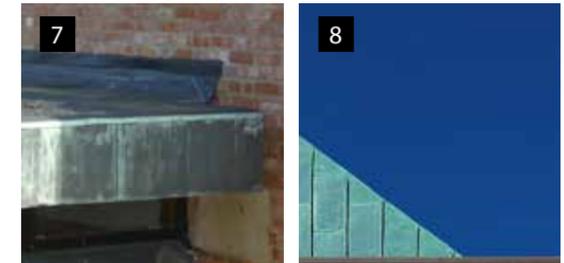
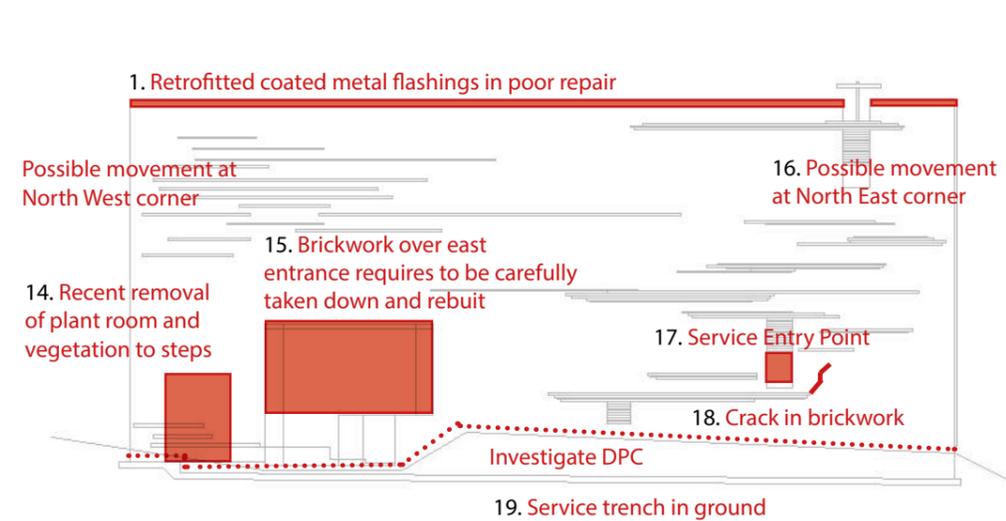
South Elevation



North Elevation



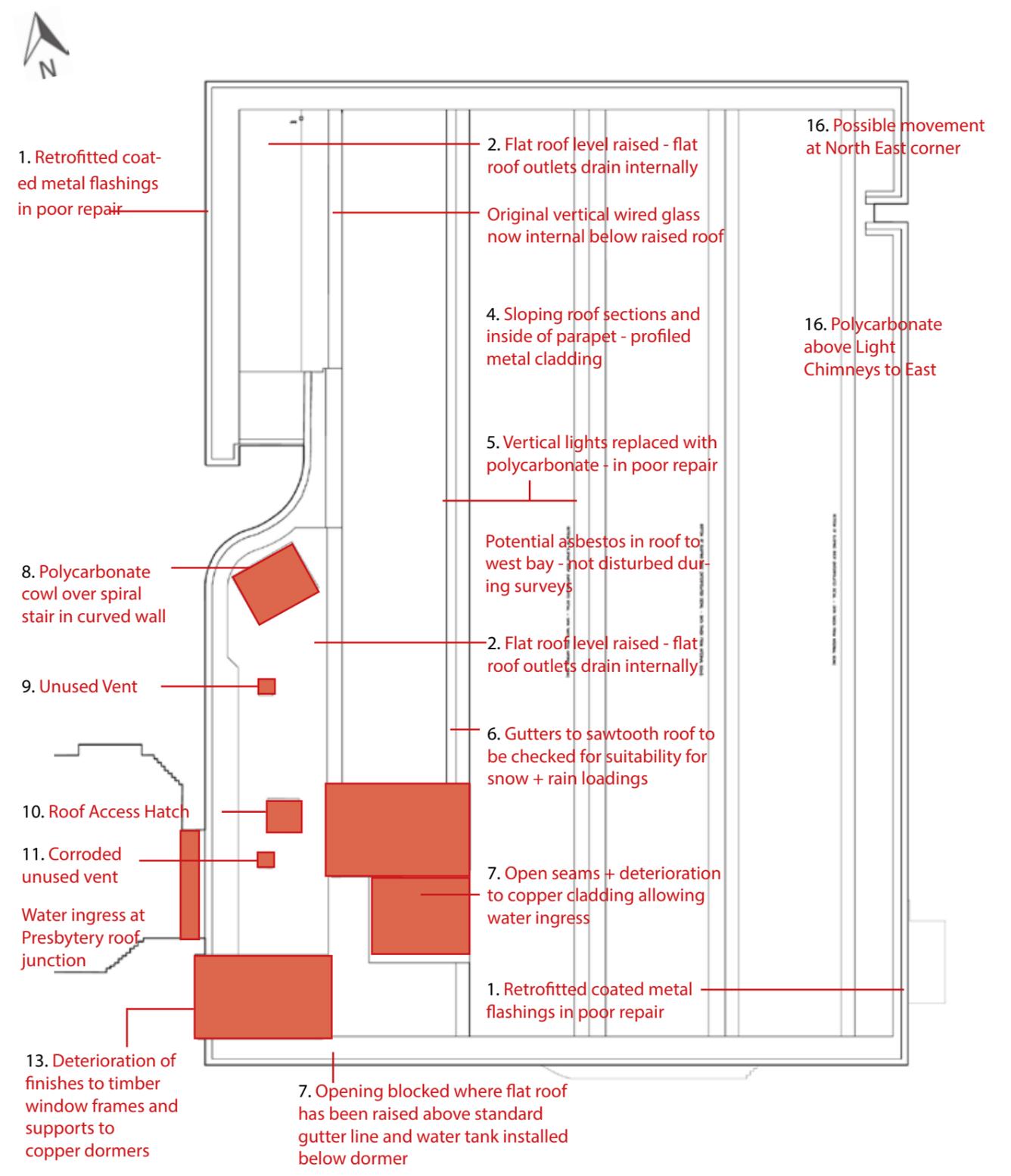
East Elevation



3.0 Condition - Roof Diagram (for information only)



Main Church Roof Plan



4.0 Significance: Architectural

Definitions :

The ICOMOS Burra Charter provides the following definition of cultural significance:

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

St Bride's Church is Listed in category A and is therefore acknowledged by Historic Scotland as -

“of national or international importance, either architectural or historic, or a fine, little-altered example of some particular period, style or building type.”

In 2013 St. Bride's Church was named in the top three of the Best Modern Churches architecture competition run by the National Churches Trust, the Ecclesiastical Architects and Surveyors Association and the 20th Century Society. The church was picked out from over 200 entries UK-wide and is the only church in Scotland to make the three places of worship judged to be the best sacred place built in the last 60 years - St. Bride's taking home the National Churches bronze award.

Statement of Significance:

Cultural - The international reputation of St Bride's Church is due to its cultural aesthetic value as a work of architecture that evokes the spirit of the 1960s. The church also has an important spiritual and social value, both to the congregation and to the local area generally as a meeting place and town landmark.

Economic - The survival and preservation of a building ultimately depends on its continued use. When restored to good order, St Bride's will continue to function as a church, serving the local community and creating a sense of stability, continuity and well-being. St Bride's is already a tourist attraction and, when restored, will be a positive sign of investment in the local community and a landmark in which they can take pride.

Environmental - The continued use of existing building stock is a desirable goal for a sustainable future.

