

St. John's Church, Glastonbury.

**A Report on the Condition of the Stonework of the South
Porch.**

Wells Cathedral Stonemasons Ltd.



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Contents.

- 1. Introduction.**
- 2. Construction.**
- 3. Description.**
- 4. Condition.**
- 5. Conservation.**
- 6. Priorities.**
- 7. Photographs.**

1. Introduction.

This is the report of a survey carried out by Wells Cathedral Stonemasons Ltd. on behalf of the parochial church council and their architect, G. Beech, ARIBA, ARICS. The structure was examined in detail from the ground and with the aid of field glasses.

Pevsner states; “A C15 church. With few hardly noticeable exceptions built after the collapse in 1403 of the Norman crossing tower.The porch is two-storeyed with niches and a lierne-vault. The lower storey dates from 1428, the upper from shortly before 1498.” (Pevsner, N., 1958. “The Buildings of England: South and West Somerset”. (Penguin, London, 1992).

In a paper delivered to the Glastonbury Antiquarian Society in 1891, J.G.L. Bulleid gave the date of the addition of the upper chamber to the porch as 1485.

The church was extensively “restored” by G. Gilbert Scott in 1857.

2. Construction.

The porch is constructed using local Doultling limestone for all ashlar and decorative elements and for the parapets, pinnacles and vyse turret, bedded in a lime-rich, whitish lime mortar. The east and west walls below the string course are of rubble laid to courses, the stones being Blue Lias flags and reutilised blocks of Doultling stone (see note on reutilized stones below).

The jambs of the entrance to the porch, which would have been Doultling when first constructed, have been replaced in Bath stone, probably at the time of G. Gilbert Scott’s restoration.

3. Description.

The porch faces S and has a simple rectangular plan with diagonal corner buttresses. In the corner between the W wall of the porch and the S wall of the church itself, there is an octagonal vyse turret (that is, its NW, W, SW and S walls form an incomplete octagon). There is a large arched doorway in the S elevation, with a corresponding arched doorway within, opening into the main body of the church.

The parapet is embattled, and there are buttress pinnacles at the SW and SE corners. There is a smaller central pinnacle above the entrance, and another at the NE corner. The vyse turret rises above the parapet to give access to the porch roof. On both the E and W elevations there is a string course corresponding to the level of the gutters on the roof. On each side, the line of this is broken by a gargoyle with lead spout to throw rainwater out away from the wall. That on the E elevation is still functional, while the W one, which abutts the wall of the vyse, has been blocked up, and replaced by a smaller and simpler lead spout projecting through a hole cut in the ashlar of the parapet.

There is a battered plinth at the foot of the walls of both E and W elevations.

The Vyse turret also has an embattled parapet, with a string course decorated with small heads at the corners. There are two lower string courses, and a substantial battered plinth around the foot. The external walls of the vyse are pierced by three small windows; two are cruciform, the other a simple arched eye. There are a few traces of lime plaster and whitewash surviving on the NW facet. Evidently the porch was once whitewashed and the coursed rubble walling plastered over.

The S elevation of the porch is pierced by the entrance arch, and above this by a four light tracery window to light the upper chamber. On either side of this are two niches with carved canopies containing statues of to the left St. John (with his staff and shell) and to the right St. George in armour with the slain dragon at his feet. Below these, in the spandrels of the entrance arch, are two roses carved in low-relief.

Within the porch there are low stone benches to left and right, running the length of the W and E walls. In the N wall is an arched doorway leading into the church. Over this is a carved stone angel holding a shield depicting the *Agnus Dei*. The ceiling is supported by lierne vaulting with simple geometric quatrefoil bosses.

Reutilized stones.

Most of the Doultling blocks used as part of the coursed rubble walling on the East and West elevations have a distinctive finish, almost certainly caused by the use of an axe in their manufacture. This axed finish is often associated with Norman stonework, and it does not appear on any of the undoubtedly fifteenth century work in the porch or elsewhere in the church. As the collapse of the Norman crossing tower in 1403 will have provided a considerable number of ashlar blocks, it is quite possible that some of these were incorporated in the side walls of the porch twenty five years later.

