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client

All Saints Church PCC

project

Interior lighting to All Saints Church in Trull

project reference

0917

date

November 2024

architect

Michael Vaughan @ Benjamin & Beauchamp Architects

document

0917e ast lighting proposals for DAC 2

initial proposals

General

The lighting within any ecclesiastical environment is a delicate balance between functional light and architectural light. The functional light is obviously required to allow the congregation to read from hymn books or prayer books, and for this a certain minimum level of light is necessary. Architectural light could be seen as the light that glorifies the nature and structure of the building and creates and effects the atmosphere within the space.

The relationship between functional and architectural light is one that needs careful consideration. Whilst it is possible to provide ambient light with the most basic of light fittings, this does nothing to enhance the whole experience of being within a sacred building.

Generally, I would propose that unless pendants are to be used, the light fittings should be as discreet as possible, allowing the effect of the light to be more dominant than the fittings themselves.

The careful selection of light fittings and their mounting position, along with the use of louvres, minimizes the chances of glare when the church is viewed from the West to the East. However, it is almost impossible to eliminate some glare completely, especially from the perspective of the vicar.

Nave

Within the nave I would propose to provide general coverage of the pews, ceiling and walls.

A series of modern spotlights would be installed on three circuit lighting track at wall plate level. If a mains dimming system is installed two lighting tracks will be needed in order to have the required number of electrical circuits. If a wireless control system is chosen only one length of track will be necessary. Spotlights would be directed down into the pews, with separate lights oto the nave altar area, lectern pulpit and wonderful carved rood screen. Further fittings would be directed upwards to bathe the ceiling with light.

Chancel

Similar to the nave the lighting to the chancel would be provided by spotlights installed on lighting track at wall plate level, these would be directed down into the space and the communion rail area. The ceiling and east window would also be lit with additional spotlights dedicated to the altar front and top.

Aisles

As the rest of the church, lighting track would be installed at high level close to the colonnade with spotlights directed down into the pews. In order to provide some light to the arches and the ceilings in the side aisles small remote lights would be placed on a purpose made bracket around the column capitals, with the cable neatly installed down the curve of the arch on the aisle side.

Further individual surface spotlights would provide emphasis on the altar and font.

initial proposals continued

Control

If the control is to be mains dimming, each ecclesiastical and architectural element would be on its own electrical circuit to allow individual control. This control would then be through dimmer racks. The scenes can then be recalled with push button control panels and with an app on a smart device.

If a Casambi bluetooth control system is preferred the cable requirements are reduced as each light fitting can be identified individually by the Casambi app. The app is then used to group lights together and set the appropriate light levels for each lighting scene.

Emergency lighting:

Emergency lighting will be included as a dedicated light over the south doorway providing local coverage to the exit.

Fitting Selection

When the lighting for any installation is being specified there is a desire to use light fittings that are as economical as possible, both in terms of capital costs and ongoing operating and maintenance costs. However, this has to be balanced against the appearance and atmosphere created by the light source. There is also the added complication of the lighting control, as some light sources are not suited too or are expensive to dim.

I would propose that all light sources within the church are LED.

There is a vast range of LED lamps and light fittings on the market and generally you get what you pay for. It is essential that an appropriate colour temperature is selected and the LED has a high CRI, (colour rendering index of 90+) to ensure all colours are faithfully detailed. It is proposed that LEDs with a colour temperature of 3,000K are used, as a balance in revealing the warmth of the natural stonework and whitewashed walls in the church. This can be tested and approved on site by the PCC when necessary. High quality fittings will have sufficient cooling to allow a long life of 40,000 - 50,000 hours, and have replaceable drivers.

Maintenance

The running costs and maintenance of the lighting in an ecclesiastical building are always an important consideration. The choice of light fittings and light source has to be a balance between the ease of control, life and the effects on the appearance of the fabric of the building.

With LED light fittings, the ongoing maintenance is greatly reduced. I would suggest that any light fittings directed upwards are periodically cleaned to remove dust that has settled on the fitting. All electrical components can fail, but such failures are minimized by using quality components and parts that are replaceable where possible.

Installation

Where possible, fittings with replaceable drivers will be used. This often makes the light fitting slightly smaller, and allows easy on site replacement of any failed drivers.

initial proposals continued

All work should be undertaken by an approved NIC EIC electrical contractor, working to the latest electrical regulations, and with great empathy towards the fabric. Any new cable routes should be as discreet as possible, and agreed prior to installation. The interior cable should be of a suitably sized ‘Firetuf’ or ‘FP200’ type, of a neutral colour best suited to the surface to which it will be attached.

Any ancillary electrical work, ie electrical sockets etc, could be included within the scheme as necessary.

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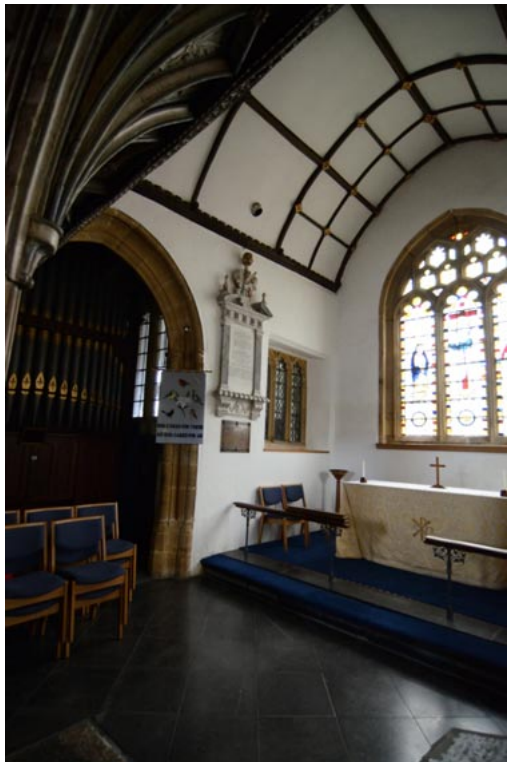
site photographs - nave

The nave would be lit with spot lights at high level. As well as ambient light at pew level the ceiling and walls would also be lit.

site photographs - nave

site photographs - chancel



Spotlights installed at wall plate level would light into the chancel and communion rail area. Additional fittings would uplight the ceiling and highlight the altar and east window.

