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18 May 2020

The Care of Churches Secretary
Durham Diocesan Office
Cuthbert House
Stone Bridge
Nevilles Cross
Durham
DH1 3RY

Dear Dan

Durham St Margaret

I enclose for the Diocese a print of my 2020 quinquennial report on the church.

As requested I assess costs excluding VAT as follows

Immediate	up to £50,000
18 months	£90,000
Quinquennium	£10,000
Desirable	up to £100,000

For DAC information I also enclose a copy of my supplementary report on the opening up of the 2011 S Aisle roof arising from the quinquennial inspection.

The parish faces decisions (with consultation of the DAC and Historic England I anticipate) at three roofs showing serious defects which I have tried to reflect in the figures above.

Yours sincerely

Ian Ness

Diocese of Durham

St MARGARET of ANTIOCH DURHAM

(30)

Ecclesiastical Jurisdiction and Care of Churches Measure 2018

QUINQUENNIAL REPORT on the architect's inspection on

19 March 2020

with appended photos of sample opening of Chancel and Nave roofs February 2019

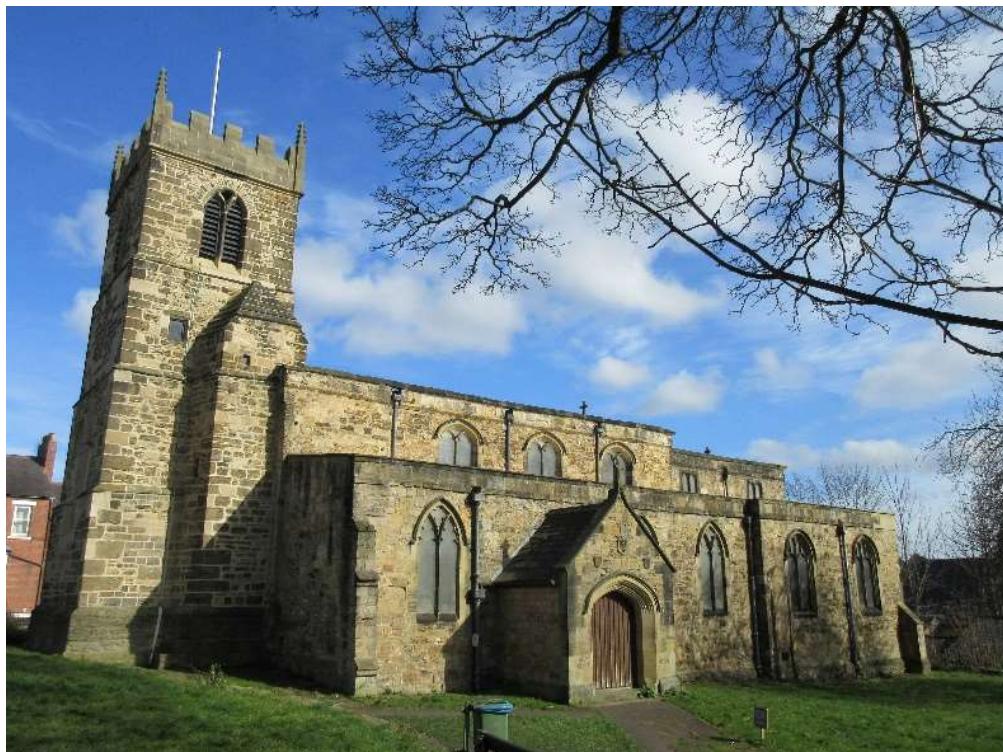
Durham Archdeaconry

Durham Deanery

listed building grade I

in Durham City conservation area

Incumbent the Revd Barnaby Huish



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PART ONE

1. I have made a thorough general survey of the condition of the church and grounds. The inspection was such as could readily be made from ground level and ladders. I have not inspected woodwork or other parts of the structure which are covered, unexposed or inaccessible and I am therefore unable to report that any such part is free from defect. The chimney flue was not inspected and none of the services were tested. Damp meters were not used.
2. No material seen is likely to contain asbestos. A survey by specialist and removal of small amounts of asbestos is recorded.

Brief description

3. The parish church of inner W Durham City, above the river bank opposite the Castle where the ancient streets converged on Framwellgate Bridge. The churchyard is terraced into the steep slope and retained by high walls at N and E above steep Crossgate. A small immediate churchyard mainly W and S of the church with large wooded sloping extensions further S.
4. Chancel, Nave and Aisles with W tower and N and S Porches. A NE organ chamber and Vestry with basement Boiler room. 12th, 14th and 15th centuries. In 1878-80 Hodgson Fowler widened the N Aisle with new Porches and enlarged organ chamber and Vestry, making the N side largely Victorian. Most windows renewed at same time. A statue of St Margaret in a niche in the N Porch.

5. Local sandstone with parapets hiding low pitched lead and stainless steel roofs except stone slates on the Porches. Open timber roof structures, plastered and painted walls apart from exposed stone at W end of Nave. Stone arcades and window surrounds.
6. The 15th century W Tower and stair turret without buttresses is little altered apart from renewed battlements and pinnacles. A high pointed arch between the Baptistry in its ground floor and the Nave.
7. The interior largely ancient. S arcade of four Norman arches on short round columns. A small SW clerestory window remains Norman. The others larger 14th century. The slightly depressed Norman Chancel arch supported by a later relieving arch. 19th century responds. Taller late 12th century N arcade. S Aisle rebuilt 1343. Its E end is a Chapel opened into the Chancel by an uncommonly wide arch. A small outside room E of the Vestry for the organ blower and a wc.
8. See Peter Ryder's archaeological assessment 2002 for a full history.

Recent structural history

9. Recorded work 2001 – 2009 :
 - 2001 and 2007 repair of underfloor heating pipes at N and S doors
 - 2002-3 Monitoring and repair of cracks in the building and a collapse of part of the E retaining wall caused by development on the adjoining site
 - 2007 Various roof repairs including replacement of 'further' sheets of lead on the Chancel and Nave holed by underside corrosion
Repair of parts of the concrete walkways and in NW corner with new cupboards and seating
Re-arrangement and part renewal of Vestry fittings
 - 2009 Smartwater marking of roof lead
Lower bay of the valley gutter between Vestry and Organ Chamber renewed in stainless steel
10. The log book maintained to 2017 shows:
 - Oct 2010 – S Aisle reroofed with stainless steel after lead theft
 - Mar 2011 – Eave gutters cleared and painted
 - May 2011 – Roof alarm fitted by E-bound
 - Sept 2012 – Chancel steps repaired with reclaimed Frosterley marble, loose Tower parapet coping refixed
Asbestos cement board removed from under a radiator shelf in the Chapel and insulation debris removed from boiler room.
 - Mar 2017 – Boiler repairs
 - 2017 – Masonry repairs at E end and S & W sides of Tower, with renewal of Baptistry opening and glass
 - 2018 – Renewal of plaster at top of E wall of Chapel (after masonry repairs)

11. Reports of 1968, 1973, 1979, 1984, 1989, 1994, 2001 said to be in the records of Christopher Downs the previous inspector. For future research it would help to add them to the 2010 report in the parish's archive. Similarly record photographs of the delaminating monument on the Chapel S wall should be held by the parish.