4. Condition.

South elevation.

The parapet and crocketed pinnacles appear to be in very sound condition. They are probably Victorian replacements. The four light tracery window of the upper chamber also seems to be largely Victorian. Most of the window stonework seems in good condition, but the lowest stone of the moulded reveal of the E jamb is badly decayed, at least as far back as the glazing line. The central mullion is edge bedded, and as a result is delaminating. The tracery is dirty and covered with a thin but extensive sulphation skin. To left and right of this window the statues of St. John and St. George, almost certainly Victorian in date, are much sulphated, and a thick black crust has built up in the most sheltered areas, beneath arms and in drapery folds, and most strikingly, on St. John's face.

The ashlar is generally in reasonably good repair, though there are some open joints and some which have been repointed with hard and impermeable cement mortar, particularly around the window.

The entrance arch has been extensively modified in the past, probably during G. Gilbert Scott's "restoration". On both the E and W sides, the outsides of the jambs, each in two stones, have been replaced using a Bath stone. Due to sulphation damage caused by acidic rain these stones are crumbling badly in some areas. On both sides the lower jamb stone is fixed to the plinth below with a large iron dowel set in lead. On the W this has rusted, expanded and split the stone around it, while on the E the stone has spalled away completely, revealing the dowel behind. Fortunately there do not seem to be any other iron dowels causing damage in this way. The lower roll of the capital between the W jamb and the springer above is also a replacement in Bath stone. It has largely disintegrated. The upper roll has also deteriorated, but less badly, and is original and in Douling.

The corresponding capital on the E side is all original and of Douling stone. The innermost roll in particular is somewhat decayed, due to sulphation. Above are two interesting mortar repairs, possibly of considerable age, to the arrises of the central moulding of the first voussoir.

The arch key stone has dropped slightly, but the movement is not recent. The joints around it have been repointed using a hard and impermeable cement mortar.

The voussoirs of this arch, the capitals, and the jamb stones immediately below them are dirty, blackened by sooty deposits and sulphation.

East elevation.

The parapet appears to be in good condition with the exception of the copings which show signs of delamination and some sulphation damage. Some repointing has been carried out in the past using a hard cement mortar. The string course is also in good condition, with the exception of the southernmost stone where sulphation has caused the lower roll to split. The gargoyle at the centre of this string course is badly weathered. The wall below the string course is structurally in good condition but

requires extensive repointing, particularly in the area immediately below the gargoyle. Some blocks of the Blue Lias stone here are badly cracked, probably by frost damage when wet.

West elevation.

The parapet appears to be in good condition, as is the string course. The gargoyle is badly weathered and decayed. The wall below the string course is structurally in good condition but requires very extensive repointing. The Douling ashlar stonework of the vyse turret is substantially in good condition. However, it has been extensively repointed with a hard and impermeable cement mortar which in some places is causing accelerated weathering of the surrounding stone. A few joints are open, where the cement has become detached. There is a small area of ashlar to the left and above the lowest of the windows which shows a curious pattern of cracking. This may be caused by the use of face bedded stones. The two cruciform windows are somewhat weathered. The WSW quoin stone immediately above the plinth is very badly decayed, probably due to a combination of its position in the building, the cement repointing around it and face bedding.

South-east corner buttress.

The buttress pinnacle, very probably Victorian, seems to be in excellent condition. The shaft which supports it is perhaps original, moderately weathered but in good condition. The upper buttress weathering is a new stone, marred by a prominent saw-mark on its SW face. A few joints have been repointed with cement mortar, and others are open.

South-west corner buttress.

The buttress pinnacle seems to be in excellent condition. The shaft which supports it is moderately weathered but in good condition, with the exception of the NW face of the uppermost stone which is heavily eroded and now forms a water trap. There are cavernous holes in three stones below the upper buttress weathering on the SW face of the buttress, caused by sulphation. The lower buttress weathering is (correctly) edge bedded and is delaminating badly. There is an interesting survival of the original plastered and whitewashed finish towards the base of this buttress on its SW face.