The impact of the work of Gillespie Kidd & Coia is summarised in this extract from the Historic Scotland publication of 2009 - "Scotland: Building for the Future: Essays on the architecture of the post-war era

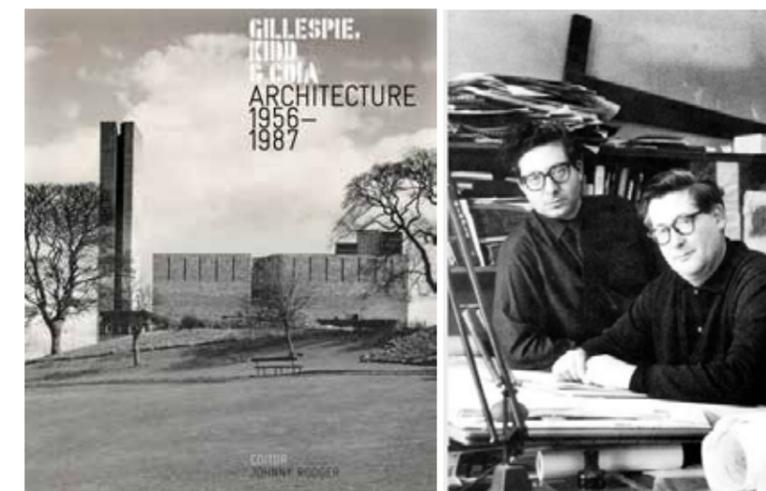
“The work of Gillespie Kidd and Coia from the mid-1950s was largely the product of the combined talents of Isi Metzstein (1928-2012) and Andy MacMillan (b 1928) who started working in Jack Coia's practice in 1945 and 1954 respectively. Indeed, their contribution to church building is so great that it became the subject of one of Historic Scotland's earliest biographical thematic listing programmes, in which, in 1994, the pre- and post-war churches of Gillespie Kidd and Coia were reviewed.

Their repertoire is, however, wideranging, but a particular understanding of the modern mechanics of teaching – either spiritual or pedagogical – saw them excel in numerous commissions for schools and college buildings.”

“The recent exhibitions in Scotland on the work of Gillespie Kidd and Coia and Basil Spence make a persuasive argument for the importance of their work on an international stage.”

“Following the Second World War, a select group of architectural practices, including Gillespie Kidd and Coia, would push the boundaries of expression away from the purely functional and traditional, seeking to provide powerful church designs. The main contributions to the latter practice by Isi Metzstein and Andy MacMillan secured their ascendancy in the field and, continuing the firm's link with the Roman Catholic community, led to 17 outstanding churches being among the first post-war buildings to be listed.”

The following visual analysis seeks to demonstrate the architectural influences on the work of GK&C and set St Bride's Church in this international context.



4.0 Significance: Architectural

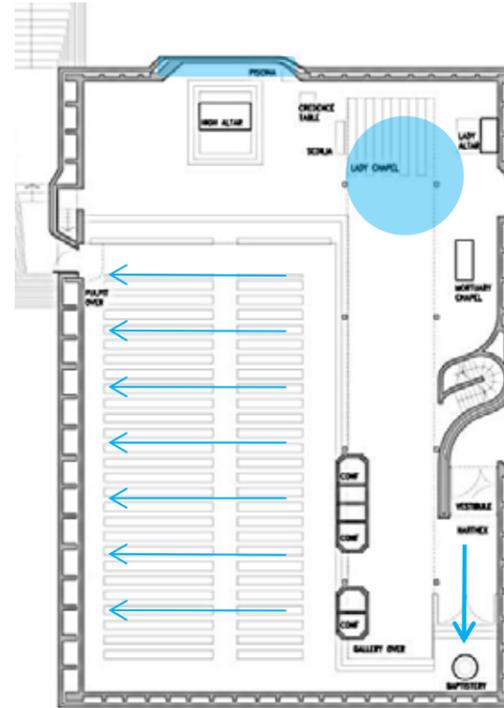
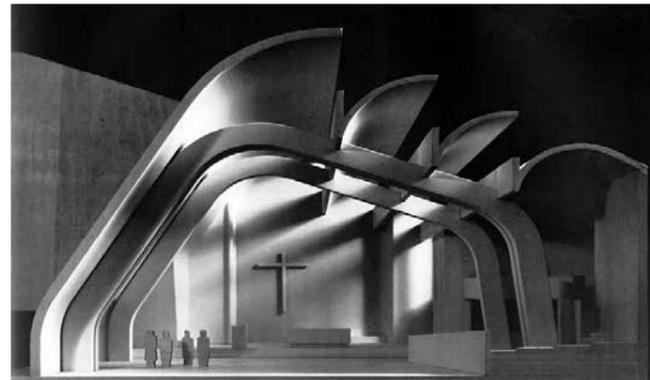
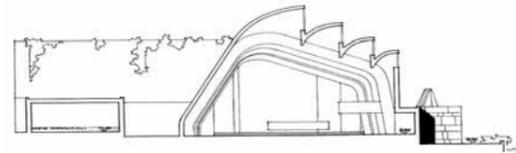
Varying Rooflights

Varying Rooflights:

The East wall of the church is meant to be gently modelled by diffuse west light from the roof and also backlit through light emanating from the niche details. Restoring this will be a positive sign of investment in the local community and a landmark in which they can take pride.

Alvar Aalto Church - Rooflight

Gillespie Kidd & Coia's architecture parallels Alto's both in its use of brickwork and expressive form



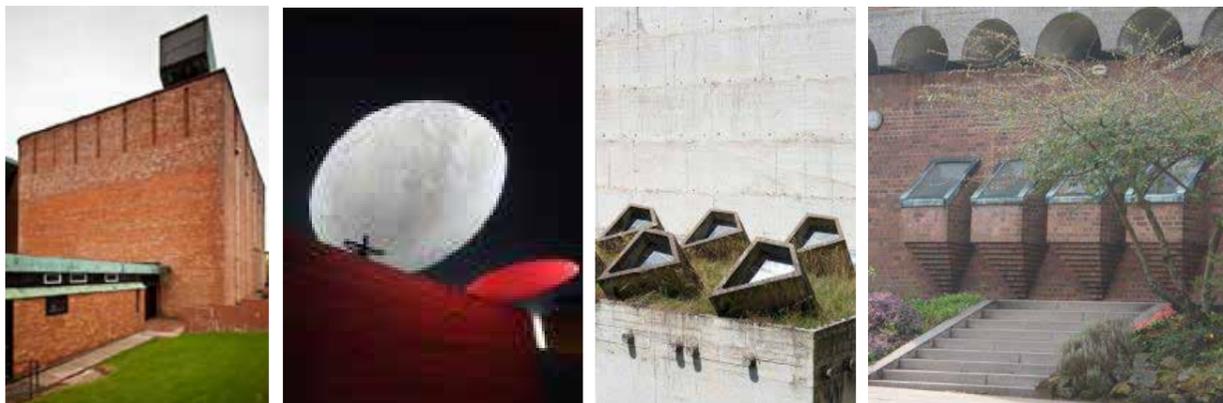
Sculptural East Wall - Modelled by West Light



Hidden Light Chimneys

Hidden Light Chimneys:

Different from the rooflights Gillespie Kidd & Coia commonly integrated 'light chimneys' into their church architecture to indirectly and unexpectedly bring light into the buildings interior