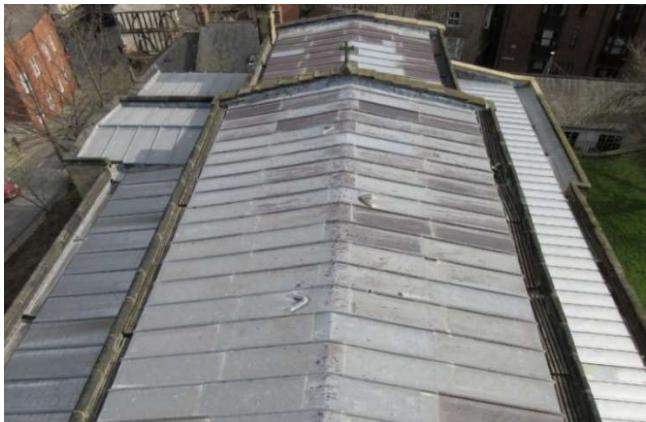
Summary of structural condition

12. Stable, well maintained and in mainly good condition. Some over-hard pointing remains, accelerating the very slow decay of the ancient masonry.
13. Past settlement, including cracks caused by the 2002 collapse of part of the E retaining wall have been made good and show no further movement since the redecoration of 1998. For the record these minor cracks show inside:
 - Hairline vertical cracks at Chancel NE and SE corners and full height over the crown of the Chancel/Vestry door arch
 - Minor open joints in the Vestry inner window inner arch
14. At Chancel and Nave some modern lead roof renewals and patching, minor holes and sample opening up of lead in 2019 all indicate extensive underside lead corrosion, associated with damp warm air condensing under the cold lead.
At this inspection there were signs of condensation under the 10 year old S Aisle stainless steel roof, needing similar sample opening up to establish the nature of possible damage. See separate report.

PART TWO

DETAILED DESCRIPTION OF THE EXTERIOR

Roofs



Roofs from W Tower



Tower roof

15. Apart from the Porches and Organ blower room the Church and Tower are roofed in lead or stainless steel. The pitches are steep enough for simple lapped end joints between lead sheets and over the ridges. Box gutters with side outlets through low parapets. Generally all metal appears to have good enough fixings, laps and gutter drips.
16. **Tower** steeper lead with wood rolls and parapet gutters at E and W. By the hatch a welded lead patch. Copper covered hatch. All appears sound. The side outlet at W drains by a lined wooden trough spanning under the roof, passing through the E wall to an external hopper. Lead cover flashings are pointed with shrunken mastic and may come loose.
17. The **Nave** and **Chancel** roll joints are 62 cm apart so the bay sizes are not excessive. Hollow rolls held down by copper clips except Chancel mostly wood rolls.
18. From above the **Nave** and **Chancel** lead appears virtually unchanged since the 2015 inspection but in 2019 one lead sheet at Chancel and three at Nave (including one 2007? renewal) were lifted and severe underside corrosion found at all except the renewal. An upper Nave board was lifted. Reasonable to assume the Chancel deck is similar double boarded.
This report sums up what is now known.
19. These roof decks are two layers timber boards held 1" (25mm) apart by vertical battens. Lower boards (visible inside), horizontal plain edged with inevitable air gaps at most edges. Upper boards diagonal tongue and grooved.
The lead is laid directly on the upper boards. Timber boards are permeable to water vapour. The boards being open to the interior nothing stops damp warmed air reaching the undersides of the lead.
Not known whether the 1" air spaces connect horizontally to the ventilators by the ridge such that they attempt to ventilate the whole roof and whether there is any inlet at the eaves but even if so by modern standards
 - The ventilators are much too small to be useful on this large roof
 - The air space over the whole roof are not the minimum 50mm deep clear spaces now required

The arrangement is prone to corrosion caused by water (from rising damp and occupants) condensing under the lead which converts to white lead carbonate powder under the sheets. Once started it attracts more moisture, slowly carries on and eventually makes holes and cracks in the lead surface. Warmed S facing roofs are more prone to corrosion.

Underside corrosion was not well understood until recent decades. The only reliable prevention is now known to be free ventilation of the whole roof area, meaning continuous open slots at ridge and both eaves to let outside air pass between every part of a double deck to carry away the moisture before it condenses.

ST MARGARET'S CHURCH DURHAM NAVE + CHANCEL LEAD ROOFS
PLOT OF 2019 OPENING + MARCH 2020 CONDITION



SOUTH AISLE — PLOT OF FRUITING BODIES AND OPENING UP 5 MAY 2020

20. The Chancel and Nave roofs must have been formed before the need for overall ventilation was understood. No known ventilation at **Chancel**. At **Nave** two small lead ventilators near the top of each side are far too small and the batten arrangement means they may ventilate very small roof areas.

Some damaged bays were renewed in 2007 using lead painted on the underside and laid on building paper as protection against corrosion. A hole found in 2009 was repaired by lead-burning a patch. Widespread unevenness and ‘crackle’ underfoot due to corrosion salts under the lead was reported in the past but not apparent at this inspection.

21. The **Chancel** lead is marked as repaired 1928, recast 1945 and restored 1949. At S some 80% of the top tier of lead was renewed in 2007. There are three lead burned patches including two on the laps of the 2007 renewals. One open hole at S side near E end. All suggest long standing and continuing lead corrosion as seen under the one bay opened in 2019.

The **Nave** lead may be older. Only one bay apparently renewed in 2007 but there is widespread patching at S and some at N. Overall some 25% bays have lead burned or temporary flashband or mastic patching. Two small holes are open. Two old lead bays were lifted in 2019 and thick corrosion found. One 2007 renewal was opened and found to be protected by paint and building paper except at unprotected laps. It is reasonable to expect all or most of the unprotected Nave lead to be corroded.



Open hole 2020



Variety of patches on Nave lead 2020

22. The **Vestry** lead (one flat tier, one sloping) appears sound. The **Organ** larger roof lead bays, 90 x 210cm, are not excessive if heavy enough lead was used. Ridge roll and renewed capping. Appears sound.

23. Former leakage from the N end of the box gutter between Vestry and Organ chamber was repaired by changing the excessively long lower bay from lead to stainless steel.

24. The Victorian **N Aisle** lead has bay sizes 90 x 410 cm, well over present recommendation. Shading by the Clerestory may offset the excess size and the lead appears in fair condition. About ten aged solder and small lead burned repairs appear sound but may be signs of slight underside corrosion at some date.



25. **S Aisle** stainless steel laid on sound deadening reinforced plasterboard 2011 after lead theft. Wood batten rolls with upstands against clerestory and gable upstands.

The metal appears well formed and sound but small dry growths have appeared from under 11 of the 47 batten caps – mostly at their welted joints or at the bottoms of rolls.

The growths suggest rot in some part(s) of the build up under the steel – which enquiry suggests was timber battens on two layers of fire-resisting wallboards (mainly to deaden rain noise) on building paper. Only opening of some caps and steel trays and perhaps lifting of some wallboards will show the extent, nature and perhaps cause of the apparent rot.

nb opening up done 5 May 2020. See separate report.



26. At the top of the steel well made lead apron flashings with lead burned saddles over the steel caps.

Flashings mortar pointed into masonry joints. Some pointing slightly cracked. The flashing has loosened at the middle of Chancel clerestory (over the middle of the wide Chapel arch), opening the pointing and perhaps letting in storm water.

Drips inside are reported in storms SW and SE of the pier NW of the Chapel.

The clerestory wall masonry is poor enough in parts to let in storm water but the cracked and loose flashings may contribute to the drips or to the apparent rot in the roof or both.



Cracked pointing at flashing at top of stainless Aisle roof

27. All roofs have stepped parapet gutters, sumps and side outlets which appear sound. Stainless steel at S Aisle, otherwise lead gutters.