Interior.

The stone ribs of the lierne vaulting inside the porch are in good condition. They are superficially dirty and some joints have been repointed in a hard cement mortar.

The figure of an angel above the inner door arch is dirty and covered with a thin but continuous sulphation skin.

The inner door arch is in excellent condition but is dirty and this too is covered with a thin sulphation skin.

The low stone benches running along the E and W walls show signs of damage caused by soluble salts in ground water moving through the stone due to rising damp. This is most evident on the ashlar below the seats. The bench tops on both sides have been extensively damaged by fixings, probably of iron, for wooden covers. These are still clearly visible on the W side. They have caused the stonework above them to spall off. On the W side this has only occurred in three cases, while on the E, every one has spalled, causing the almost total loss of the nosing. There is a large cement repair at the S end of the E bench.

5. Conservation.

South elevation.

The lowest stone of the moulded reveal of the E jamb of the window should be replaced to the glazing line. [necessary]

The central mullion of this window should be replaced to the glazing line, at least in part, or pinned and mortar repaired with a lime mortar, mixed to match the Douling stone for colour and texture. [necessary]

The tracery should be lightly cleaned with water, using hand-held mist sprays and ammonium carbonate poultice. [desirable]

The statues of St. John and St. George require careful cleaning with ammonium carbonate poultice, and will probably require extensive mortar repairs and possibly pinning with small diameter dowels of 316 specification stainless steel, depending on what is revealed under the dirt. [desirable]

All hard, impermeable cement mortar should be removed, and all open joints repointed with a lime mortar which matches the original in colour and finish. [necessary]

The iron dowels present at the base of each jamb should be removed. The damaged stonework should then be repaired, on the E side by piecing in with new stone, while on the W side it may be possible to carry out the repair using the existing stone. If it is not, this too should be pieced in. Other sulphation damaged areas on the jambs should be repaired with carefully executed mortar repairs. The disintegrated Bath stone of the lower roll of the capital on the W jamb, itself a repair, should be removed and re-executed using Douling stone. The original rolls should be repaired with mortar. [necessary]

The cement pointing around the keystone of the arch should be removed and replaced with a suitable lime mortar. [necessary]

The black deposits on the voussoirs, capitals and upper part of the jambs should be lightly cleaned with water and ammonium carbonate poultice. [desirable]

East elevation.

The delaminating areas of the copings should be pinned with stainless steel dowels to reinforce them and prevent further delamination, and should then be mortar repaired. Any hard cement pointing should be removed and repointed using lime mortar. [necessary]

The split in the lower roll of the string course should be repaired with mortar. [desirable]

The gargoyle should be consolidated with lime water, repaired with lime repair mortar and given a protective shelter-coat. [necessary]

The coursed rubble wall below the string course should be repointed (about 30%) using a lime mortar which matches the original in colour and finish. In the area immediately below the gargoyle it may be necessary to allow for the replacement of a certain number of blocks of Blue Lias stone, perhaps ten. [necessary]

Serious consideration should be given to the idea of replastering this wall with a three coat lime plaster render with whitewash. If properly maintained this would greatly increase the life of this wall by reducing water penetration. []

If possible, a way should be found of throwing water from the gutter further out from the face of this wall. []

West elevation.

The gargoyle should be consolidated with lime water, repaired with lime repair mortar and given a protective shelter-coat. [necessary]

The coursed rubble wall below the string course should be repointed (about 90%) using a lime mortar which matches the original in colour and finish. [necessary]

Serious consideration should be given to the idea of replastering this wall with a three coat lime plaster render with whitewash. If properly maintained this would greatly increase the life of this wall by reducing water penetration. []

If possible, a way should be found of throwing water from the gutter further out from the face of this wall. It should also be noted that there is no drain or soak-away beneath the water spout, and that the one further to the West is blocked. []

Hard cement pointing should be removed from the Doultling ashlar of the vyse turret, which should then be repointed with a suitable lime mortar (about 30%). [necessary]

The cracking in the stonework around a cruciform window, noted above, should be examined further when closer inspection is possible. []

Minor mortar repairs should be carried out to the two cruciform windows lighting the vyse. [desirable]

The WSW quoin stone immediately above the plinth should be replaced with a Doultling stone laid on bed. [necessary]

South-east corner buttress.