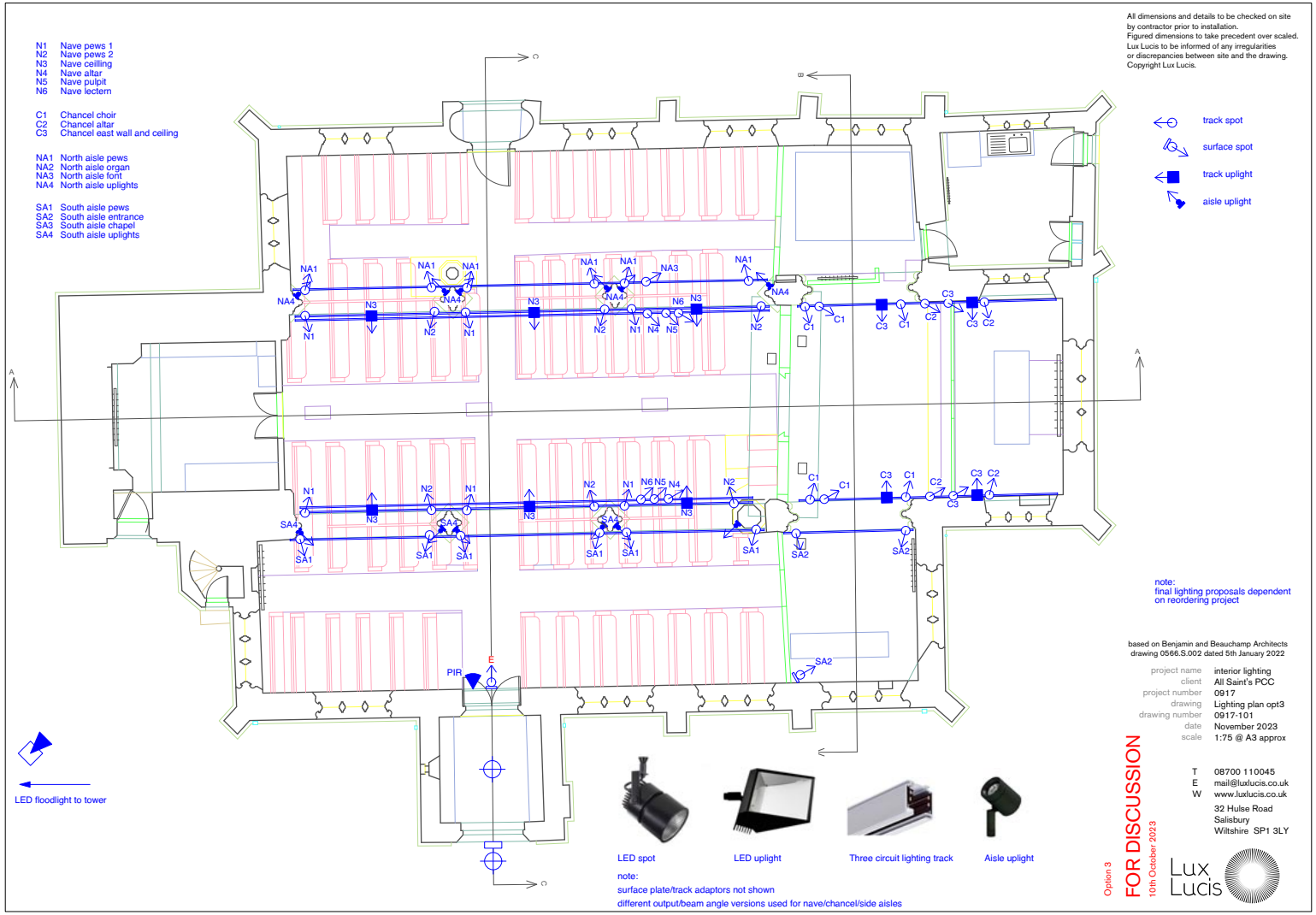
site photographs - north aisle

Spotlights at high level on the colonnade wall would light the pews.

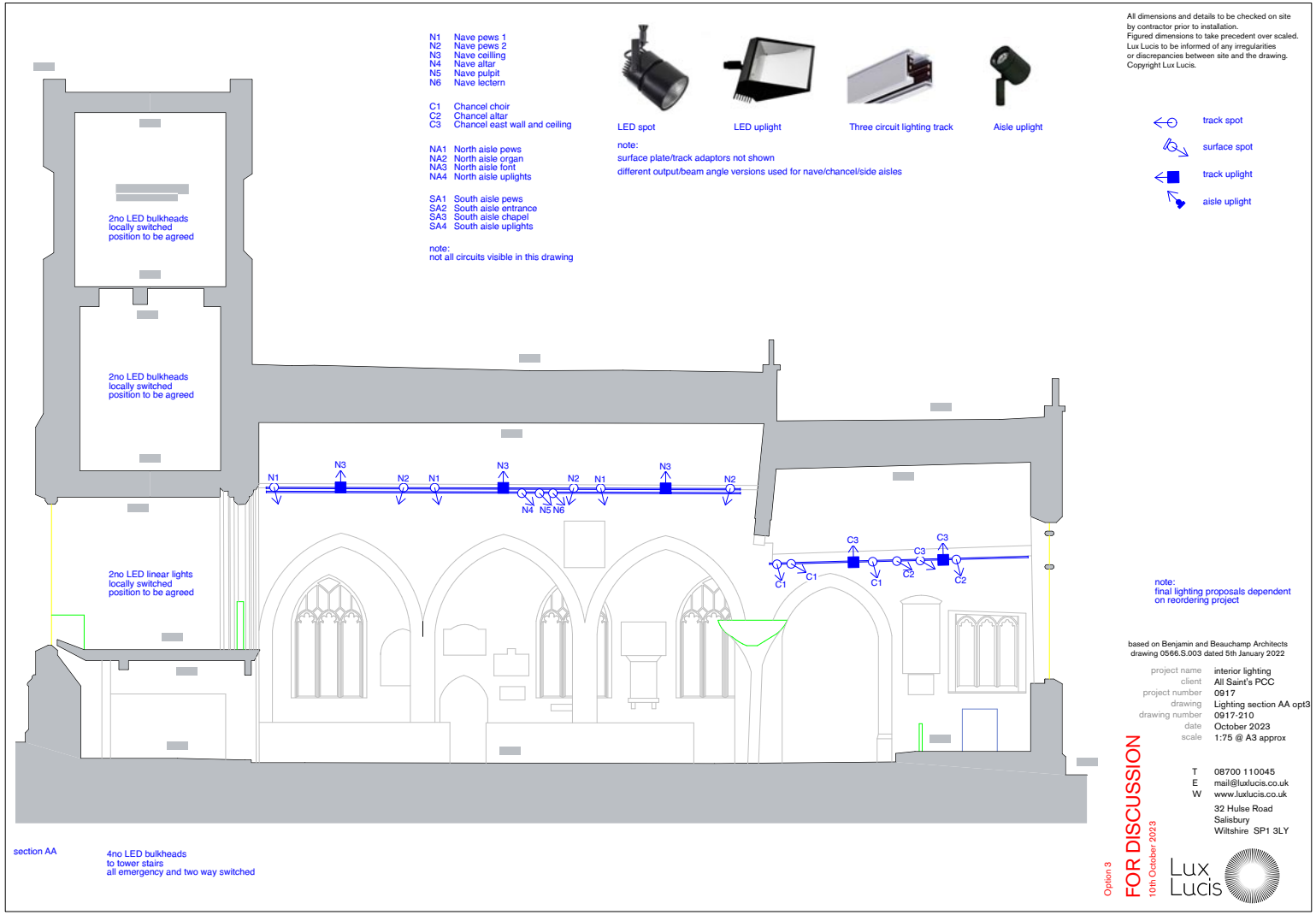
site photographs - south aisle

Spotlights at high level on the colonnade wall would light the pews.

lighting plan



lighting section A-A



lighting section B-B

N1 Nave pews 1
N2 Nave pews 2
N3 Nave ceilling
N4 Nave altar
N5 Nave pulpit
N6 Nave lectern

C1 Chancel choir
C2 Chancel altar
C3 Chancel east wall and ceiling

NA1 North aisle pews
NA2 North aisle organ
NA3 North aisle font
NA4 North aisle uplights

SA1 South aisle pews
SA2 South aisle entrance
SA3 South aisle chapel
SA4 South aisle uplights

note:
not all circuits visible in this drawing

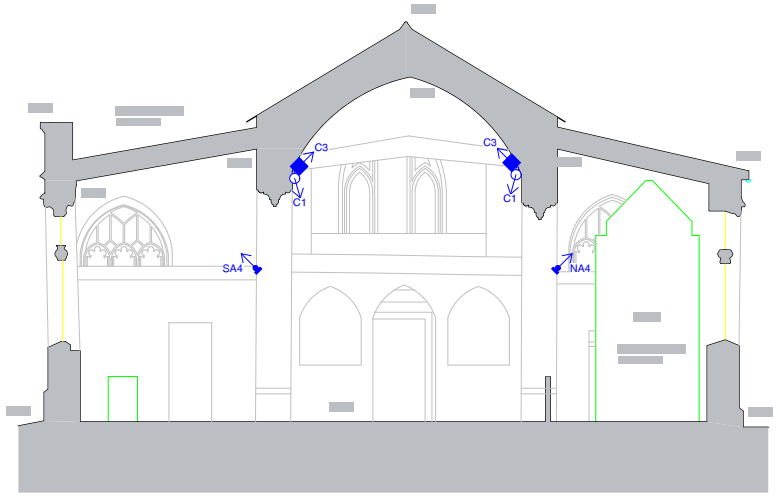

LED spot


LED uplight


Three circuit lighting track


Aisle uplight

note:
surface plate/track adaptors not shown
different output/beam angle versions used for nave/chancel/side aisles



section BB

All dimensions and details to be checked on site by contractor prior to installation.
Figured dimensions to take precedent over scaled.
Lux Lucis to be informed of any irregularities or discrepancies between site and the drawing.