28. Lead cover flashings over the parapet gutters are mainly good. Some past fatigue splits due to thermal movement are covered with short pieces of extra flashing. Parts of the N Nave flashings are loose and need to be changed to wider lead or at least refixed and/or repointed, especially next to the Nave NW outlet.
29. The **Nave** parapet gutters and outlets are filled with timber duckboards, intended to reduce risk of blockage by debris or packed snow. Instead they make it hard to see dirt and blockages and they decay and cause blockage themselves. They should be removed. The gutters appear largely clear but they need to be rechecked and cleaned at least once a year including the Tower.
30. The **Chancel** and **Aisles** parapet gutters (no duck boards) are well made and largely clear.
31. **N Porch** – good stone slates with mortar fillets at the gable upstand and lead flashings at the Nave wall.
S Porch – same except
at E one slate part missing, one broken next to the Nave wall and lead flashings disturbed.
at W one slate slipping, one broken, one slate missing next to Nave, now patched with roofing membrane, waterproof but poor appearance.



32. **Organ blower/wc** roof felt (1987?) on a concrete slab falling S to an eaves gutter. Turned up into the Vestry wall and into the brick backing of a N upstand.
Oddly the felt upstand does not reach the N stone coping but leaves the top brick course exposed.
Plants grow in its decayed bricks and pointing and the E end of the felt upstand is loose.
The felt roof is part hidden by a sheet of loose plywood. Visible parts appear sound.

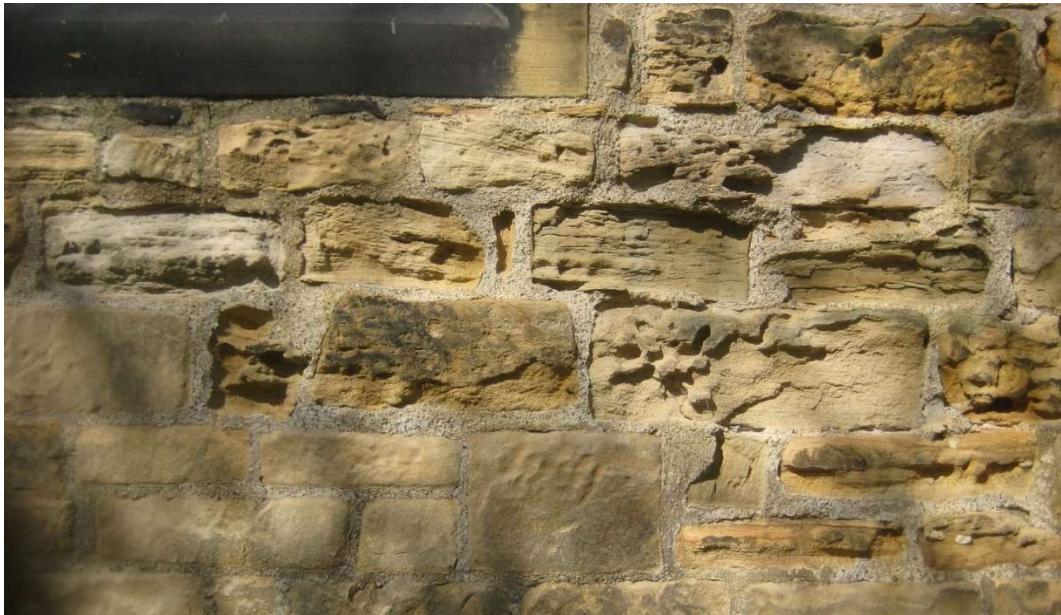


Rainwater System, Drainage

33. The stepped metal parapet gutters all drain well by wide side chutes to hoppers.
34. At **Tower** drop pipes from the lead chutes at E and an internal trough from W fall into two lead lined corbeled stone hoppers with painted square lead pipes to the Nave roof. Seem clear.
35. At both **Nave** clerestories and **Chancel** N clerestory lead hoppers and round pipes. Hoppers castellated at S, one dated 1699.
36. At **Chancel** S clerestory, **Chapel**, and both **Aisles** cast iron hoppers and pipes. Same N of **Vestry** is carried down to a gully in the boiler stair well.
37. At **Porches**, **E Vestry** and **WC** painted large half round cast iron gutters and pipes held off the walls, sound. The Porch gutters fall into hoppers at the Aisle pipes, which have anti-climb paint at high level.
38. S Porch hoppers now clean and well fixed. Past blockage by leaves and overflow into the wall may have caused the paint damage inside so continued checking would be wise.
39. Cast iron sound, mainly well painted though some minor rust begins. Most hoppers seen above and clear. The inspection was in dry weather so any leaks may not have been seen. Blockage and overflows can occur between inspection. The wardens should walk around the building immediately after heavy rain to check.
40. The pipes fall over clear gullies. No visible trace of drains which are likely to be soakaways except at E which may connect to the WC foul drain.

Walls, Buttresses, Chimney

41. General note - the local sandstone is not highly durable and tends to decay very slowly, sometimes over the surface, sometimes at soft beds or pockets which can become deep. Sometimes whole stones need to be replaced but most decay can be virtually stopped by skilful repointing. The mortar strength needs to be carefully chosen to be durable according to the exposure but not so strong that it promotes decay by forcing rain to evaporate out through the stones rather than through the pointing.
It is now understood that over-strong pointing can accelerate stone decay.
Pointing should be sacrificial because repointing is so much cheaper than stone replacement.
Some over-hard pointing was replaced in the 2017 repairs. Other areas remain.



Typical stone decay (S side Chapel) accelerated by hard pointing which is left forward of the stones

42. The Victorian N side is sound coursed rock faced rubble. It incorporates an unusual damp proof course of thin perforated black fireclay blocks bedded on bitumen. Most stone good but see para 55.
43. The medieval E and S sides, the N Clerestories and Tower have been repaired in places. Parts remain deeply weathered.
Repairs in 2017 at the E gables and SE Chapel corner including new copings, the W end of the S Aisle and the Tower W and S sides. Other parts remain in poor condition.

44. **Chancel E gable** - the short shallow sloped coping stones have small rebated joints for weather resistance. Copings cramped together. The cross and N copings are modern (1928?) in good condition. The S copings renewed to match in 2017.

45. Limited visibility at the E wall but known to be good repair.

Above window arch spring level the pointing is recessed behind stone faces which appear generally sound. Between spring level and plinth about 50% stones renewed and 100% repointed in 2017.

Plants grow at the base of the wall. Best kept cut back.

46. **Chancel S Clerestory** – The copings, wall stones and pointing are fair but minor decay in a few stones near E end and between the windows.

47. **Nave S Clerestory** –

No visible change since last inspection.

The copings are fair but decay in about half of the hollow moulded course under the parapet, mainly at each end.

Stone renewals needed at deep decay of wall stones by W end and especially the E end and at one parapet stone between the W and mid windows. A decay pocket in one parapet stone near the E end.



W end of Nave S clerestory parapet

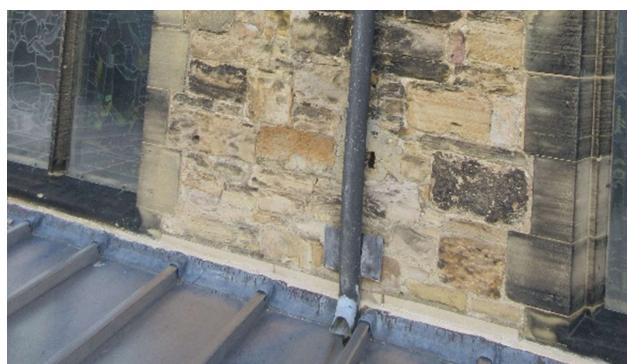


Typical decay near E end of the Nave S clerestory
soft beds in corbel course, surface decay of one stone and decay pockets at others

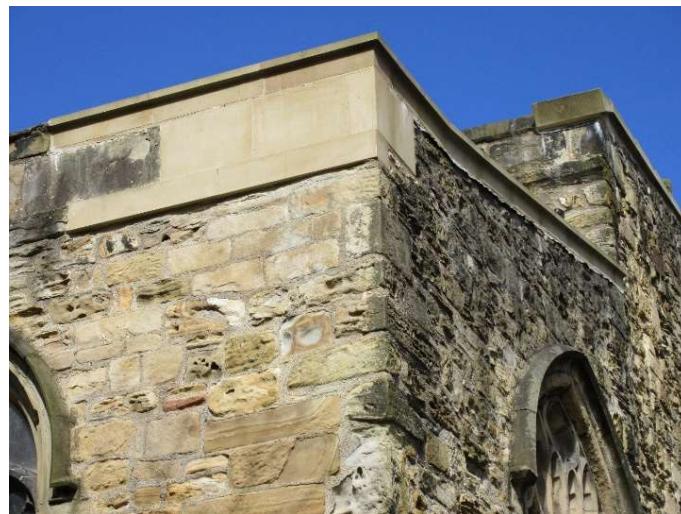
48. Parts of the wall need repointing and filling of voids and open joints, especially at the parapet W end, at its coving, around the W rainwater pipe, by the W window and between the mid and E windows.