East Wall

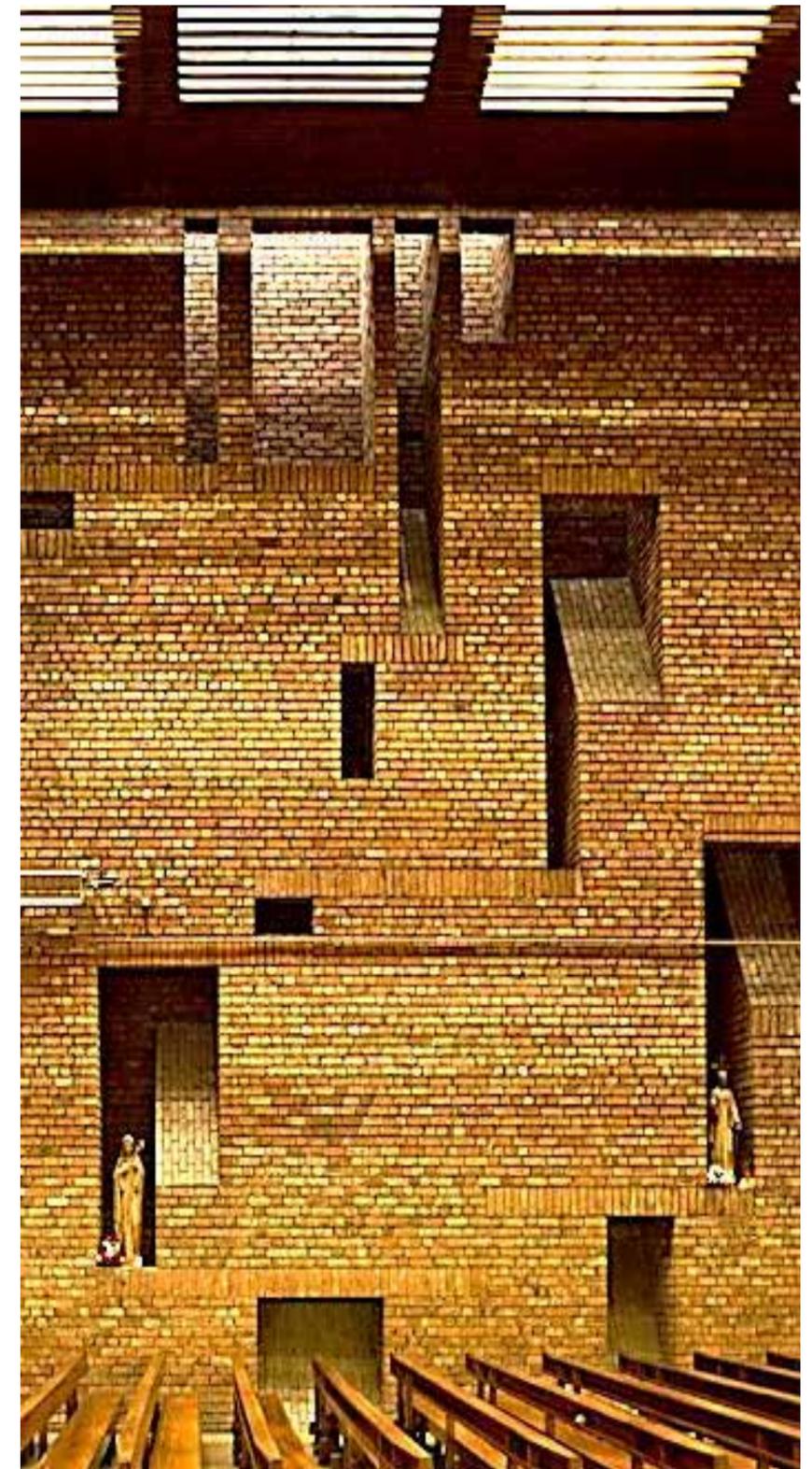


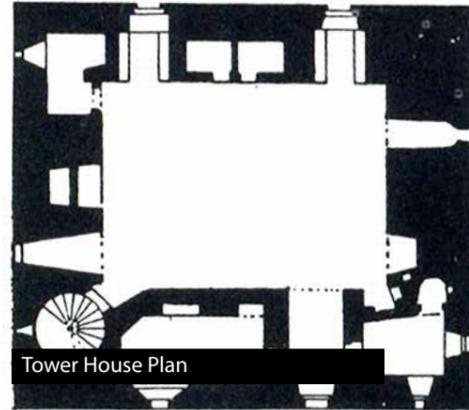
Image courtesy of Dan Farrar

4.0 Significance: Architectural Contemporaries

Scottish Precedent - The Scots Wall



Gillespie, Kidd & Coia_Scotland *



Tower House Plan



Gillespie, Kidd & Coia_Scotland

Architectural links

A combination of Structural expression, monolithic form and new civic vernacular links these architects with Gillespie, Kidd & Coia's practice throughout the 60's, 70's and 80's



Gillespie, Kidd & Coia_Scotland *



Alvar Aalto_Sweden



Louis Kahn_USA



St Bride's Church *

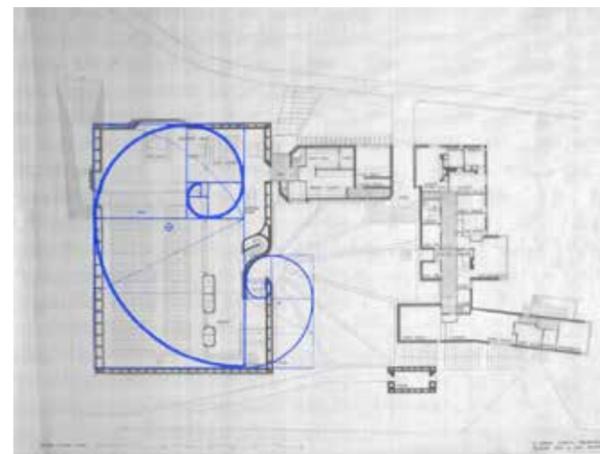
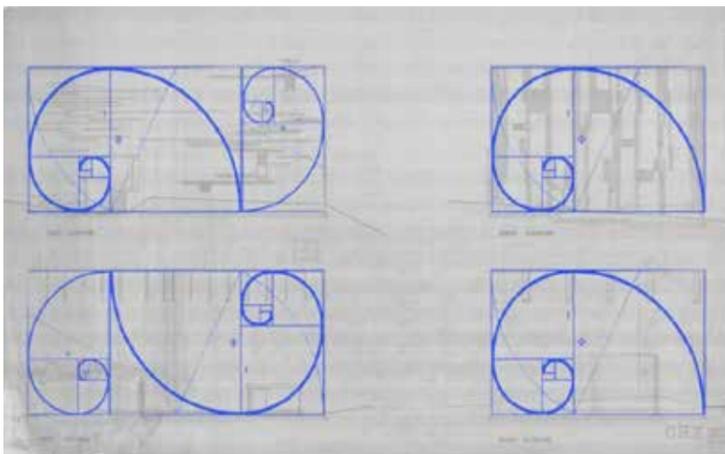


Le Corbusier_La Tourette



Le Corbusier_La Tourette

Architectural Form : Proportion



Gillespie, Kidd & Coia_Scotland



Carlo Scarpa_Venice



Le Corbusier



Gillespie, Kidd & Coia_Scotland

* Images courtesy of Glasgow School of Art archive

4.0 Significance: Spiritual

Spirituality:

Spirituality is a word used in an abundance of contexts that means different things for different people at different times in different cultures. Spirituality has been expressed through religions, art, nature and the built environment for centuries.

Religion fosters community. It is for many a way to make sense of a hectic and confusing world, and to find people who are making sense of the world in the same way. It's a gathering of people. It offers absolution, sets rules to live by and helps to create a set of the shared values and beliefs that keep a community functional. It can help people understand who and where they are, connect to a past and situate themselves in the long trajectory of human existence.

Community :

St. Bride's is the "Mother Church" in East Kilbride, the first New Town to be designated in Scotland in 1947; the same year that the Diocese of Motherwell was founded. At the last Census it had a population of 74,395, and it is hoped that this wider community will benefit from the project together with the Parish, which has an estimated population of 4,000. On average, 1,000 people of all ages attend Church for Sunday liturgies, of which approximately 80 people are daily Communicants. The Church is also used throughout the school year by the pupils of St. Andrew's and St. Bride's High School, which has a roll of 1,600 pupils and by the two Parish Primary Schools, which have a combined roll of 400 pupils.

The Scottish Index of Multiple Deprivation (SIMD) is the Scottish Government's official tool for identifying small areas where there are concentrations of multiple deprivation. It measures seven different aspects of deprivation - Employment, Income, Health, Education, Crime, Access to Services, and Housing. SIMD is based on small geographical areas (called datazones). Of the 20% most deprived datazones in Scotland only one was found in East Kilbride in the SIMD 2012. In a material sense, this is a relatively affluent area, but in a spiritual sense it is adversely affected through that same affluence and is one which would benefit from spiritual care.

St. Bride's produces a weekly newsletter, which advertises all the activities associated within the Parish along with regular updates on the essential building fabric repairs and conservation works. The Parish community wholeheartedly and enthusiastically supports this project and looks forward

to its completion as does the wider community of East Kilbride whose members attend the Church for the many sacramental celebrations that take place here, including baptisms, communions, confirmations, weddings and funerals. This enthusiasm is obvious in their thirst for knowledge of the progress in the application and was also evidenced during the first Q&A session that was held in the Church on the 11th September 2012 before the project was put on hold due as a result of funding issues and other committed projects within the Diocese.