track spot
surface spot
track uplight
aisle uplight

note:
final lighting proposals dependent on reordering project

based on Benjamin and Beauchamp Architects drawing 0566.S.003 dated 5th January 2022

project name	interior lighting
client	All Saint's PCC
project number	0917
drawing	Lighting section BB opt3
drawing number	0917-220
date	October 2023
scale	1:75 @ A3 approx

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Option 3
FOR DISCUSSION
10th October 2023

lighting section C-C

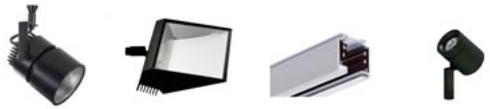
N1 Nave pews 1
N2 Nave pews 2
N3 Nave ceilling
N4 Nave altar
N5 Nave pulpit
N6 Nave lectern

C1 Chancel choir
C2 Chancel altar
C3 Chancel east wall and ceiling

NA1 North aisle pews
NA2 North aisle organ
NA3 North aisle font
NA4 North aisle uplights

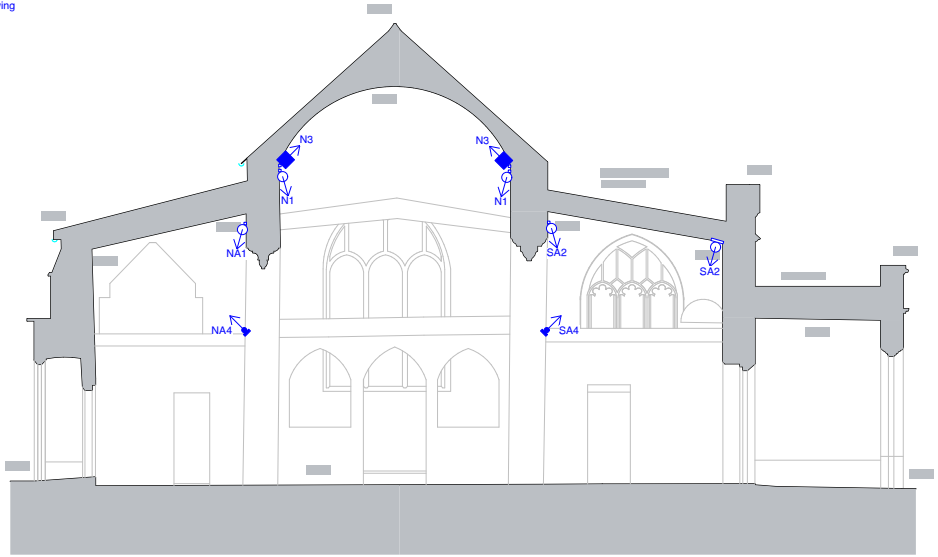
SA1 South aisle pews
SA2 South aisle entrance
SA3 South aisle chapel
SA4 South aisle uplights

note:
not all circuits visible in this drawing



LED spot | LED uplight | Three circuit lighting track | Aisle uplight

note:
surface plate/track adaptors not shown
different output/beam angle versions used for nave/chancel/side aisles



section CC

All dimensions and details to be checked on site by contractor prior to installation.
Figured dimensions to take precedent over scaled.
Lux Lucis to be informed of any irregularities or discrepancies between site and the drawing.

track spot
surface spot
track uplight
aisle uplight

note:
final lighting proposals dependent on reordering project

based on Benjamin and Beauchamp Architects drawing 0566.S.003 dated 5th January 2022

project name	interior lighting
client	All Saint's PCC
project number	0917
drawing	Lighting section CC opt3
drawing number	0917-230
date	October 2023
scale	1:75 @ A3 approx

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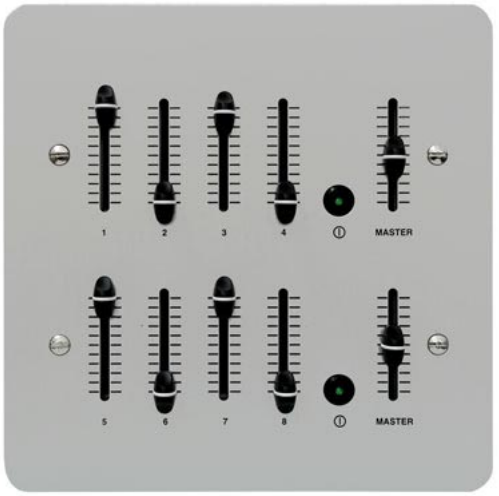
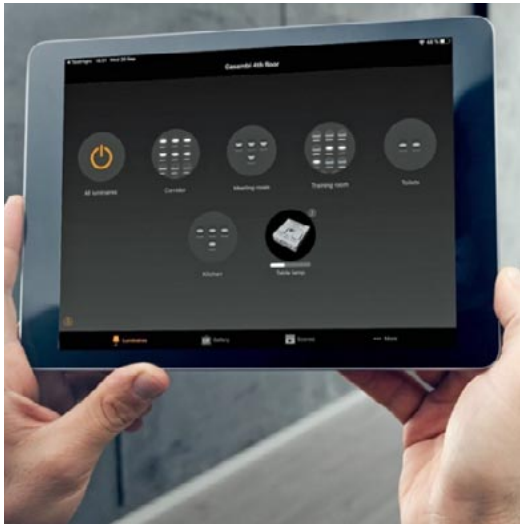
Option 3
FOR DISCUSSION
10th October 2023

equipment images

Examples of LED spotlights with louvre and snoot.