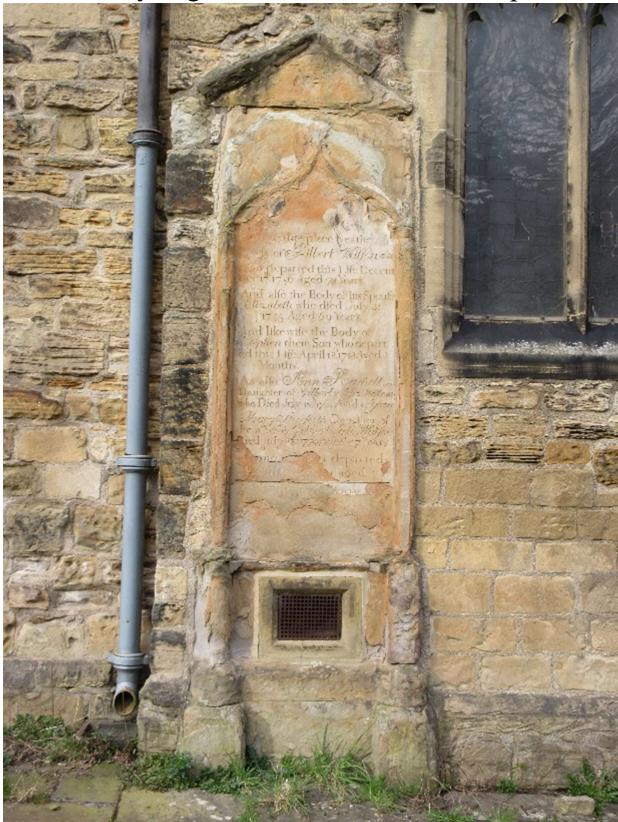
At part of the Clerestory bottom inserted stone slips help to hold the Aisle flashings. At its E end an earlier projecting course protects the flashing.



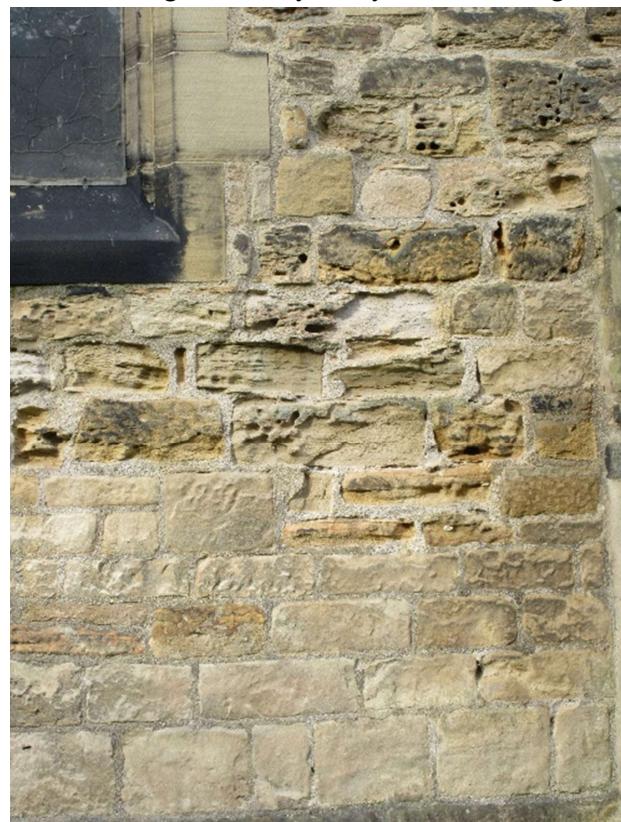
49. **Chapel E** – The copings and top corner renewed in 2017 with drips inside and out, on damp proof course and with full lead cladding inside the E parapet. Now sound.
 Wall repairs similar to Chancel E and now fair.



50. **Chapel S** – Parapet fair but most coping joints poor. Wall mainly sound but about 20% of stones are honeycombed or decaying back behind hard pointing. Three quoins are decaying. Sounder at low level. Repointing would slow decay. A tall built-in monument Watson 1756 has beautiful letter cutting mostly intact. Very slight further loss since last report. Its Gothic framing is severely decayed but unchanged.



Watson Monument



Typical stone decay at hard pointing at E end of Chapel S side

51. **S Aisle** – similar but less decay. The masonry between E side of Porch and Aisle window is mostly sound so the plaster damage inside may have been caused by past overflow from one of the hoppers (para 38)
52. **S Porch** – mostly good but some stone decay over the arch, which is very slightly rotated out at the SW corner. Some loss of pointing at W quoins.
53. **S Aisle W end** copings have been repaired with new stone bonded to the existing copings. While sound, the adhesive lines are open at top and need filling to exclude water. Bedded on lead damp proof course. Wall mainly sound.



para 53



para 54

54. Nave N Clerestory

Coping including the NW corner return - pointing of joints is mostly poor (and parts of the internal cover flashings loose para 28).

Masonry fair with very minor open joints. About 30% of the course above the Aisle roof flashings are decaying but need no action at present.

55. N Aisle N and W – pointing of coping joints poor – some open. Other scattered open joints.

At NW corner and W end under open Aisle coping joints and upper wall of adjacent Nave gable pointing poor and minor decay.



W end of N Aisle – open coping joints leading to stone and pointing decay at the top of the wall



56. N Porch – sides coursed as Aisle, fair. Gable ashlar with good stepped copings and narrow joints, mostly open. Slight movement at W side of arch, almost certainly initial settlement. Open joints between the W quoins and the W wall.

Sandstone statue of St Margaret in niche over arch is blackened with some decay and lost hands.

57. N Chancel Clerestory including Chimney- good except minor cracks in perpend joints near the E end (perhaps sign of the past movement before retaining wall repair - like the remaining internal cracks). Chimney fair. Capping the W flue would help keep weather out.

58. Organ Chamber and Vestry – Victorian stone good except older E of Vestry has scattered minor stone decay. At basement steps retaining wall and coping pointing poor.