The saw-mark on the SW face of the upper buttress weathering should be eliminated to improve its appearance. [optional]

Cement repointing should be removed. Any open joints should be repointed with a suitable lime mortar. [necessary]

South-west corner buttress.

The water trap on the NW face of the pinnacle shaft should be eliminated by filling with mortar. [necessary]

The cavernous decay in the SW face below the upper weathering should be cut out and filled with repair mortar. [necessary]

The lower buttress weathering should be replaced with a new stone accurately copying the shape and finish of the original. [necessary]

Interior.

The exposed ribs of the lierne vault should be lightly cleaned with water, using hand-held mist sprays and small nylon brushes. Hard cement pointing should be removed and replaced with lime mortar. [optional]

The angel above the door should be lightly cleaned in the same way as the vault ribs, as should the stonework of the inner door arch. [optional]

Although soluble salts are present near ground level in the benches within the porch, attempts to remove them are likely to be unsuccessful, even if a damp proof membrane were introduced into the structure. Attempts should be made instead to eliminate as much lateral penetration of water as possible by repointing externally, and, as suggested, by replastering the East and West elevations and improving drainage.

Remains of wooden and iron fixings should be removed from the bench tops by drilling. Previous cement repairs should also be removed and replaced with lime mortar ones. The parts of the nosings damaged by spalling could be restored by careful piecing-in using Douling stone, possibly with very narrow resin joints. The use of this fixing method would reduce the visual impact of the extra joints. Mortar repairs would probably not be successful, given their very exposed position. [optional]

6. Priorities.

Priorities have already been indicated above, item by item. To summarise however, works which safeguard the continuing survival of the structure should be given priority. These include the replacement of Douling stones, all work involving the pinning and mortar repair of delaminating stone, the removal of rusting ironwork, the removal of cement pointing and repointing of open joints with lime mortar.

Work to consolidate the two fifteenth century gargoyles should also have priority, as their condition is now critical.

Extensive mortar repairs combined with some piecing-in of new stone is required around the jambs of the entrance arch, and mortar repairs are needed elsewhere. While not as important as the works above, these are still necessary.

Cleaning of the tracery window, the two statues and their niches, and the entrance arch is highly desirable, though not strictly necessary.

Cleaning of the inner arch, the angel and the lierne vault ribs is optional and to some extent cosmetic, although the dirt and sulphation on them will continue to build up and will eventually cause decay.

Work to the bench tops is entirely optional, but desirable as they do not fulfil their function well in their present state.

7. Photographs.

1. View of the porch from the South.
2. Detail of Douling and Blue Lias coursed rubble walling (West elevation).
3. Detail of Douling blocks showing axed finish (East elevation).
4. South elevation. Upper chamber, parapet and pinnacles.
5. South elevation. Lower part with entrance arch.
6. South elevation. Detail of St. John.
7. South elevation. Detail of St. George.
8. South elevation. Detail of upper W jamb.
9. South elevation. Detail of lower W jamb.
10. South elevation. Detail of base of W jamb, showing split caused by a rusting iron dowel.
11. South elevation. Detail of upper E jamb.
12. South elevation. Detail of E jamb, showing extensive sulphation damage.
13. South elevation. Detail of lower E jamb.
14. South elevation. Detail of base of E jamb, showing a rusting iron dowel.
15. East elevation.
16. West elevation. Upper part.
17. West elevation. Lower part.
18. West elevation. Detail of cracking around vyse window.
19. West elevation. Detail of badly eroded WSW quoin stone.
20. Interior. Detail of lierne vaulting. Note the cement pointing on some joints.
21. Interior. Detail of angel.
22. Interior. Detail of East bench.
23. Interior. Detail of West bench.