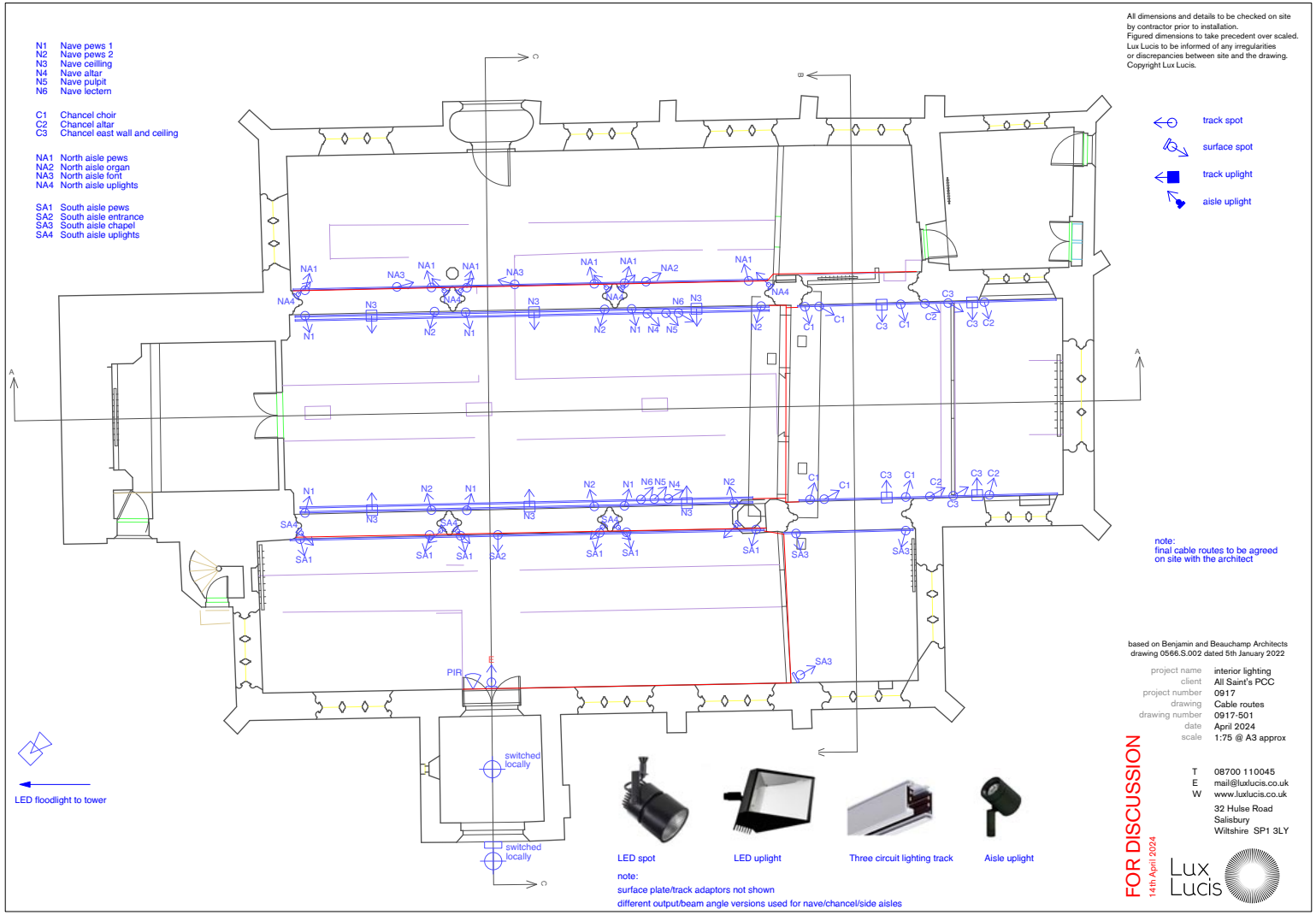
sample equipment images - control



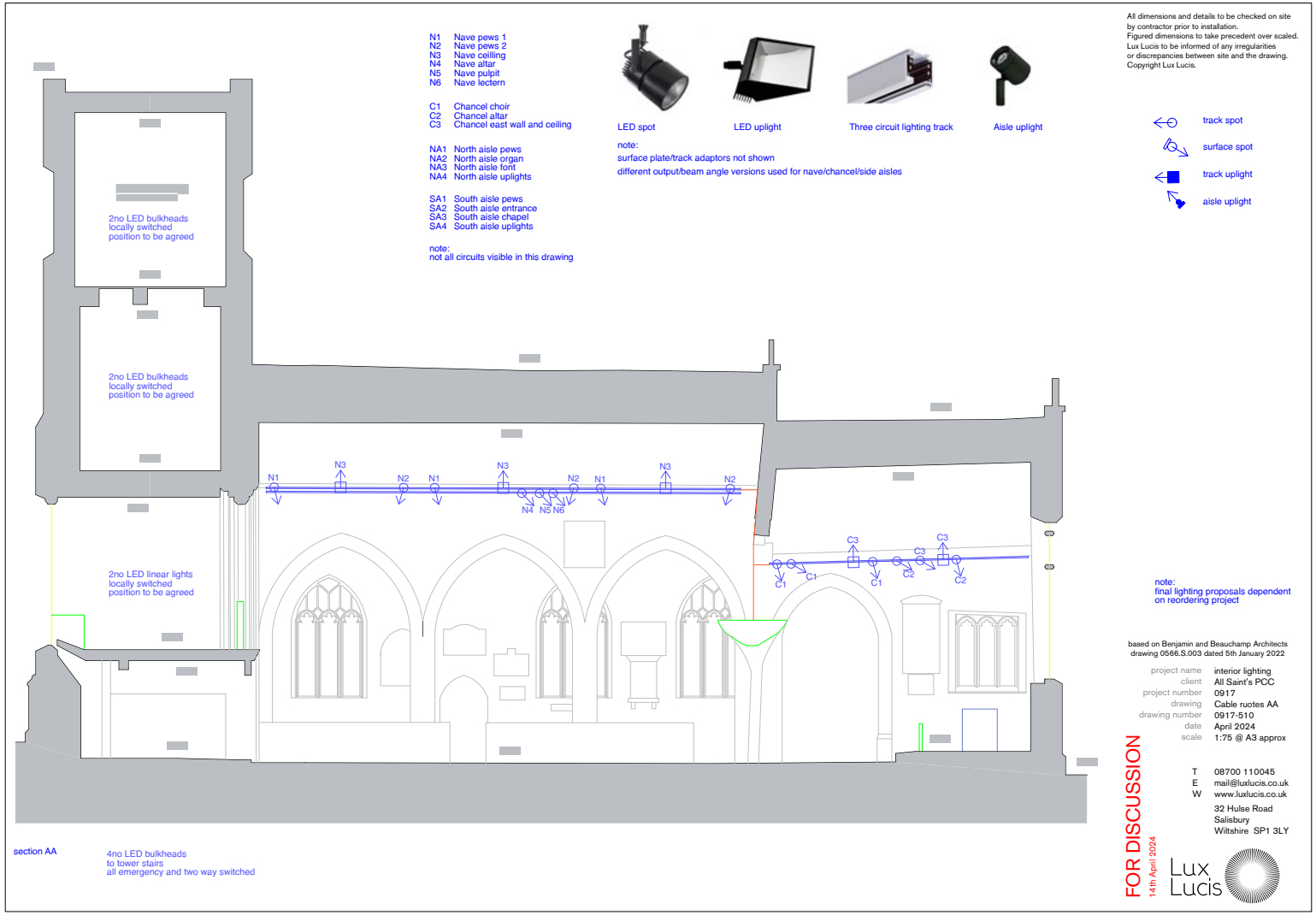


Rotary dimmers; slider dimmers; push button panels; ipad and iphone app, touchscreen controller, casambi app.

lighting plan - proposed cable routes



lighting section A-A - proposed cable routes



site photographs

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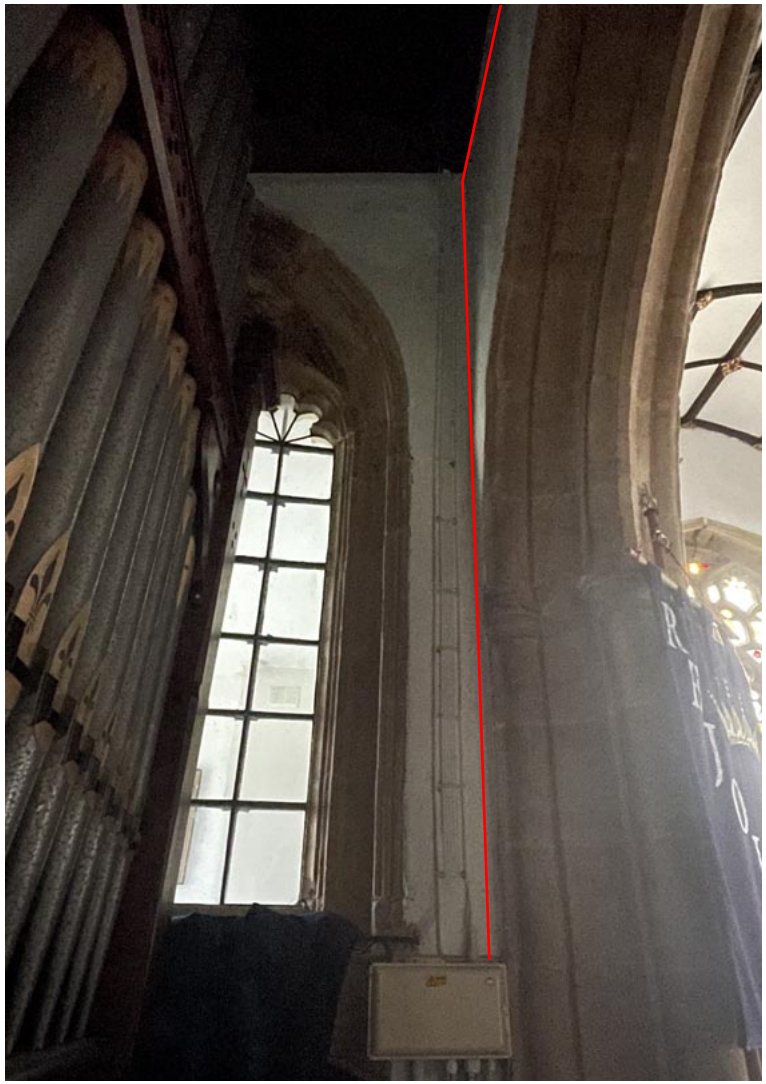
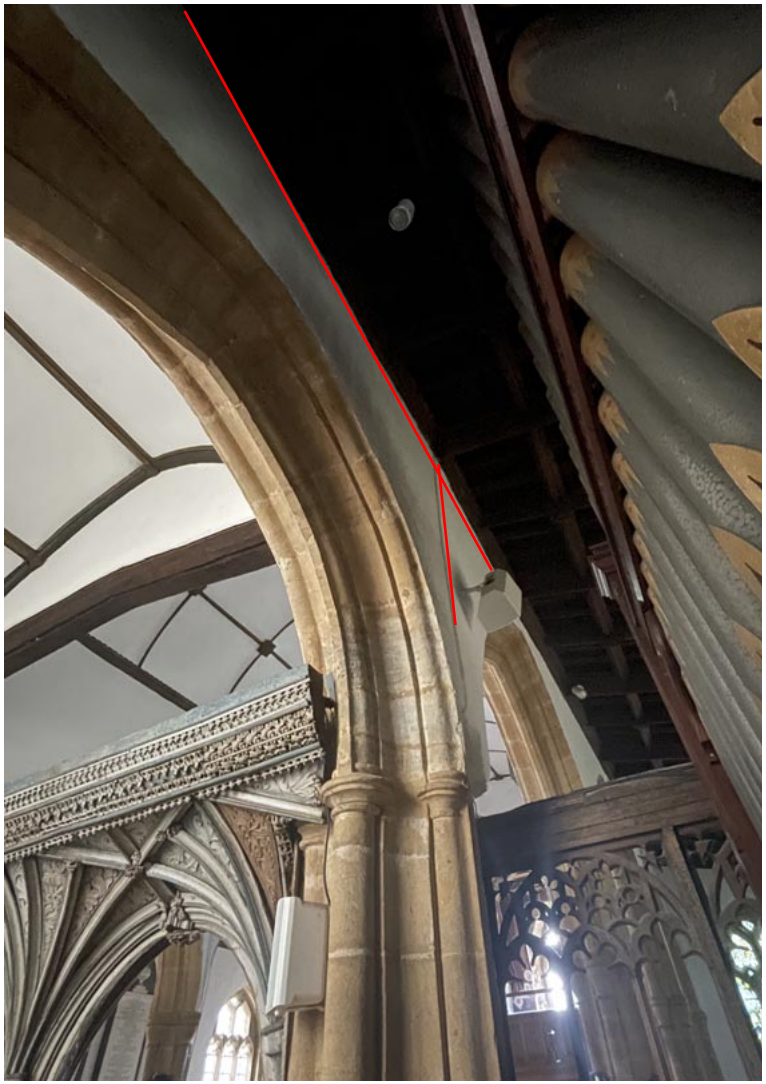
site photographs - proposed cable routes