Not only is it one of the most well-known and celebrated modern Scottish buildings, it is quite simply an asset within the community and can be significant in encouraging the parish to flourish and reach out to the wider community.

It will be a requirement, defined in the tender documents, that the Contractor creates opportunities for volunteers and apprentices as part of the project. It is also Diocesan policy that, where both practical and possible, the main contractor utilises local sub-contractors and labour when undertaking the works.

With regard to other, long-term volunteering, training or employment benefits, there are regular architectural tours of the Church, which take place on an ad-hoc basis due to the building's prominence as one of the most significant and celebrated pieces of modern architecture in Scotland. At present these tours happen on an informal basis, but this activity will be formalised to take place monthly and advertised nationally to ensure there is awareness of availability.

This project aims to address the immediate needs and concerns of the parishioners and the many visitors to the Church whilst also returning the Church to being closer to its original condition. They will provide a weathertight envelope with restored features to allow the Church to continue to function, particularly in the winter.

St. Bride's is already a tourist attraction and, when restored, will be a positive sign of investment in the local community and a landmark in which they can take pride.



5.0 Conservation Approach : General

Generally:

For the visitor to the newly completed St Bride's Church in the 1960s the impact of the building would have been in its scale and prominence above the town, the uncompromising mass of the brickwork and the surprising quality of the natural light piercing the church interior.

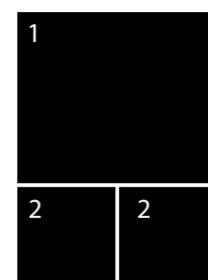
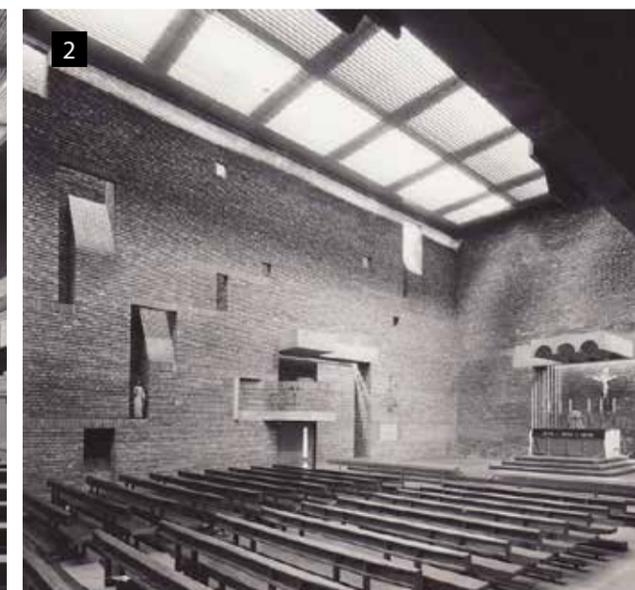
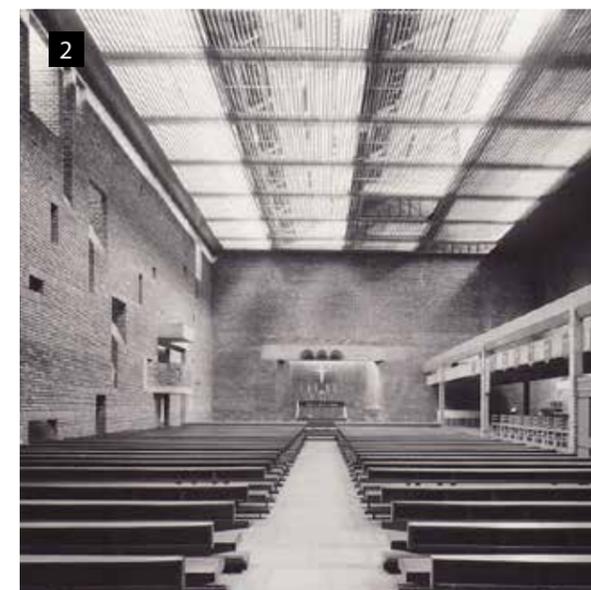
As stated in the previous pages, some of this impact has been lost due to changes to the building and its setting over time. It is difficult for new visitors to fully appreciate the quality of the church interior, for example, when the majority of the natural light sources have been blocked. This report aims to point out why the building is important and how it can be conserved for the appreciation and enjoyment of future generations as a place of worship.

Conserving a building which is 50 years old might appear more straight-forward than a traditional building with many layers of history, but it presents a different set of challenges. Architects working in the first half of the 20th century made a break with the past and embraced new building forms and materials, many of which were untested. Building details were invented to serve the architectural aesthetic and materials with a short life expectancy were often used out of view.

These issues inevitably occur at St Bride's. This - combined with the exposed site, water penetration over many years and a maintenance regime of patch repairs- has resulted in the deterioration of the building fabric and the loss of key features, such as the campanile (demolished) and the light wells in the church (capped). The ancillary buildings, being low rise and built into the contours, are not so exposed to the elements and can be accessed more easily for maintenance. Alterations to provide car parking, improved site security and disabled access have altered the setting of the group over time.

The conservation approach should focus on retaining and restoring the original features and character of St Bride's and decisions regarding repairs, restoration and alterations, including structure and services, should be integrated and working towards the same holistic approach.

The repairs and alterations proposed for this Stage of Works are categorised as urgent further to long term water ingress to prevent further brickwork deterioration.



1. West Elevation (St Brides 1963) *
2. Interior (St Brides 1963) *

* Images courtesy of Glasgow School of Art

5.0 Conservation Approach: Repair & Renewal

Repair and Renewal:

The conservation of traditional buildings, originally constructed using high quality materials and workmanship, is to carry out repairs on a like-for-like basis. However, in this case a pragmatic approach must be adopted with respect to the performance and longevity of the original specification.

External walls:

The brickwork, important to the character of St Bride's, would be a case of like-for-like repair or replacement. The surface of the brick is spalling (1) and the decay is most noticeable in the south and west elevations of the church (2), where the building is most exposed to the prevailing weather. The north elevation, prominent over Whitemoss Road, is the best preserved.

In general, original fabric should only be replaced where it is unsound. Replacement bricks should be chosen to match the original in size, appearance and character. Bricks to be replaced should be cut out by hand, to minimise damage, and replaced with whole bricks.

The coursing, brick detailing and flush pointing should match the original to retain the wall texture.

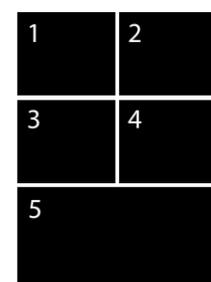
Where bricks are sound but damaged or forming water pockets, mortar repairs should be carried out using a suitable mix, coloured to match. This should only be carried out on very minor damage as any significant damage means the brick has already lost its integrity.

Since the original Larkhall brick is out of production, samples of the brick and original lime mortar mix should be taken for microscopic analysis to determine the best match. The mortar joints make up approximately 18% of a brick wall and a poor match can change the appearance. It is also important to note that if lime mortar is found to have been used, this allows the building to move and breathe, requiring no movement joints and the replacement mortar should match the mix used originally.

Some sections of wall have been re-pointed using cement mortar, for example on the south elevation. This mortar patching, if harder than the brick, will result in consequential decay over time. However, the hardness of the material makes it difficult to remove without damaging the adjacent bricks. It is therefore advisable to carry out tests in a sample area to determine the best way forward (3).

Weathering details - The projecting brick details, or cogging (4), on the church walls appear to have been originally topped on the horizontal surface with a tapered mortar bed, as a method of weathering. Fragments are still extant on the east elevation. The details on the north elevation have been capped in lead. The principal should be in favour of retaining cappings which are performing well and reinstating the original detail where it has been lost.

The wall heads, originally exposed brick, had the top two courses removed in 1988 and were then capped in a metal sheet. The exposure is too great to return to the original detail, so a discrete capping detail in a suitable traditional material (copper or lead) should be considered.