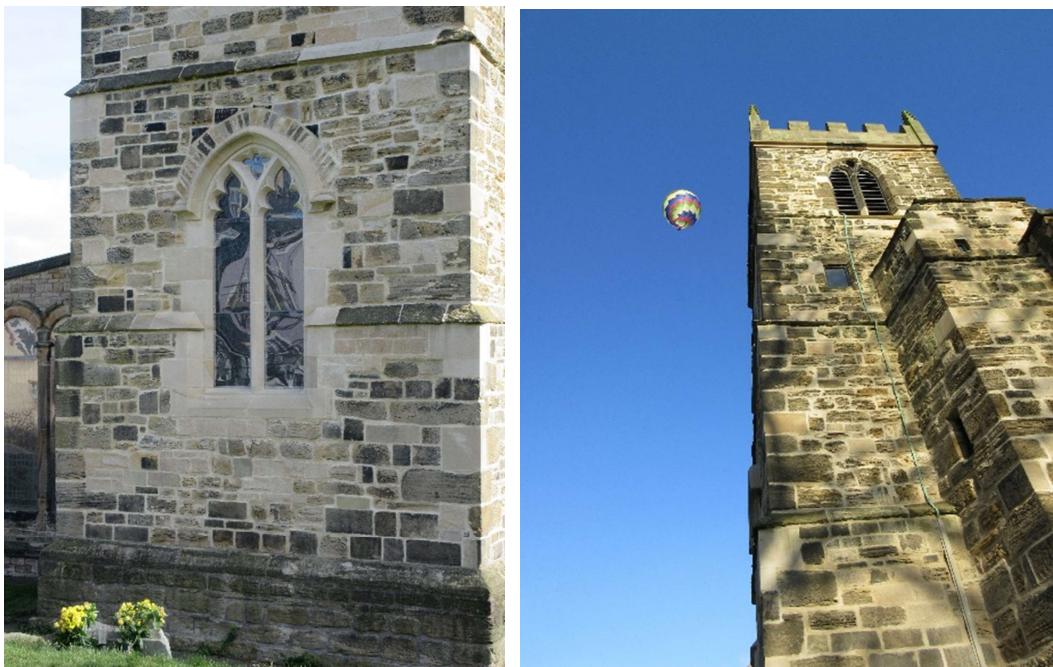


59. Organ blower/wc – Joints of the N parapet stones and backing bricks (para 32) remain open. Minor cracked joints in the N wall remain after recorded movement in the supporting retaining wall.
E side over retaining wall appears to be concrete or very thick render with roofing felt dressed over.
S wall extensively decayed especially at low level.



Tower external

60. Renewed short crocketed pinnacles on parapet of modern ashlar. Parapet stone good and most pointing fair but remaining open joints at E and part of N needing pointing when access is available.
61. **E side** masonry mainly good and well pointed. Some scattered honeycombing including at louvre reveals but fair overall.
62. **S side** top coved cornice largely renewed, sound.
Extensive renewals and repointing of whole face and stair 2017 and now sound.



63. W side
Extensive renewals and repointing of whole face 2017 and now sound.

64. N side Open joints at set back stones at all stages.

Top stage – stone and pointing mainly fair including opening. Minor holes in pointing and in scattered stones.

3rd stage – A few scattered perpendicular joints open. More widespread honeycombing of stones, many with past mortar filling now itself mostly weathered out but fair overall. One or two stones with surface decay. No present action.

2nd stage – as 3rd but no surface decay.

Bottom stage – as 2nd but pointing fair

Short base stage - good including set back course.

Tower internal, Bells, Frame



65. Three massive cranked timber beams carry heavy purlins and roof boards. Weathered but appear sound.

66. In belfry bird mesh inside wooden louvres in the Y tracery. Mesh seems complete (part hidden by recent telecoms installation) but one S louvre is fixed with a gap around one top edge.

Three bells, two said to date 1470-87, the third 1624, are static hung from modern steel beams.

Good handrails at the access ladder and gantry.



gap over one S louvre





67. At mid height in the belfry short diagonal concrete beams cast into the masonry may stiffen the masonry or stitch the corners together. Parts of an old heavy timber bell frame (at outside set back level) are now cast into the concrete.
68. The internal walls of the belfry are whitewashed. Internal decay at many stones. Salts brought through by damp getting in at (former?) external decay can be seen at the damaged stone surfaces inside. The lower belfry is more decayed than the upper. A few stones at S and W and especially E are deeply decayed. Decay seems to be very slow and the masonry is fair overall.
69. The telecoms installation including cable trays is neat but a large box of rubbish should be cleared.

Window and Door Openings

70. E – restored perpendicular five light, good but slight surface decay started under the arch and hoodmould.
 E Chapel – same but three light. Hoodmould joints slightly open and some arch decay.
 SE Chapel – two light – most of inner roll of hoodmould lost. Surface decay at most arch stones.
 SW Chapel and S Aisle three windows – all restored two light, some surface decay in arches where joints are open. Loss of hoodmould inner rolls.
 S Porch arch – four centred Victorian, good but minor losses of hoodmould inner rolls from open joints.
 Movement has displaced the W spring stone and opened keystone joints.
 Chancel S clerestory – two two light windows without hoodmoulds, good
 Nave S clerestory – three two light windows good except some hoodmould joints open and decay begun in their undersides and in arches. E window sill needs adhesive repair of some delamination.
 At mid window slight decay at bottom of mullion. Outer restored arch of Norman W window sound.
 Nave N clerestory – two two light windows without hoodmoulds, mostly good, cills are lead clad outside.
 E mullion has minor decay at bottom.
 W mullion is edge bedded and generally delaminated with old mortar patching but seems unchanged.
 Chancel N clerestory - two two light windows without hoodmoulds, good, lead over cills
 Baptistry - all renewed 2017.



Nave NW clerestory

71. W end of N Aisle – Twin round headed (reused?) with decayed arches. Projecting parts of plain hoodmoulds and imposts almost fully lost.
Stop chamfered reveals and wide mullion fair but decay has begun from the mullion's top joint.



72. N Porch arch – as S Porch but very tight joints. One joint slightly open and one slightly displaced.
73. N of N Aisle – three windows good except open joints in hoodmoulds begin to decay at their undersides and from some arch joints.
74. Organ Chamber – door and two windows good except minor decay from open joints in the string course and upper hoodmould.
75. Vestry - good

76. Inside – minor spalling of window cills at mid S window and all N cills. General internal decay of the window surrounds in the S Chancel clerestory. The Nave N clerestory W window mullion shows less of the delamination seen outside.

External Iron and Wood

77. A timber cradle above the **Tower** roof for a glass reinforced plastic flagpole. Good lead caps (most nails lost from one) protect the end grain of the cradle uprights but paint poor.



E louvres

78. The **Tower** timber louvres and small window frame repainted 2017. Paint cannot durably protect such exposed but inaccessible timbers. E remains poor.

79. N Porch pair panelled with graceful carved detail at bottom of panels. Marred by blu-tac residue which might be cleaned off before restaining.



80. S Porch simpler cover moulds over batten doors. Exposed to sun and stain weathering at bottom.

81. Vestry door good oak batten with strap hinges. Weathered but sound. Filler in the joints is cracked and does little good. Might be removed before staining.

82. WC door painted batten good. Poor handle. WC window modern painted, sill paint poor.

83. The vent gratings at the Chapel and W end of the S Aisle need preparation and paint.
The Vestry steps handrails are well painted.

DETAILED DESCRIPTION OF THE INTERIOR

Roof timbers

84. Chancel - Two massive composite softwood beams, ridge, purlins, heavy rafters and boards all exposed.
No close access but no visible damage.

85. Nave – similar but beams moulded and mostly braced down to corbels. Slight water marks but no apparent damage. See paragraph 19 for the roof boards.

86. Aisles and Chapel – similar to Nave but one purlin.

In N Aisle W bay water marks at high and mid levels.

At S Aisle watermarks in Chapel E bay lower side and middle of mid Aisle bay. At the W end the roof boards and timbers show many marks of leakage prior to 1987 repair of the gable parapet. No change since last inspection so all appear historic.

When there is access for work the timbers should be checked for damage, cleaned and refinished.

Many open gaps between S Aisle boards show the foil faced building paper specified under new stainless roof in 2011.