From the present switch position by the organ - the distribution is in the vestry - the cable would be run up to the wall plate level and down the south aisle to the lighting track.

site photographs - proposed cable route - north aisle

The cable would connect to the lighting track which takes the lighting circuits the full length of the aisle.
Cable for the cancel, nave and south aisle would drop down the wall.

site photographs - proposed cable route - north aisle

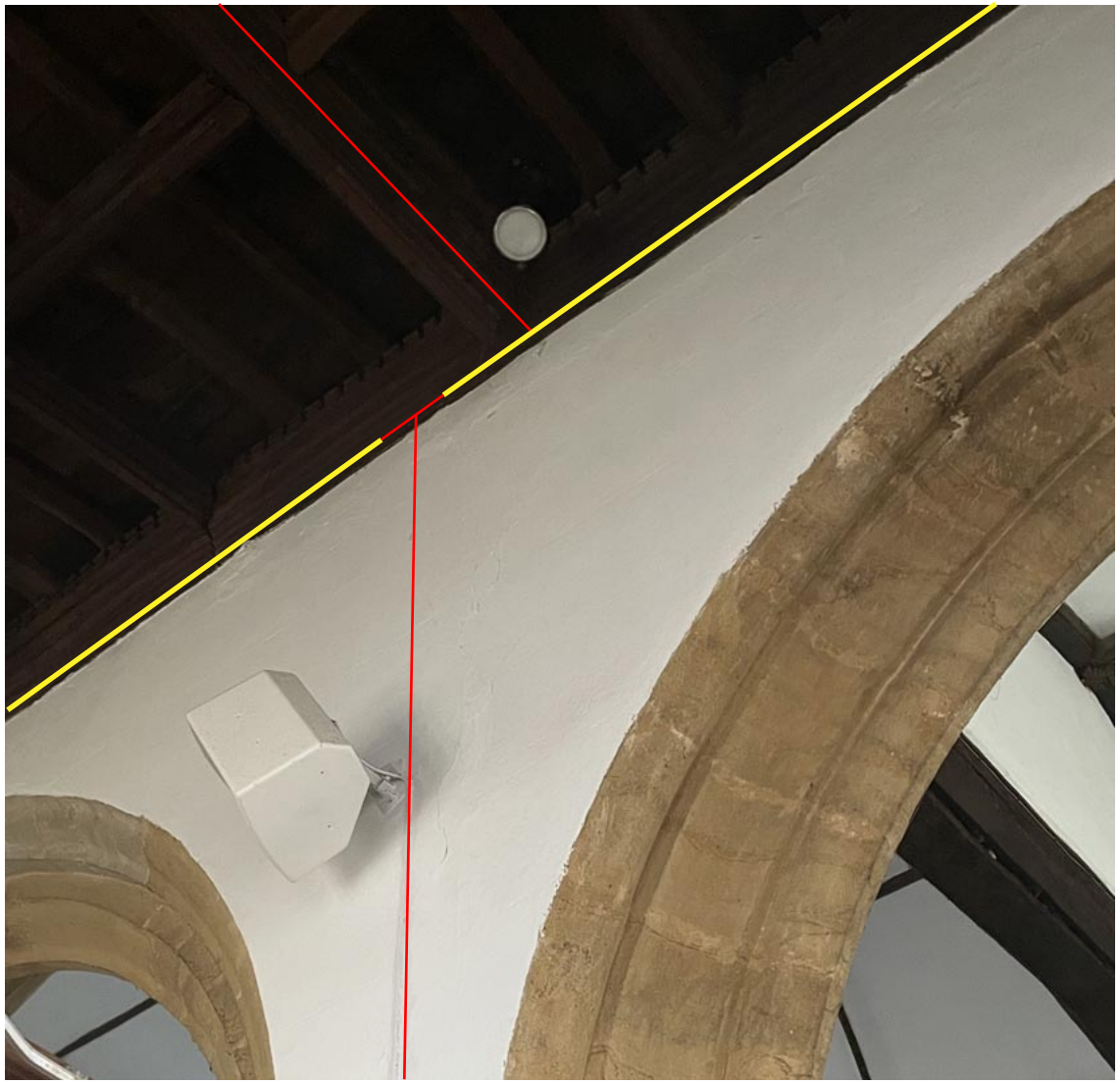
site photographs - proposed cable routes - aisle uplights

For the aisle uplights (note principle is the same in north and south aisles) the cable would run at high level to junction boxes containing the drivers. The low voltage cable would then run down the arches to the light fittings on the capitals.

site photographs - proposed cable routes - aisle uplights

The light fittings would be installed at capital level on a bracket purpose made to sie in the detail between the two circular capitals.
The bracket and light fittings would be colour matched to the stone.