- 1. Example of 'Spalling'
- 2. South Elevation - brick replacement required
- 3. Example of Structural Testing
- 4. Example of 'Cogging'
- 5. Example of intricate brick detailing visible throughout

6.0 Access

Introduction

The Diocese and the Parish fully appreciate the Architectural importance of St Bride's Church and are committed to preserving this going forward and also improving facilities, access and safety for the Parishioners and visitors to the Church. This has been an ongoing programme with facilities being improved over the last few years in the Church House to better suit disabled access and carrying out essential envelope repairs in both the main Church, Presbytery and Church House.

There are areas in the Church where full accessibility is not possible due to the impact this would have on the original design such as access to the gallery and high level areas, however the aim is to improve access to the main Church to make it accessible to all.

External Access and Arrival:

The Church sits in an elevated position above Whitemoss Avenue and the Piazza is accessed by way of ramp or steps from Whitemoss Avenue or from Plattthorn Drive where there is on-street parking and a car park available.

The main access is from the Piazza in the West Elevation and this is where most of the congregation access the Church during services. The Piazza has had repairs carried out by parishioners to improve the brick and tarmac surface finishes and provide better access and handrails have been fitted to steps.

Access from Plattthorn Drive is via a ramp to the south entrance foyer or by means of steps to the Piazza to the main entrance in the west elevation. Access to the Church house is from the car park off Plattthorn Avenue or from the Piazza however there are steps to both entrances.

The nearest bus stops are on Whitemoss Avenue within 200 metres of the Church and 9 bus routes stop at the closest stops. East Kilbride Railway Station is 1km from the Church.

St Bride's Church is open daily as undernoted:

Masses:

Weekdays	10:00am
Saturday	10:00am, 6:00pm Vigil
Sunday	9:30am, 11:30am + 6:00pm

Confessions:

Thursday:	7:00pm
Saturday:	After 10:00am Mass, after Vigil Mass On request outside these times

The retired Canon Michael Ryan lives in the House adjacent to the Church and the housekeeper is also at the house most days until 2:00pm for access to the Church outwith the normal service times. The Church contact details are on the website to arrange access.

http://www.sbek.org/St_Brides/Welcome.html

Minor Works package to Improve Accessibility + Safety

The Church was recently successful in applying for funding from Viridor for carrying out minor works which will greatly improve accessibility and fire safety. These works are anticipated to start in 2014 and are as follows:

External Doors and Foyers:

The existing doors need to be refurbished to provide better weather-seals and the surrounding brickwork repaired. There is also a need to reinstate the existing door in the East Elevation for fire safety and improve the steps leading from this area to Plattthorn Drive.

Internal Access:

The foyer from Plattthorn Drive is generous and allows wheelchair access and there is an existing toilet in this area. This toilet is very small and has not been refurbished since the building was handed over in 1963. There are no disabled WC facilities and it is proposed to form a new Disabled WC in the store area adjacent to the existing WC and also refurbish the existing WC. This work will require the widening of the existing store door and providing a new door to match the existing. All existing panelling and finishes will be made good to match the existing on completion.

The main entrance from the Piazza on the West Elevation has a vestibule and the door arrangement does not currently allow for disabled access and it is therefore proposed to change the inner doors to a double swing arrangement to overcome this issue.

The Church steps down three steps from arrival level to the main body of the Church. The existing ramp close to the main entrance is not compliant with current standards and is basically a sheet of ply on framing which causes a high level of impact noise when used especially during services. The shop unit and second vestibule are single storey elements with a flat roof only added to the original Church. These restrict the formation of a compliant ramp and block views of the Church on arrival and it is therefore proposed to remove these elements and provide a compliant ramp and reinstate the views on arrival.

A new ramp is proposed which will have partitions enclosing a new piety stall area at the higher floor area to replace the shop unit being removed. This ramp will have an acoustic treatment and will be compliant with the current Technical Standards.

The new Piety Stall area will only be enclosed up to a height of 1100mm which will not block views of the existing Church and the entire ramp, partitions and stall will be completed with minimal impact to the existing features and in timber to easily differentiate between the existing and new elements.

These new elements will also be held off the confessional area to avoid an existing services trench containing asbestos.

All new ironmongery, fittings and fixtures will be at a height suitable for disabled use. It is proposed that the remaining existing fittings and fixtures are upgraded and improved as part of the main repairs package which will include major envelope repairs and replacement of existing services including lighting and heating.

The existing seating to the Lady Chapel area is original however it consists of individual chairs with woven seats tied together with kneelers and book slots and the Church would like these to be replaced to match the pews to the main Church. Space will also be left at the side for wheelchairs as part of this replacement and this allows parishioners to remain on the higher level of the Church accessed from Plattthorn Avenue rather than navigating the length of the Church to the new disabled accessible ramp.

Contact Information:

St Brides RC Church,
Plattthorn Drive,
East Kilbride G74 1NN
Email: chapelhouse@sbek.org
Tel: 01355 230 357

7.0 Proposals: Work Package A

Roof:

1. Full Removal and Replacement of Roof cladding (main roof) – replace with single ply membrane (i.e. Sarnafil / Insulation on marine grade ply forming build up) and new discrete copper head flashing to parapet walls
2. Full Removal and Replacement of copper cladding to feature roof dormers including timber windows with white cross to south west corner dormer
3. All steelwork forming the main roof supports to be repaired and protected against corrosion (i.e. brush down/ intumescent paint finish to truss + isolated repairs to steel structure – 10% assumed at this stage – refer to SE report)
4. Width of existing main roof light gutters (wider than original) to be maintained (i.e. 300-500mm) as part of main roof works
5. Replacement of vertical polycarbonate elements forming roof lights with single patent glazing (Georgian wire/ aluminium framing) or modern equivalent as approved by Historic Scotland
6. Full Replacement of all windows and associated flashings to light chimneys in east elevation - single patent glazing in aluminium frame. To be approved by Historic Scotland
7. Reinstatement of roof light to head of spiral stair in accordance with the original detail with aluminium patent glazing. To be approved by Historic Scotland.
8. Lightning protection to be installed
9. New light weight ladder installed to form safe access to roof lights/ gutters as part of maintenance strategy (in addition to cherry picker access from perimeter.

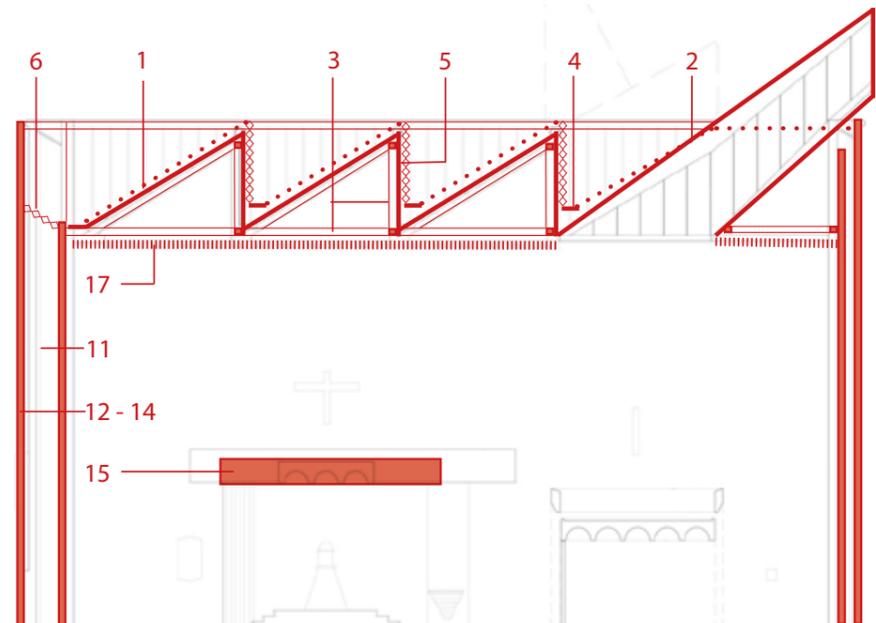
External Walls:

10. Cast Iron External Downpipe repair (North/ South elevations) – to be fully removed, connections checked at base with gully (replacement gullies to South elevation) - down pipes brushed back apply rust inhibitor, prime and repaint and reinstated
11. Retrofitting of stainless steel wall ties on all four elevations into mortar joints (and bricks repaired where required). To improve structural stability
12. Heavily weathered bricks to be cut out and replaced
13. All temporary non-matching bricks to be removed and replaced
14. Removal of loose mortar and patch repairs and full re-pointing + lead repair / replacement (to be agreed with Historic Scotland) including forming angled fillets over projecting brickwork
15. Roof light over altar to be restored to match original design. Allow for propping concrete canopy during course of works.
16. French Drain to be installed to North and East elevations to improve drainage at base

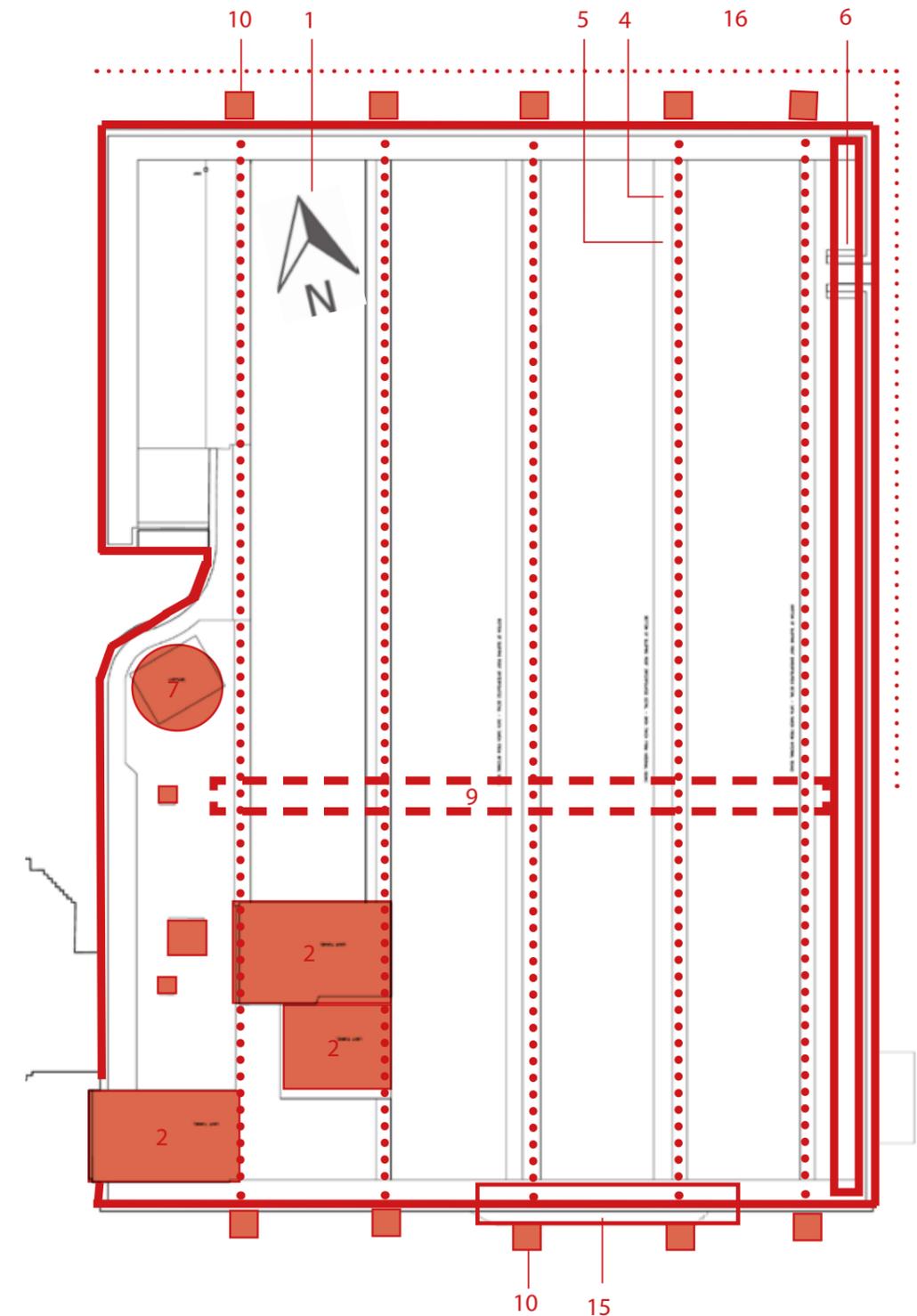
Lighting:

17. Reinstatement of timber slatted ceiling / associated hanging frame - existing lighting at high level to be replaced with fittings that can be maintained from below using high level platform.

Cross Section Through Main Church



Main Church Roof Plan



Based on condition survey carried out by Lesley Kerr 22nd March 2012

7.0 Proposals: Work Package A

Roof:

1. Full Removal and Replacement of Roof cladding (main roof) – replace with single ply membrane (i.e. Sarnafil / Insulation on marine grade ply forming build up) and new discrete head flashing to parapet walls. Allow for asbestos survey to west bay.
2. Full Removal and Replacement of copper cladding to feature roof lights including timber windows with white cross to south west corner dormer

Refer roof Plan on previous page for full extent of roof works

External Walls:

3. Original light with lead capping detail to be reinstated as part of works to horizontal light over Altar to South Elevation. New patent glazing forming roof light to be inserted. Make allowance for propping internal concrete canopy and supporting beam during opening up works.
4. Removal of over-flashings and polycarbonate panels and full reinstatement of all windows and associated flashings to light chimneys. Single patent glazing. This includes two glazed openings (high level and low level) on East Elevation.
5. Investigation of possible movement to north east corner at high level. Allow for ties and potential remedial works.
6. Retrofitting of stainless steel wall ties on all four elevations into mortar joints (and bricks repaired where required). To improve structural stability
7. 100% full re-pointing to all elevations following stainless steel wall tie insertion. Mortar to match existing - refer ESG mortar test reports

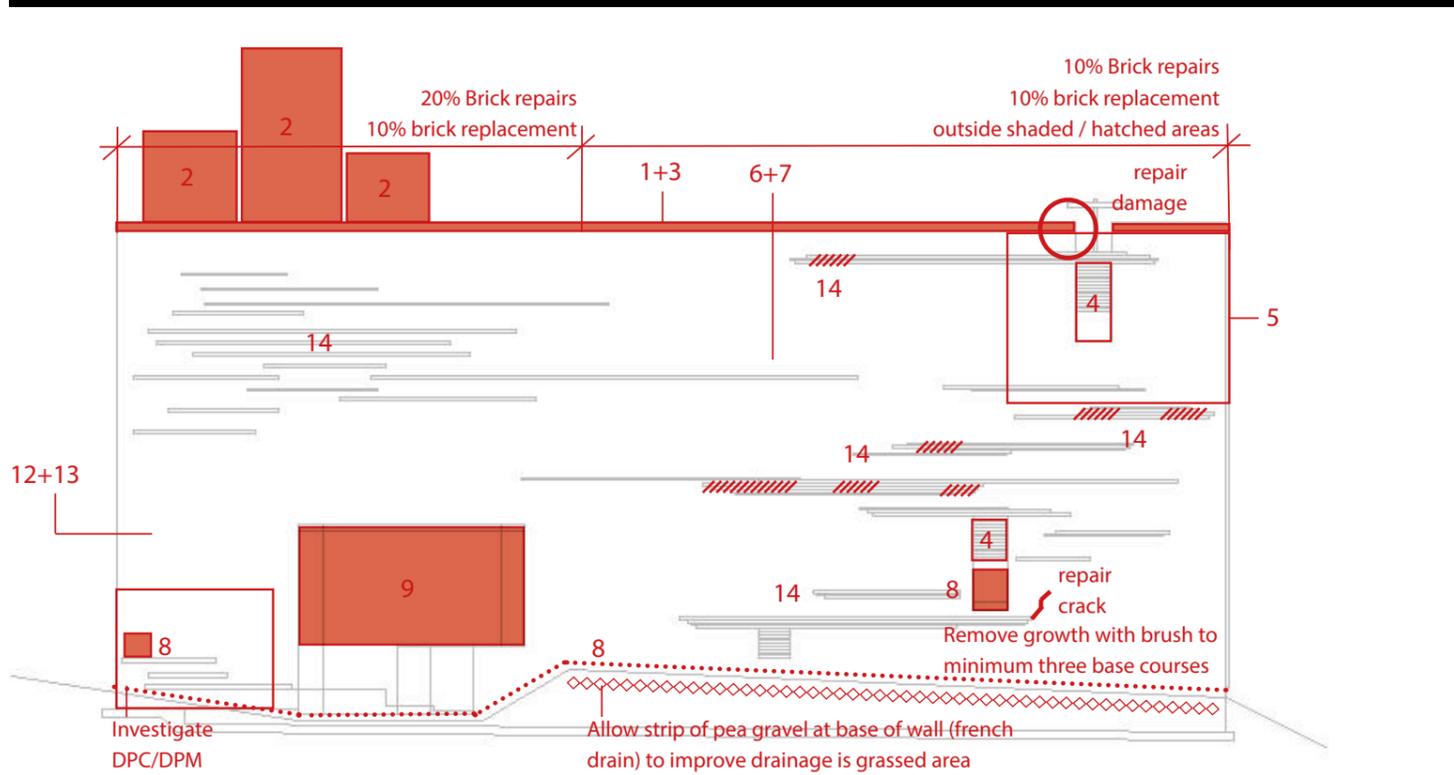
8. Removal of redundant services on East Elevation. Gas pipe + meter at south east close to former plant room and incoming pipe to north east off service trench with repairs / replacement brick to be in matching brickwork (refer to M+E Report). Form french drain with pea gravel at base of East Elevation in grassed area to improve drainage.
9. Wall above East Entrance showing signs of disrepair. Wall forming single storey projection to be taken down and replaced. Refer SE recommendations
10. Strip back flashings at junction with Presbytery / Church House and reinstate complete.
11. Allow for brick cleaning to remove growth and full repointing at base of East and West Elevations (minimum 3 bottom courses) - DPC and below
12. Heavily weathered bricks to be cut out and replaced in matching brickwork
13. All temporary non-matching brick and mortar repairs to be removed and replaced
14. Remove all loose material at projecting horizontal bricks to sound base, re-point joints and replace tapered mortar beds to top surface of all projections