87. Organ chamber - shallow pitched, perhaps oak, mostly hidden but the visible part appears sound.

88. Vestry – three cranked beams, three purlins. Rafters and roof boards are concealed by board ceiling watermarked at centre but not damaged.

89. Porches – S single truss, regular boards on rafters. N coupled rafters. Both good condition.

Other Ceilings

90. At Baptistry in Tower stone ribs between plaster vaults under the belfry floor.

91. At organ blower/wc room whitewashed sound concrete slab. At boiler room brick vaults.

Chancel Arch, Arcades, Masonry

92. Chancel arch - round but flattened. Two square orders with minor chamfers and sound later imposts and squints. On the Chancel side a higher pointed relieving arch.
93. Organ arch - sound pointed with two orders, scotia mouldings dying into the reveals.
94. Chancel S arch to Chapel – very wide shallow pointed similar, sound.
95. S Arcade four sound round arches with hoodmoulds and short round columns on modern (1880 or later) square bases except octagonal at W column mostly modern.
Base of W respond part modern with salts on two ancient stones, damaged at N corner.
Square caps – three scalloped, one plain and a carved face at the E respond.
96. N Arcade higher. Double chamfered arches, simple round moulded caps and columns but responds keeled all on complex bases round on octagonal on square, almost entirely modern and sound except very minor salts at E pier. Parts hidden by fitted joinery.
The W column base is recorded as being on brick footings.
97. Tower arch sound high segmental two chamfers.
98. The Baptistry and W wall of the Nave are exposed masonry, mixed coursing with dressed quoins. Good but salts at damp rising to about head height especially behind the radiators at Nave wall and at the Tower walls, mostly hidden by dado panelling and a bank of pipes. No visible stone damage.
99. Both Porches have exposed ashlar interiors.

Partitions, Doors, Panelling

100. To sides of the reredos simple panelled oak dado to above head height. Arched Vestry door similar, good.
101. Inner Porch doors pairs arched framed, good.
In N Porch a pair of arched metal mesh doors in a frame outside the inner arch.
102. In Baptistry three illegible varnished painted wooden panels with pierced frames. Cleaning off varnish may make legible.
Plain oak dado panelling good except at N dado a dropped panel is due to a missing bottom rail.



103. In NW Aisle corner good modern joinery forms a bench with small cupboards beneath, shelves and display boards. Mesh panels let out heat from the hot pipes.

Plaster, Decoration

104. Apart from the exposed stone the walls are plastered, lime washed in 1998. Mainly good condition but superficially dirty which may be cleared by vacuum cleaning (as done at other churches).
Local trial from safe access may worthwhile.
105. Damp damage:
- between the S door and next window to E, especially at the window reveal
- at high level in the Nave NE corner
- in the S Chancel clerestory window reveals

106. Other defects:

Chancel and Nave good but minor flaking at Chancel top SE corner. Window cills dirty with minor water runs.

Chapel good except repaired plaster over the E window and at the inner arch of the SE window awaits paint. Water marks over the SW window arch and over E half of the wide arch to the Chancel.

S Aisle – penetrating damp at SW corner mid height. Water marks all across W wall (under marked roof timbers), just W of the S door, over the mid window and at its arch, sill and low W reveal.

Minor rising damp at the base of the S and W walls.

N Aisle good but dirty. Organ chamber visible parts good.

Vestry paint good except flaked paint and salts on plaster at high NW corner at former leaks.

107. WC/blower room painted plaster. W and N sound apart from a horizontal crack at the top of the N wall.

E and S walls very poor. Corner beads rusted and limewash flaked by salts on damp plaster. Needs thorough refinishing after external repairs.

Glazing, Protection

108. Most main windows have stained glass of high or very high standard by Burlison & Grylls.

Four S clerestory lights have highly coloured glass limiting daylight in church.

E – five light and tracery, Crucifixion, S Margaret and saints, Wilkinson memorial 1881 good painting, sound but some dirt.

E Chapel – three light Good Samaritan Clayton & Bell 1869 sound but some faded paint in bottom panel.
Minor dirt.

SE Chapel – two light Life of Christ good, some dirt

SW Chapel – Simeon and Anna, very good painting, sound, some dirt



Simeon



S Aisle – three window set, each two light, Ascension, He is Risen, I am the Resurrection, all well painted, good condition but dirty

Baptistery – two light Baptism, fine painting, Duncombe Shafto memorial 1900, sound, clean
(Iona Art Glass suggests by Nathaniel Westlake)

W end of N Aisle – two light each three vivid colour painted panels by Wm Wailes set in white glass 1854 sound, very dirty

N side of N Aisle – three window set, each two light, Annunciation, Magi, Crucifixion, all well painted
Shafto thanksgiving 1902, sound but very dirty.

Vestry N and E – leaded quarries, very dirty.

Chancel clerestories – mixed diapers and quarries. At S some bowing and minor cracks in borders. Dirty.
S Nave clerestory E – two light like Chancel but bigger and all diaper with slight purple cast
S Nave clerestory two mid windows – both two light, Boaz & Ruth and Suffer the Children & Honour thy Father and Mother, vivid colours, appear sound
S Nave clerestory W – small Norman arched, green diapers seem sound. Very dirty.
N Nave clerestory – E and W both two light round head, leaded white diapers, ventilation hoppers in each window (one jammed open), glass distorted and very dirty.

109. Except Tower well fitted ventilated polycarbonate sheeting dating from before 1990. Such material is prone to clouding by sunlight unlike better quality modern polycarbonate which resists ultra-violet light.
E – five lights and tracery good but clouding or dirty.
E and S sides of Chapel – three windows all three light and tracery, good in main lights, clouded in tracery.
S Aisle – three windows with Y tracery, all clouded
Tower W window – two light with Y tracery, good, new fitted 2017
W of N Aisle – two light round head good polycarbonate with lead joints near the arch springs, very dirty
N Aisle - three two light windows with tracery, good except clouded in tracery
Organ chamber – two light with tracery at high level and two light arched at low level, sound but dirty
Vestry – three light cusped, good

All Clerestory polycarbonate appears clouded (unless mostly dirt inside). At the middle S window the clips have failed at top of one light and the sheeting is loose.

Ventilation

110. An open hopper in the N clerestory E window cannot be closed with its cords. The other clerestory hoppers are rusted shut, perhaps causing the slight distortion of the glass which will need to be removed and rebuilt without hoppers eventually. Hopper in the Vestry.
111. The Victorian concern for good ventilation is shown by short oak vertical ducts fitted to draw air in through low wall grills, over the hot pipes for slight warming and through mesh tops into the church above head height at N Aisle E corner, the Chapel SW corner and the S Aisle NW corner.
A grating outside the W end of the N Aisle no longer shows as a duct inside.
112. Vestry accidentally ventilated by open high level hole at former overflow from the feed and expansion tank. WC well ventilated by permanent air brick and inner mesh at N wall.

Floors, Rails, Stair

113. All floors solid.
114. Sanctuary paved with Frosterley marble tiles (some worn) with margins which may be polished limestone. Stable after repairs.
115. Communion rail good oak on decorated brass legs fixed to the floor only. S half slightly loose.
116. Choir sandstone flags in a grid of red and black tiles, mainly covered by carpet. Some flags have lost part of their surface but fair overall. Choir stalls on flush softwood boards which sound hollow. Rear stalls on raised platforms. Neither ventilated but no apparent damage.
117. SE Chapel altar platform fitted carpet on unknown solid floor and step which seem sound.
118. In Nave, Aisles and Vestry softwood blocks under the pews, sanded and lacquered 1998 and in good condition.
Plain concrete walkways including the crossing between the Porches. Over half the concrete was cracked and heaved due to defective fill, taken up in 2007 and relaid with archaeological oversight. Now sound.
Three large ledger stones inset in the centre walkway so worn especially the largest black stone of 1695.
119. Whole NW bay has fitted carpet, reportedly on 2007 concrete. Appears sound. At Vestry carpet covers most of the woodblocks. Its taped edge by the Chancel door is ragged.
120. Baptistry stone flags fair but parts have lost surface, so some uneven.
Spiral Tower stair worn but usable.
121. Bare concrete at Porches, passage behind organ and in the organ blower/wc room where the pan is on a concrete step.