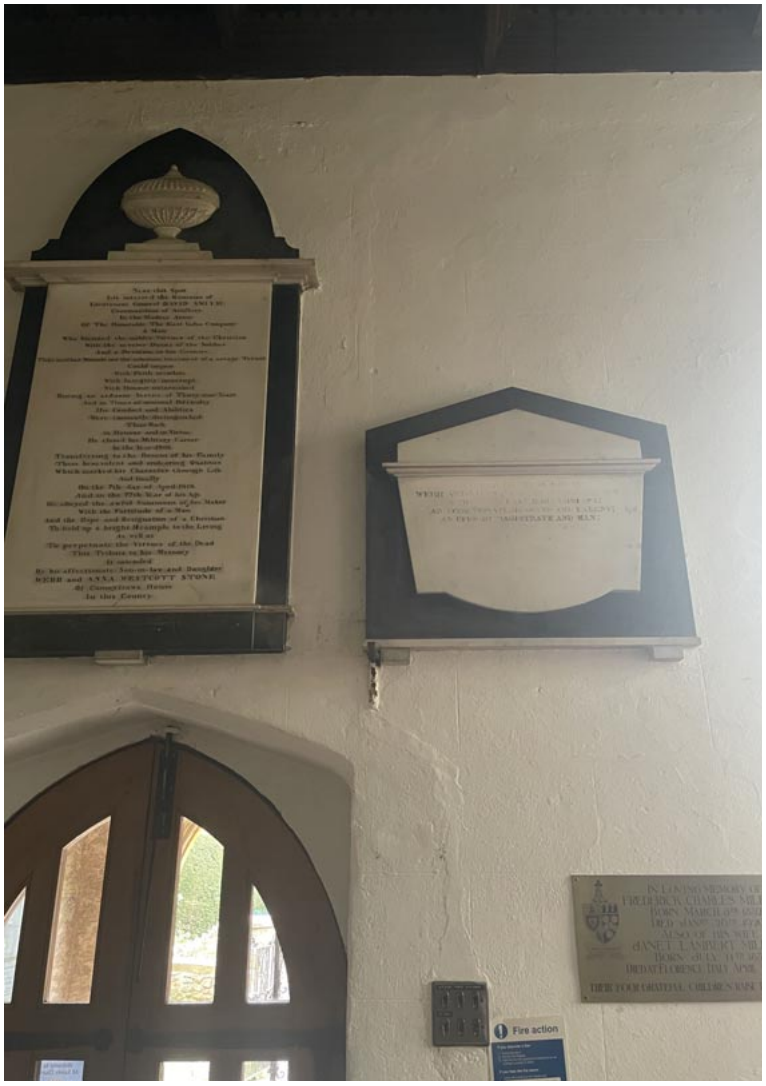
site photographs - proposed cable route - south aisle



The cable in the south aisle would replicate that in the north aisle, with the addition of a cable running behind a beam to the south wall for the surface fitting and along to the emergency light and wired control point (if required) by the south door.

site photographs - proposed cable route - south aisle

site photographs - proposed cable route - south aisle



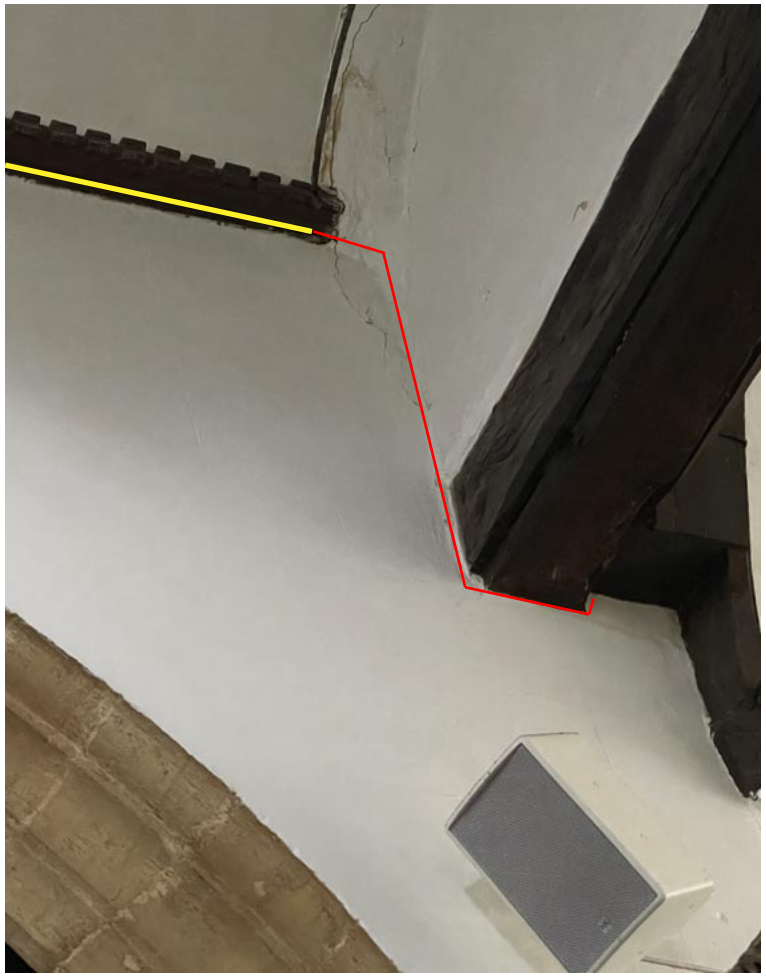
The cable for the control panel (if required) would be sun in the existing chasing that would be carefully opened and refilled.

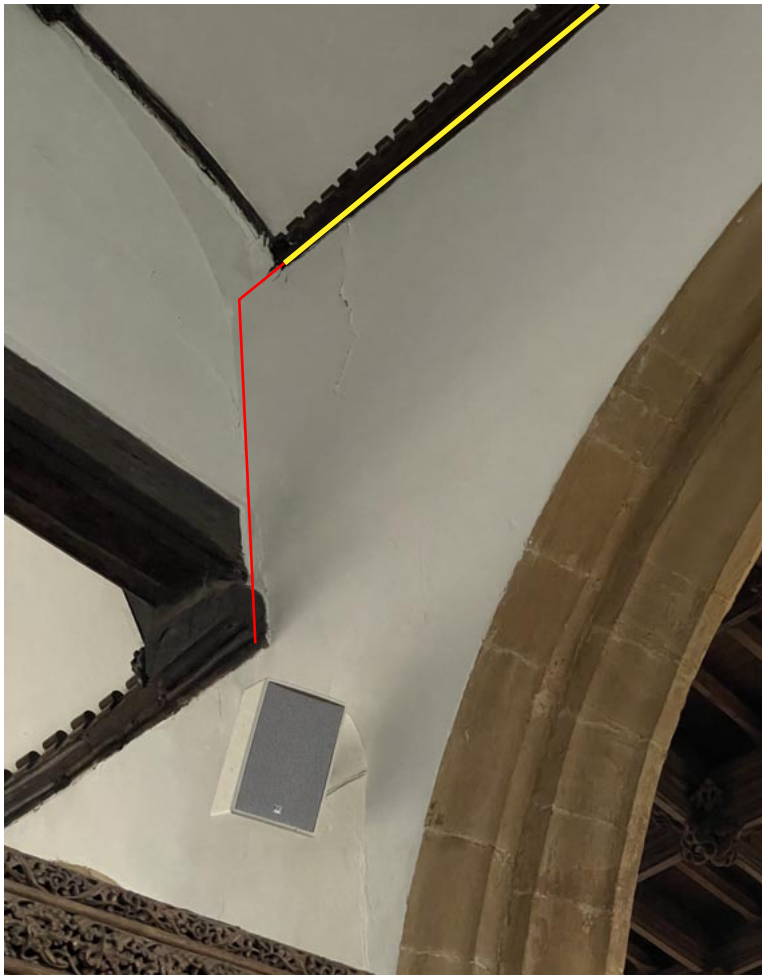
site photographs - proposed cable routes - chancel

The cable for the chancel track would come through the wall at high level from the side aisles.

