DURHAM CATHEDRAL OPEN TREASURE PROJECT

EXHIBITION AND DISPLAY IN COMPLEX MEDIAEVALE SPACES.
ENVIRONMENTAL AND CONSERVATION STRATEGIES

CHRISTOPHER COTTON Cathedral Architect, DURHAM
THE CATHEDRAL CHURCH OF CHRIST, BLESSED MARY THE VIRGIN & ST CUTHBERT OF DURHAM

QUINQUENNIAL INSPECTION REPORT 2013
FOR THE DEAN & CHAPTER DURHAM CATHEDRAL

CHRISTOPHER COTTON RIBA, AABC
CATHEDRAL ARCHITECT

DURHAM CATHEDRAL
CURRENT STONEWORK CONSERVATION AND REPAIR POLICY
REVISION A (DRAFT 4)

CHRISTOPHER COTTON RIBA, AABC, CATHEDRAL ARCHITECT
DR ALEXANDER HOLTON, HERITAGE CONSULTANT
MARCH 2014
Black crust formation

Decay caused by incompatible materials

Ferrous insert damage

Calcareaous migration

Granular disintegration

Salt-related decay
Monitoring of the Environmental Conditions in the Claustral Buildings at Durham Cathedral, Relating to the Open Treasure Exhibition: Phase I, Final Report

Report for the Dean and Chapter

July 2014
Durham Cathedral – Open Treasure Phase 1b
Target Environmental Conditions

The Monk’s Dormitory
• Control temperature, using conservation heating with a defined range with a view to achieving stable humidity conditions
• Humidity: 40-60% RH
• Temperature: 12-22°C
• Deliver local conditions for staff and library readers appropriate to personal comfort, where possible

The Collections Gallery
• BS5454 conditions within display cases to enable the exhibition of loan materials
• Humidity: at a fixed point between 45-60% +/- 5% in 24hrs
• Temperature: at a fixed point between 16-19°C +/- 1°C in 24hrs
• Preference for passive display cases

The Great Kitchen
• Control temperature, using conservation heating with a defined range with a view to achieving stable humidity conditions
• Stable humidity within display cases to enable the exhibition Durham Cathedral’s Treasures
• Humidity: at a fixed point between 45-60% +/- 5% in 24hrs
• Temperature: 12-21°C
• Preference for passive display cases
Following the removal of the modern emulsion paint finish, installation of buried cable chasing in walls and remedial works to plaster, all painted surfaces to receive 3no coats of lime wash as per M120/790. Refer to drawing 05-306 for details of cable chasing.

Cable trunking, lighting tracks, uplighters, bookcase lighting and gridded tube heaters mounted on top of bookcases. Refer to drawing 05-306. All to M&E Engineer’s details.

Cable trunking on top of bookcases to be connected with cable trunking on high level ledge via chased and buried conduits in wall. Number and locations of chasing to be agreed on site. Refer to drawing 05-306 and M&E Engineer’s details.

Cable trunking, lighting tracks, uplighters and bookcase lighting mounted on top of bookcases. Refer to drawing 05-306. All to M&E Engineer’s details.

All historic and modern bookcases to have new oak casements with grilles to protect contents. Refer to drawing 05-300.

New Librarian’s Desk. Refer to drawing 05-354.

All window bays except W1 (05), W15 (05), W16 (05), W17 (05) & W32 (05) to have new floor mounted cast iron column radiators, to sit centrally within each lower window bay. Refer to M&E Engineer’s details.

Existing timber floor to be retained, repaired, refurbished and refinshed. Unacceptably damaged boards to be replaced. Refer to drawing 05-306.

For details of service trenches, refer to M&E Engineers details and specification. Refer also to Structural Engineer’s details for strengthen of joists.

All windows to receive secondary glazing. Refer to drawings 05-310, 05-311, 05-312.

New oak cross-boarded double doors (D3 (05)) within reopened original opening, traditionally constructed with iron rivets to be automatic opening and create entrance to Collections Gallery. Security roller shutter to be incorporated within reveal at high level. Refer to drawing 05-302 and 05-303.

Separation to be created between Exhibition Area and Library Area through new Oak veneered display/bookcases with lockable cupboard to rear. Divide to provide privacy for library and direct exhibition visitors to Collections Gallery. Refer to drawing 05-351, 05-352 and 05-353.

Monks’ Dormitory Short Section D-D as Proposed 204 1:100
Durham Cathedral – Open Treasure Phase 1b

Issues – Winter Conditions

**The Monk’s Dormitory**
- The use of conservation heating is likely to result in this space being relatively cold in order to keep RH within acceptable limits.
- Relative Humidity likely to be towards the bottom of the acceptable range.
- Local heating for the comfort of readers & staff.
- Ingress of external conditions via Day Stair limited by new lobby.

**The Collections Gallery**
- Air conditioning system will attempt to control space to 17.5°C and 50% RH.
- Cold, dry air will enter space with visitors from Monk’s Dormitory and the Great Kitchen whenever the doors are open.
- This will disturb the condition of the relatively small air mass in the gallery until the A/C can regain control.
- Capabilities of the A/C limited by plant space and duct sizes.

**The Great Kitchen**
- The use of conservation heating is likely to result in this space being relatively cold in order to keep RH within acceptable limits.
- Relative Humidity likely to be towards the bottom of the acceptable range.

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*Air movement from MD & GK into CG*