Reredos, Monuments, Brasses, Furnishings, Organ

122. Reredos Victorian carved oak with cresting and tracery, all on modern stone infill since the altar was moved forward.



123. Font 12th century Frosterley marble bowl and pedestal on a sandstone step. Lead lined with outlet.

124. Pulpit, clergy and choir stalls are sound carved oak. Panelled oak pews are reformed box pews. They are comfortable, unfixed and some wander. A horseshoe of loose pews in the Baptistry.

125. Seven marbles in Chancel are fair but some dirt. A simple water wash would improve.
Three high level marbles on the Organ side of its arch are not visible.

126. Two good brasses in Chancel. Two in Nave are small and illegible. Two in Baptistry good.
Two 1st war memorial brasses face each other across the chancel arch. Officers one side, NCOs and men on the other.

127. In Aisles seven marbles and a brass.
Over S door the arms of Durham Cathedral (patron). Over the N door Royal Arms.

128. In the Chapel E wall a modern recessed aumbry with modern carved oak door and frontal and a suspended oak oil light.

129. Organ of 1917 three manual built and tuned by Harrison and Harrison, in regular use. Wind from the blower in the E offshot comes by a large earthenware ‘drain’ pipe under the Boiler Room vaulted ceiling.

Heating

130. Twin Ideal Concord CX gas boilers 1995, on a plinth on a concrete basement floor without drainage sump. Metal twin wall flues through a manifold into the wall and chimney. Ventilated by very large open louvres in door and wall. Gas meter in boiler room. Froststat, thermostat by organ and timer.

131. Circuit pipes in boiler room are primed but unlagged, warming the basement. The warmth may be wasteful unless needed against damp.
Basement dry. Stored lectern, prie-dieu, two carved screens and hymn board.

132. In church pumped twin perimeter cast iron 4" pipes with tapped off cast iron column radiators at Chapel, back of Nave and by N and S doors. Bank of four pipes in the Baptistry. Cast iron grills over trenched pipes each side of the altar and at the N and S doors. Heating effective.

133. Under-floor pipe repair at S door in 2001 and N door in 2007. There may still be a slight leak because the inlet valve runs at the feed and expansion tank in the Vestry, as the last report, but not the overflow.
If so leak water may evaporate into the well heated church and contribute to condensation under the metal roofs. A good plumber with tracing device may establish whether there is such leak.

134. An electric wall heater in the Vestry.

Electrical

135. Rewired with new lights 1998. Last system test report July 2015 summarised ‘Satisfactory. Good overall but new work at the Vestry heaters not to same standard’. No recommended improvements.
136. Rising main with main fuse, meter and main isolator in boiler room then supply to a Vestry cupboard where two distribution boards with main 63A RCD protection, dimmers and light switches. Visible wiring is sheathed MICC. Mostly discrete but surface fixed on Baptistry dado.
137. Down floods at wall heads with gates to prevent glare. They click on run-up. Lamps tungsten halogen max 200W and a few spots 50W 120 low voltage dicroic. Light adequate but lamps short life and expensive to run and change. One S Chancel light not working.
138. At wc metal switch, MICC cable and exposed lamp in batten holder.
139. Limited surface metal twin 13A switched sockets.
140. A discrete sound system installed 1998 is said to be effective.

Lightning Conductor

141. A single copper tape down part of S side of Tower with test clamp and painted galvanised protection about 3m high, and earth rod cover about 3m SW of Aisle corner. The last known test report 2012 gave a high earth reading of 74 ohms. An attempt to improve earth with a second earth rod is said to have failed. The air rod and top tape removed so the church no longer has a conductor. The remaining part connects through the louvres to separately controlled Telecoms installation.

Fire Precautions

142. Suitable extinguishers, all last serviced October 2019

N door	6 litre foam
Vestry	6 litre foam
Organ	2 kg CO ₂
Boiler room	4 kg powder

Water and Sanitary facilities

143. At Vestry stainless sink with single drainer and mixer tap. A high level Redring water storage heater. Its overflow drips from time to time, perhaps by design when hot.
144. Basin (cold only) and pedestal wc in the external blower room. A joint at the external plastic soil vent pipe on the S wall is open. The whole pipe needs refixing if the room is to be kept.

Access and use by people with disabilities

145. No universal access, hard to provide at this difficult site. A steep path down from the NW corner of the churchyard would be improved with a handrail but would remain difficult for some.
Steep steps up from the Crossgate pavement to the N door.
Approach from the S by other steps and muddy churchyard paths is no better.
An expensive solution to get wheelchairs from Crossgate to the N Porch would be a new level path cutting through the bank and its retaining walls, needing an expensive new wall to retain the bank and church.
146. Access through the Porches would remain difficult due to a step up to each outer and inner door. The outer steps could be overcome by raising the outer paving. The S Porch outer door height is modest and the floor slopes up slightly to the inner doors. Rather than cutting the outer doors and raising one Porch floor, ramping down the floor in one Aisle including dropping the heating pipes further may be more practical.
147. Poor at Vestry where a flight of external steps and another step inside.
148. A fully accessible wc cannot be achieved in the present room. Even if the uneven outside paving, the high concrete thresh at the door and the concrete platform on which the pan stands were rectified, the room is too small for wheelchairs because the organ blower intrudes. Given the disrepair of the room, it might be economic to rebuild it larger to form an accessible wc N of the blower with external or internal door.

Security

149. Good. Stout locks throughout. Porch inner doors mortice deadlocks and heavy shoot bolts.
Large floor safes in Vestry whose inner door to Chancel has a mortice deadlock.

Churchyard, boundaries, signs, paths, trees (immediate churchyard only)

150. The churchyard is closed to burials and maintained by the County Council. Its very large S extension is more urban wood and park than churchyard. This report is confined to the yard immediately around the church which has been cleared of headstones, some of which lean against the yard's S and W walls. One large sycamore at the SW corner. Smaller trees near SE and NW corners.

151. E retaining wall :

The N end sloping steeply down to Crossgate has had a sapling growing in the copings cut back since last report and general pointing. The sapling keeps growing.



N end of E retaining wall

Each side of the Blower room the wall continues at waist height. Mainly sound masonry but at S under its copings many joints are open. Deep raking and pointing will prolong its stability.



E retaining wall S of the Blower/wc

152. The E wall S part rises to churchyard level only with iron railings on top. The railings are rusting.

A tree growing out of its E side has been cut back since last report but shoots again grow 3m high.

If the tree regrows it may eventually disrupt the wall threatening the SE corner of the church so better to cut the shoots and poison the stumps. May be neighbour's responsibility.



para 152



para 153

153. S boundary wall, partly a retaining wall, was seen from the churchyard only. A rubble stone wall chest high partly obscured by repositioned headstones. Poorly pointed and some disturbance.

A holly growing against it and several shrubs rooted into the top will cause damage unless removed. Other plants grow from joints and more joints are open. All need attention soon to prevent a collapse.

154. W boundary wall – now mainly covered in ivy. Open joints towards the S end needed pointing when visible. Open joints and plants at NW at base of both sides next to the public steps to Crossgate and in its copings.