site photographs - proposed cable routes - chancel

site photographs - proposed cable route - nave



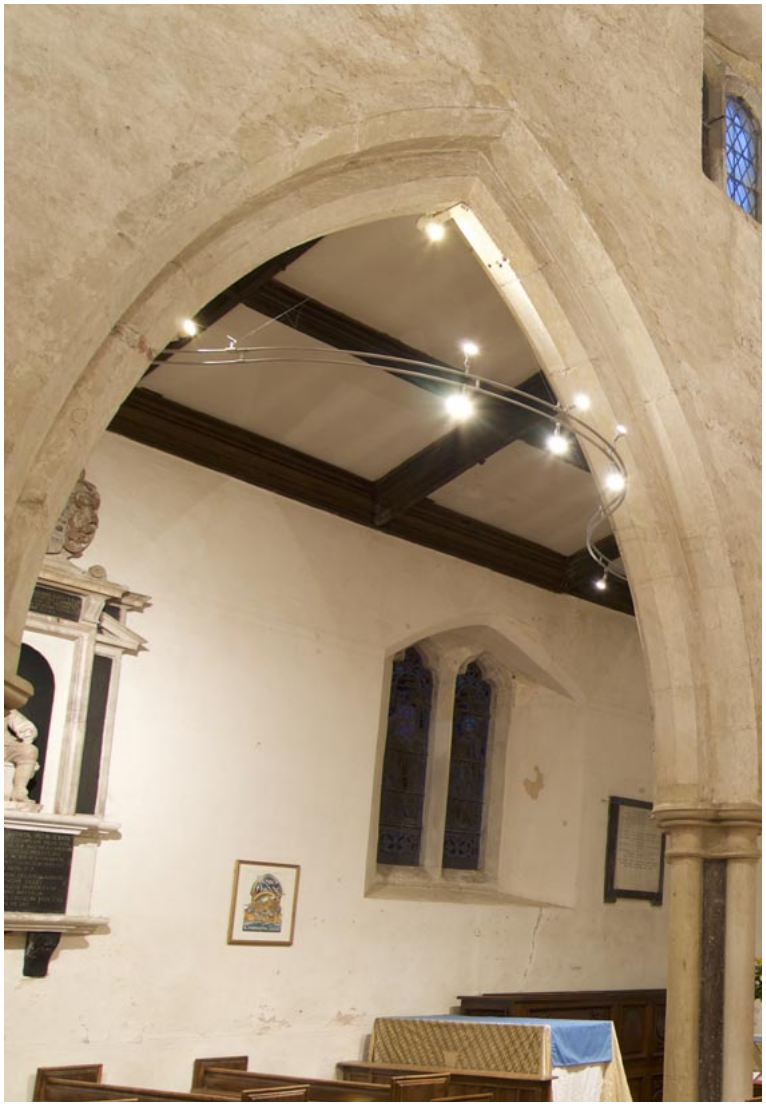


The cable would come through the wall discreetly at high level and up to the wall plate level lighting track.s

site photographs - proposed cable route - nave

site photographs - proposed cable route - nave

project example: st mary's church cranborne



As we could not fix anywhere on the nave walls due to wall paintings a sculptural 'lighting wave' was designed that was all fixed and suspended from the side aisles, and allowed the lights to be directed up to the ceiling and walls as weel as into the pews.

project example: st george's church hinton st george

A series of spotlights at wall plate level were installed to downlight the pews and to uplight the ceiling.

project example: st michael's church lyme regis

Conical up/down wall lights were designed to light the pews and to uplight the ceiling from one light fitting. The cabling was all in the side aisles keeping the nave as free of hardware as possible.

completed project list

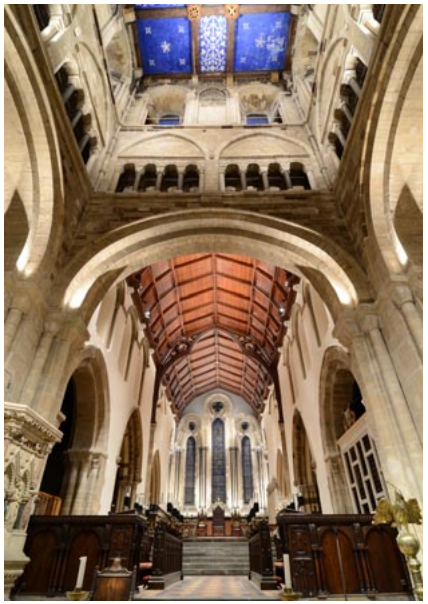
Lux Lucis

Ecclesiastical

St Mary's Church Cerne Abbas
Holy Cross Eastleigh
Hurstpierpoint College Chapel Hurstpierpoint
St John the Baptist Wonersh
Wimborne Minster Dorset
Ottery St Mary URC Devon
Buckfast Abbey Devon
Holy Trinity Church Tottenham
St Mary's Church Marlborough
St George's Church Hinton St George
St John the Baptist Ebbesbourne Wake
St Mary's Church Cranborne
St Mary's Church Sturminster Newton
St Andrew's Church Landford
All Souls Church South Ascot
Dagenham Parish Church
St John the Baptist Broadstone
St Martin's Church Fifield Bavant
St Mary's Church Chickerell
St James the Great Church Dursley
St Lawrence Church Church Stretton
St Peter's Church Chertsey
St Nicholas' Church Harwich
St Andrew's Church Congresbury
All Saints Church Sidmouth
Christ Church Cathedral Oxford
Lower Earley Baptist Church Reading
Trinity URC High Wycombe
St John's Church Farley Chamberlayne
St Mary's Church Alvediston
Temple Methodist Church Taunton
Wycliffe Baptist Church Reading
St Leonard's Church Sunningwell
Canford Magna Parish Church
St Augustine's Church Broxbourne
St Mary's Church Hitcham
St Margaret of Antioch Ilford
St Michael's Church Cheriton
St Peter's Church Shaftesbury
St Mary's Church Shenfield
St Mary's Church Dorchester
St Michael's Church Lyme Regis
Horley Methodist Church Surrey

Other Projects

Victoria Hall Tisbury
Sudewella Villa Sri Lanka
The Coach House Dorset
The Tractor Shed Wiltshire
Private Residence Sussex
Private Residence Hampstead
Private Residence Hampstead
Private Residence Sussex
Private Residence Hampstead
Penthouse Apartment St John's Wood
The Grange Essex
10 Unity St Bristol
Old Vicarage Hampshire
Yi Ban London
St Anne's Convent Southampton
Private Residence Wiltshire
Private Residence Hampshire
Lights on Broadway Deptford
Private Residence Lymington
Myles Place Salisbury
The Plot London



completed project list - museums and exhibitions

Lux Lucis

Ashmolean Museum
Bruegel to Rubens
Colour Revolution
Knossos
Pre Raphaelites
Pissarro
Tokyo
Pre Raphaelites
Hans Coper
Young Rembrandt
Pompeii
Jeff Koons
Spellbound
America's Cool Modernism
Imagining the Divine
Ashmolean Story Gallery
Raphael: The Drawings
Degas to Picasso
William Blake
Stradivarius

British Museum
Rediscovering Gems
Omani Silversmiths
Genoese Duerckheim
Enotie
Japanese Festival Boat
Recent Acquisitions
Nigerian Monoliths
Tutankhamun
Artist's Books
Hamish Parker
Beirut Glass
Rudolph
Parthenon
Contemporary Women
Coffee
Hokusai
Rivalling Rome
Reflections
Raphael
Piranesi and French Impressionists
Disposable? Rubbish and us
Looking East
Currency in Crisis: Notgeld
Nara
Collecting History
Playing with Money
Feeding History
Rembrandt
Cook
No Mans Land
Recent Acquisitions
Witness
What is Europe?
Charmed Lives in Greece
Currency of Communism
Business of Prints
Japanese Woodblock
Hokusai: Beyond the Great Wave
Desire, Love, Identity
Jericho Skull
South African: the Art of a Nation
Defacing the Past
Shadow Puppets
Maggi Hambling
Money and You
A'a
Francis Towne
Krishna in the Garden of Assam
Sobek: Crocodile Mummy
Egypt: Faith after the Pharaohs
Silver and Gold
Nubian Lyre
Louis XIV
Oceania Barkcloth
Bonaparte
Korea Gallery
Meroe Head
Indian Ocean
Collecting the World
Thai Burma Spirits
Witches and Wicked Bodies
Dürer's Arch of the Emperor Maximilian
Netsuke and Japanese Men's Fashion
Gems of Chinese Paintings
Germany Divided
Tompion Clock
Shunga: Sex and Pleasure
Tamaya Screen
Propaganda
Recent Acquisitions
African Textiles
Dodwell Prints
Jomon Pots
Ritual and Revelry
Sui Jianguo's Discus Thrower
The Horse: Arabia to Royal Ascot
Picasso Prints: The Vollard Suite
Modern Chinese Ink Paintings
Hokusai's Great Wave
Manga
Paralympic Medals
Crocodile Dance Mask
Xu Bing
Sikh Turban
Buddhism across Asia
Yaxchilan Lintel
Chinese Prints
Warriors of the Plains
Mexican Prints
Trees Exhibition
Polynesian Shields
Takhti Exhibition
Between Tibet and Nepal
Modern Japan
Ethiopian Easter
Fascination with Nature
Moon Jar