Notes:

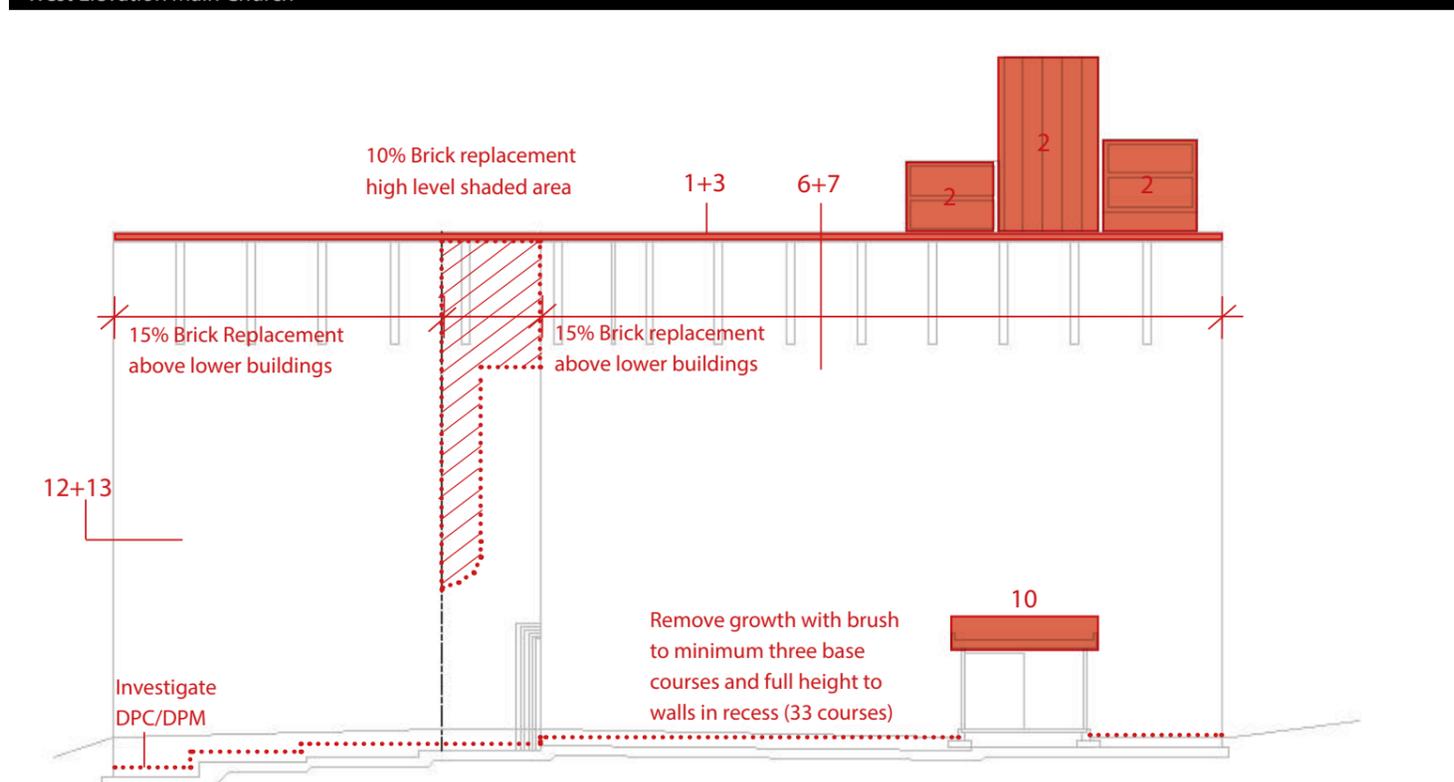
Replacement bricks should be chosen to match the original in size, appearance and character. Bricks to be replaced should be cut out by hand, to minimise damage, and replaced with whole bricks.)

All allowances are provisional – repairs to be re-assessed when full condition survey is carried out by specialist brickwork contractor

East Elevation Main Church



West Elevation Main Church



7.0 Proposals: Work Package A

Roof:

1. Full Removal and Replacement of Roof cladding (main roof) – replace with single ply membrane (i.e. Sarnafil / Insulation on marine grade ply forming build up) and new discrete head flashing to parapet walls. Allow for full asbestos removal.
2. Full Removal and Replacement of copper cladding to feature roof lights including timber windows with white cross to south west corner dormer

Refer roof Plan on previous page for full extent of roof works

External Walls:

1. Elevations surveyed from the ground not allowing assessment of brick stability.
2. North elevation in good condition and South elevation in poor condition generally with deterioration due to water ingress over extended period.
3. Test holes in mortar beds and area shown on south elevation patched in hard grey cement mortar to be cut out and replaced
4. Connections and gullies recessed in soft ground at base of rainwater goods to be checked. Investigate and improve french drain to East and extend to base of North Elevation in grassed area to improve drainage
5. Original light with lead capping detail to be reinstated as part of works to horizontal light over Altar to South Elevation. New patent glazing forming roof light to be inserted. Allow for propping internal concrete canopy and supporting beam during works.
6. Retrofitting of stainless steel wall ties on all four elevations into mortar joints (and bricks repaired where required). To improve structural stability
7. 100% full re-pointing to all elevations following stainless steel wall tie insertion. Mortar to match existing - refer ESG mortar test reports