155. At Crossgate a stone retaining wall at back of the steep pavement and a parallel upper retaining wall with iron railings and a sloping planting bed between. In the middle of the retaining walls, gate piers and retaining wall returns flank steps up to the N Porch.

Below the steps open joints at the sloping walls and buttress have been pointed and seem stable.

The renewed lower steps are sound. Soil pressure has moved the upper steps slightly. Some edges are broken enough to make a trip hazard, reduced by recent pointing some of which is rebroken.

At the steps slight cracks between the gate piers and flanking walls seem stable. Both walls are loose in parts and poorly pointed, especially at the low outer faces.

Iron railings and handrails widely rusted. Some rust at gates which are welded open.



Above the entry steps the outer wall mainly stable but its many open joints with plant growth need to be at least pointed to keep stable. About 30% of the main retaining wall joints are open especially near the steps. Some sign of bellying out due to pressure behind and loosening of bond in the wall.

156. A steep path from the NW gates down to church was concrete cracked and uneven in parts. Now tarmacked over and mainly sound though some plants come through. Well used by the public.
157. A sound level flag path from the SW corner around the Tower. Stone flags outside the N Porch are decayed at some edges, now pointed. Concrete paving along the N of the Organ and Vestry is sound. Flag paving outside the wc is subsided, cracked and sometimes ponded.
158. A low retaining wall W of the Tower in the style of dry stone walling with an inset block of slate announcing the interment of ashes appears stable at present but needs to be checked for movement from time to time.



Archaeology

159. The archaeological assessment 2002 says the church and its site are of archaeological importance and archaeological advice should be sought when significant works are being considered.
160. The record of the 2007 floor repairs says the shallow excavations did not show any archaeological significance in the hardcore base but that vigilance would be needed in any further excavation.

General comments

161. A church of great quality, well fitted and maintained and in generally good condition.
162. Underside corrosion of the Chancel and Nave lead roofs will continue until they are remade with ventilation to modern standard. Given the history of theft there would be a case to change to stainless steel at the same time, subject to consultations.
163. Opening up of the stainless steel S Aisle roof was done in May 2020 and a separate report submitted, suggesting two options.
164. Very slow masonry decay continues but little needs repair in the near future.
165. Improvement of ground drainage at W and S would protect the interior.
166. Redecoration and change of light fittings to LEDs would be an improvement and reduce energy use and maintenance.
167. Better access will be difficult to achieve but improvement would assist mission.

PART THREE

RECOMMENDATIONS in order of priority

For immediate action

Consider separate report on S Aisle roof, act on findings	14, 25, 26, 163
Remove Telecoms rubbish from Tower	69
Prepare and paint the timber flag pole cradle on Tower roof, refix lead cap	77

For completion within 18 months

Consult and begin actions on underside lead corrosion	14, 18 – 21, 28, 162 and Appendix
Repair S Porch roof	31
At N & W walls of N Aisle grout and point open joints in copings and wall below	55
Redecorate interior after roof works with checking of Aisle roof boards	86, 105, 106
Fit new LED lights on existing wiring	137, 166

For completion within five years

Renew hoodmoulds at windows at W end N Aisle	71
Ensure maintenance of the E retaining walls and railings (may be others' responsibility)	151, 152
Repair the S and N retaining walls	153, 155

Desirable improvements

Renew pointing of cover flashings at Tower roof	16
Rebuild or repair the organ blower/wc room	32, 59, 82, 107, 144, 148
Clean dark varnish from painted boards in Baptistry	102
Repair dado panelling in Baptistry	102
Try vacuuming dirty walls	104
Reroute surface wiring in Baptistry	136
Clean glass and protection	108, 109
Clean marbles in Chancel	125
Improve access to church	145 – 148, 167

Recommendations on Maintenance and Care

Check and maintain rainwater goods and gullies as needed	33 – 40
Check whether the heating leaks	133

ADDENDUM to the SURVEY REPORT

Required under the Care of Churches and Ecclesiastical Jurisdiction Measure 1991

PURPOSE OF REPORT This is a general report only, as is required by the Measure. It is **not** a specification for execution of repairs and must not be used as such. The parish is reminded that it will be necessary to obtain either the Archdeacon's permission or a Faculty if it is intended to make repairs for which an architect's specification should be sought. The PCC minutes must record that an application is being made for permission or faculty and a copy of that minute must accompany the application together with a full specification, drawing where appropriate and an estimate of the cost of the work. In any application for grant aid a full specification is always required.

LOGBOOK The parish has a duty under Canon F13(4) to keep a Log Book recording all work carried out on the building. I commend this practice to the PCC. Not only does it help the inspecting architect but it can prove a valuable aid to the parish.

MAINTENANCE Continual vigilance to guard against blockages in gutters and the rainwater system as a whole is needed. Every parish must find for itself a reliable procedure to ensure that gutters, ground gutters, gullies and drains are kept clean. It might be:

maintenance under contract by a local builder or handyman or
maintenance by church working party

Whatever system is adopted the problem remains to remember when to organise the work. Gutters and pipes should be checked at least twice a year. If the Log Book is used as a check list of action every year and kept as an up to date record this will itself act as a reminder.

HEATING INSTALLATION A proper examination and test should be made by a qualified engineer annually **and a written report obtained for the log book**

ELECTRICAL The installation should be tested every five years and immediately if not done within the last five years by a competent electrical engineer, that is a certificate holder of the National Inspection Council of Electrical Installation Contracting (NICEIC) or a member of the Electrical Contractors Association (ECA) and a resistance and earth continuity test should be obtained on all circuits. **The test report should be kept with the Log Book.** The present report is based on a visual inspection of the main switchboard and certain random sections of the wiring without the use of instruments.

To check registration with NICEIC and ECA see www.electricalsafetyregister.com

LIGHTNING CONDUCTOR Any lightning conductor should be tested by a competent electrical engineer every five years (in addition to any recommendation in this report) in accordance with the British Standard Code of Practice. Records of the results and condition should be kept with the Log Book. Note that there is no general requirement for a Lightning Conductor.

The British Standard earth resistance is max. 10 ohms but the insurer EIG regards 15 Ohms as acceptable.

CHURCH WARDENS' INSPECTION Although the Measure requires the church to be inspected every five years serious trouble may develop in between these surveys if minor defects are left unattended. It is recommended that the wardens should make or have made a careful inspection of the fabric at least once a year and arrange immediate attention to such matters as displaced slates and leaking pipes.

PEOPLE WITH DISABILITIES 'One of the striking characteristics of the Gospel narratives is Jesus' concern for people with disabilities but sadly the Church has, in the past, given little attention to their needs. The design of our buildings has often proved a barrier to those who attend church services' (Chairman of the Church Buildings Council). The PCC are reminded that the Disability Discrimination Act 1995 places a duty on churches to review all practices and facilities and to take all reasonable steps to avoid discrimination against people with disabilities caused by physical features, bearing in mind the limitations often found in historic buildings

Useful advice and audit sheets are to be found in 'Widening the Eye of the Needle' published by the Church Buildings Council 1999 £10.95.

INSURANCE The PCC is advised that insurance cover should be reviewed annually to take account of any rise in the cost of rebuilding.

APPENDIX – OPENING of LEAD ROOFS at CHANCEL and NAVE February 2019



Heavy corrosion under a S bay near the Nave ridge



Same after lifting of the adjoining 'renewed' bay

At left general underside corrosion

At right a bay renewed 2007 on building paper with paint protection under the lead but not under the laps. Good condition except corrosion begun under the side lap.

A diagonal outer board cut out, showing the gap between the decks is only 1", not sufficient even if there were continuous ventilation all along ridge and both eaves



Split at a roll



N side Chancel – thick corrosion