Cambridge University Library
Murder by the Book
Spitting Image
Raymond Briggs
Darwin
Samurai
Discovery 200

Fitzwilliam Museum
Making a Nation
Whistler and Nature
Batchelor Bequest
Metalwork and Jewellery
Things of Beauty: Growing
Flux: Parian Unpacked
Rothschild Gallery

Imperial War Museum
Lee Miller
Fashion on the Ration
Airborne Assault Duxford

Jewish Museum
Charlotte Salomon
Jews, Money and Myth
Vishniac
Asterix
Designs on Britain
Amy Winehouse
Shaping Ceramics
Jukebox Jewkbox
Moses Mods and Mr Fish
Judith Kerr
For Richer For Poorer
Abram Games
For King and Country
Four Four Jew
Amy Winehouse
R B Kitaj
Morocco

London Transport Museum
Photography Gallery
Global Poster Gallery
Caribbean Legacies
Transport at War
Hidden London
Untangling the Track
Illustrators
Digging Deeper
Poster Girls
Sounds of the City
Designology
Design for Travel
Nightshift

Museum of the History of Science
Prescious and Rare: Islamic Artwork
BioArt
Back from the Dead
Henry Moseley

National Gallery
Fourth Plinth
Pesellino
Paula Rego
Take One Picture 2023
Nalini Malani
Turner on Tour
Take One Picture 2022
Picasso to Ingres
Blue Boy
Kehinde Wiley
Bellotto
Take One Picture 2021
Copernicus
Take One Picture 2020
Sin
David Bomberg
Take One Picture 2019
Sean Scully
Boilly
Monarch of the Glen
Ed Ruscha
Take One Picture 2018
Murillo Portraits
Lake Keitele
Degas: Drawn in Colour
Giovanni da Rimini
Cagnacci
Australia's Impressionists
Maino's Adorations
George Shaw
Dutch Flowers
Visions of Paradise
Sansovino: Frames in Focus
Inventing Impressionism
Peder Balke
Building the Picture

National Portrait Gallery
Taylor Wessing Photo Portrait Prize 2023
Taylor Wessing Photo Portrait Price 2022
Legends
Taylor Wessing Photo Portrait Prize 2019
BP Portrait Award 2019
Njideka
Taylor Wessing Photo Portrait Prize 2018
Black is the new Black
Votes for Women
BP Portrait Award 2018
We are Family
Taylor Wessing Photo Portrait Prize 2017
Samuel Fosso
BP Portrait Award 2017
Taylor Wessing Photo Portrait Prize 2016
Luc Tuyman
William Eggleston: Portraits
Thomas Price

Natural History Museum
Gregor Sailer
Venom
Colour and Vision
Wildlife Photographer of the Year 2016
Otherworlds
Wildlife Photographer of the Year 2015
Wildlife Photographer of the Year 2014
Mammoths: Ice Age Giants
Sebastiao Salgado: Genesis
Images of Nature

Royal Academy
The Great Spectacle
Manet: Portraying Life
A Taste for Impressionism
Hungarian Photographers
Glasgow Boys

Royal Museums Greenwich
Alberta Whittle RMG
Our connection with Water NMM
Van de Veldes RMG
Canaletto NMM
Exposure NMM
Armada Portrait RMG
Re-Think NMM
Altazimuth ROG
Great British Seaside NMM
America's Cup NMM
Queen's House RMG
Above and Beyond NNM
Turner and the Sea NMM
Astronomy Photographer ROG
Visions of the Universe NMM

Science Museum
Flight Gallery
Spirit of Innovation
Engineers
Injecting Hope
Amazônia
RPS: Science Photographer of the Year
Driverless
Soyuz
Periodic Table Showcase
Pattern Pod
Last Tsar
Ligo Showcase
Skylark
Heart Transplant Showcase
Cuneo
Voyages
Tereshkova
Dalton Showcase
Fox Talbot
Clockmakers Museum
Wellcome's Legacy
The Exponential Horn
Unlocking Lovelock

Tate St Ives
Outi Pieski
Casablanca
Barbara Hepworth
Thao Nguyen Phan
Petrit Helilaj
Hague Yang
Naum Gabo

Other Institutions and Projects
Fashion City Museum of London Docklands
Lego Mclaren Brooklands Museum
Guildford House Gallery
Cranach Compton Verney
Painting Childhood Compton Verney
Bookham Grange Visitor Centre
Spanish Exiles Institute Cervantes
Magna Carta and Parliament Westminster
Old Gaol Museum Buckingham
Bridge Museum of London Docklands
Cecil Beaton Wilton House
Soldiers of Gloucester Museum
Leighton Corridor V&A Museum
No1 Royal Crescent Bath
Hertford Brewery Hertford
William Morris Society Hammersmith
Hogarth House London
Durlston Castle Swanage
Gloucester Museum Gloucester
Elizabeth Garrett Anderson Centre
Shire Hall Monmouth
Daming Palace National Park Xi'an
Valence House Dagenham
Havering Museum Romford
Berry Head Visitor Centre Brixham
Dora Gordine Kingston University
Wedgwood Museum Stoke on Trent
Southern Trent Water Visitor Centre
Severn Valley Railway Centre
Kings Table Palace of Westminster
Gordon Russell Trust Broadway
Fulham Palace Museum
Cloister Gallery Dorchester Abbey
Fieldhouse Gallery RNSM
Tower of Derry Museum
Sail Gallery HMS Victory Museum
Crane Park Twickenham
Inatura Museum Dornbirn
ss Great Britain Heritage Centre Bristol
Loughs Agency Londonderry
34-35 Great Sutton St London
Hever Castle Hever
Tipperary Museum Tipperary
E1 Gallery London

design stages

Initial Consultation

The initial site visit allows for the introduction of the lighting designer to the design team. The method of appointment, either as a fee paid independent lighting consultant or as an independent lighting design with supply package, and the merits of each is honestly discussed and a method agreed. The definition of the project and the boundaries of the lighting designers involvement are discussed. Any constraints and limitations of the building are identified. Architects drawings are studied on site and any relevant photographs and sketches are made for future reference.

Preliminary Proposals

After the initial consultation preliminary proposals are developed and presented to the client and the project team. The preliminary proposals include: an outline scheme; pictures and samples of the light fittings; initial details of the lighting circuits, associated electrical loads and control system; and an outline budget. The concept is openly discussed and any potential issues identified. A general agreement of the proposed lighting is established and agreed with the client.

Lux Lucis

Proposed Scheme Confirmation

If appropriate, lighting calculations are undertaken to prove the technical aspect of the scheme and ensure the lighting meets the necessary requirements. Alternatively, or to reinforce the proposed scheme, the lighting is demonstrated to the relevant parties using sample light fittings temporarily mounted and wired in the actual proposed location. This enables an on site practical method of showing the project team the physical effect of the lighting on the actual environment that it is proposed for, and why the proposed scheme has developed in that direction.

Scheme Developments

After the discussions and reinforcement of the proposal, the scheme is developed further, smoothing out any matters that have arisen and finalising the equipment required and the final budget. The scheme is then presented to the client and the design team for approval, and any further amendments undertaken.

Implementation

After approval of the lighting scheme by the client and the design team the lighting scheme can be added to the architects/engineers package and supplied to the relevant contractors for tender or implementation. If and when required site supervision can be provided with liaison with the contractors during the installation. Upon completion of the installation the lighting scheme will be focussed and commissioned to the satisfaction of the client.

Aftercare

When the project is complete, a lighting maintenance manual will be provided to the client and fully explained. This manual, along with basic training of relevant people in the running of the installed lighting scheme and basic maintenance, will enable the integrity of the lighting scheme to be maintained. Attendance and assistance in refocussing during the maintenance schedule can be arranged.

project images

Selected images can be seen on the website, other images are available on request.

references

References for all types of work are available on request.