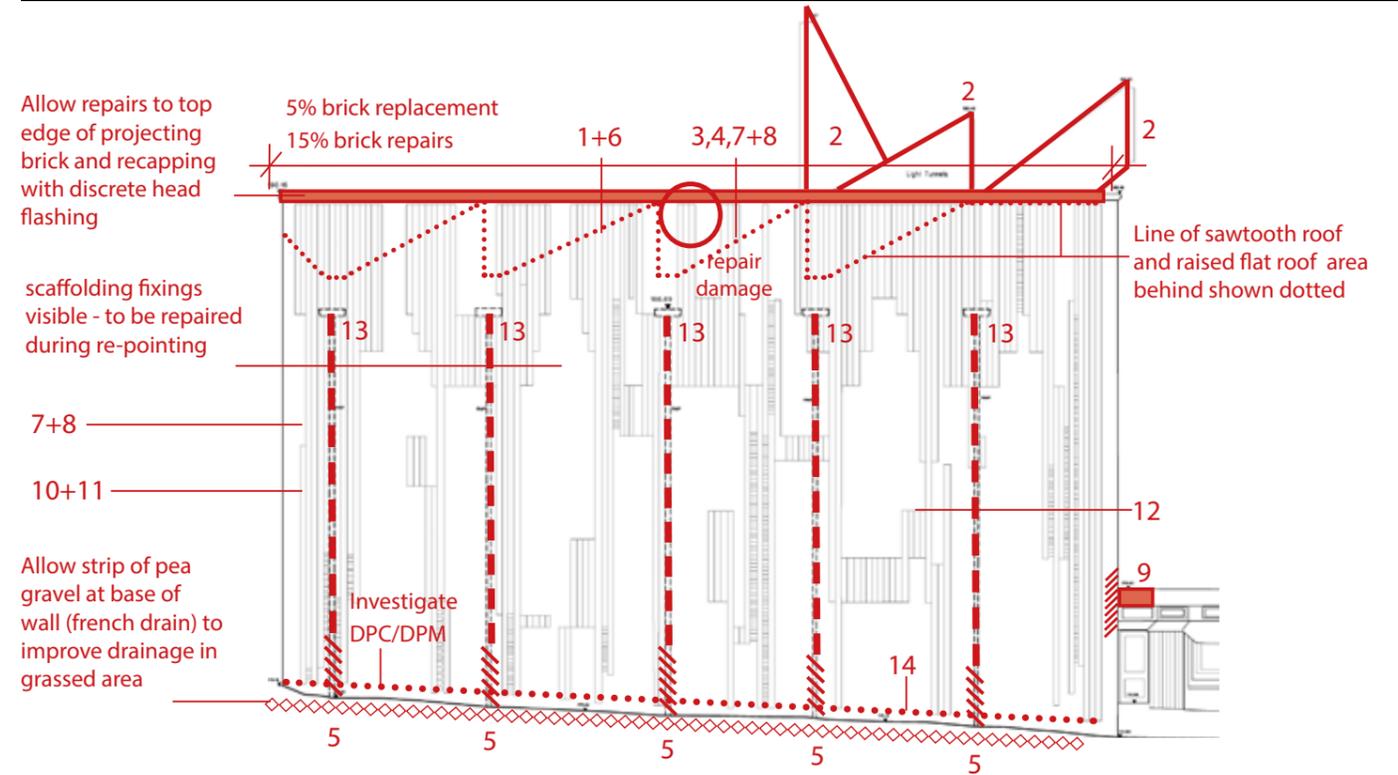
8. Strip back flashings at junction with Presbytery / Church House and reinstate complete.
9. Heavily weathered bricks to be cut out and replaced in matching brickwork
10. All temporary non-matching brick and mortar repairs to be removed and replaced
11. Remove all loose material at projecting horizontal bricks back to sound base. Re-point joints and replace tapered mortar beds to top surface of all projections. Lead cappings to projections to be fully repaired / replaced.
12. Cast iron downpipes (North/ South elevations) to be removed for brick work repairs. 5 no base connections to be renewed with replacement gullies to South Elevation. Down pipes to be brushed back, rust inhibitor applied and repainted and reinstated.
13. Allow for brick cleaning to remove growth and full re-pointing at base of North Elevation (minimum 3 bottom courses) - DPC and below

Notes:

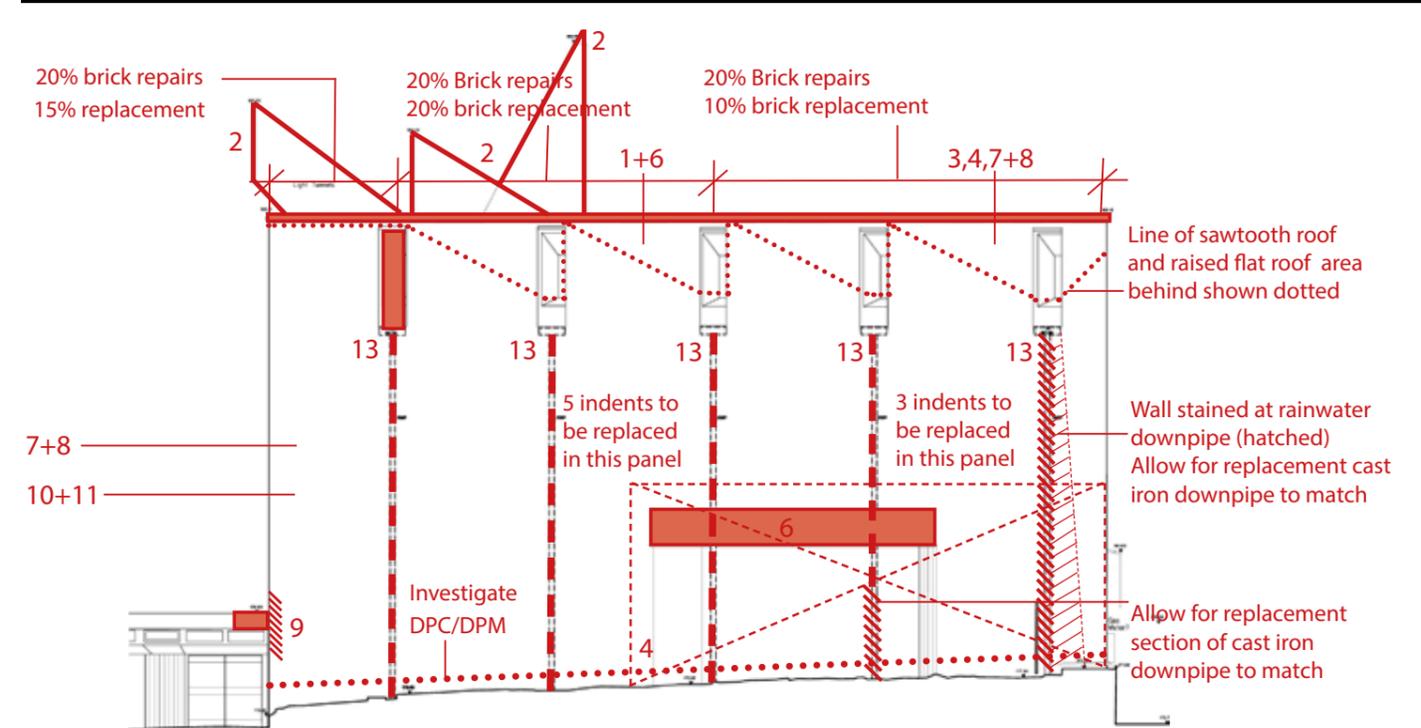
Replacement bricks should be chosen to match the original in size, appearance and character. Bricks to be replaced should be cut out by hand, to minimise damage, and replaced with whole bricks.)

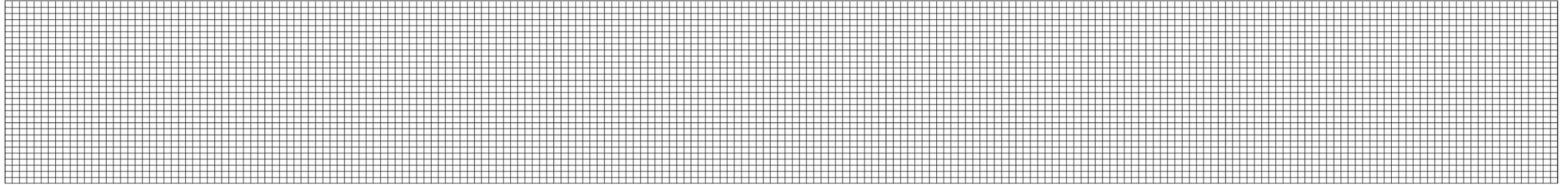
All allowances are provisional – repairs to be re-assessed when full condition survey is carried out by specialist brickwork contractor

North Elevation Main Church



South Elevation Main Church





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