

Refurbishment and Augmentation of St Mary's Church Bells Kingskerswell

Presentation to Devon Guild of
Ringers



Introduction

- A little about me
 - Home Repairs & Maintenance Business
 - Background in MOD procurement
 - Ringer
 - PCC member
 - In the right place at the wrong time....
 - PCC nominated lead for reordering



St Mary's Church Kingskerswell



- Overview
- Execution of work
- Money
- Lessons
- Questions

Restoration & Augmentation of St Mary's Bells

OVERVIEW

Internal Politicts

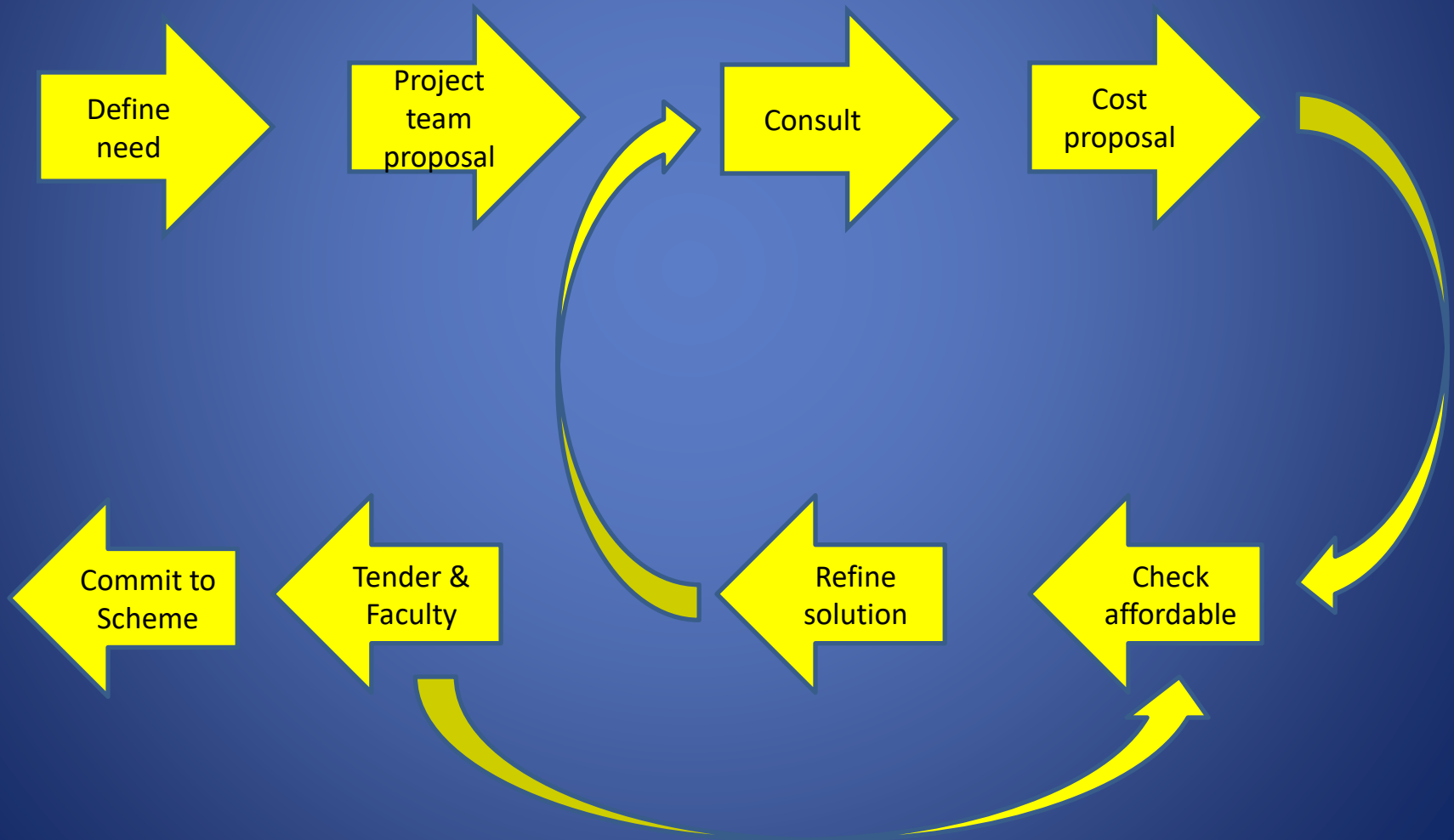


- **PCC Re-ordering aspirations**
 - Mission Action Plan 2015
 - A Church fit for growth
 - Modern comfortable facilities
 - Flexible Seating
 - Gas & Drainage
 - Kitchen Refurbishment
 - Toilet Extension
 - Heating & Lighting
 - Floor repairs
 - Redecoration
 - Bells (grudgingly added)
- **Challenges**
 - Money, money, money....

Re-ordering

- Re-ordering was always the priority for PCC
 - Bell refurbishment as stand alone project rejected (2012) .
- Refurbishment of bells a secondary consideration.
- PCC re-ordering team formed.
 - John Rees appointed re-ordering lead.
- Architect appointed.
- 6 year iterative planning process.
- Faculty approval for re-ordering scheme Sept 2018


The Long Re-ordering process



Bells Project

Report by Nicholson's Apr 2009

Report by Guild of Devonshire Ringers Bells Advisors Dec 2009



NICHOLSON ENGINEERING LTD

Works: Church Bell Works, St Swithun's Road, Bridport, Dorset, DT6 5DW
Telephone (01308) 422264 Facsimile (01308) 427172

Correspondence: Walton, 27 Woodmead Road, Lyme Regis, Dorset, DT7 3AB
Telephone (01297) 445865

Email: bells@nicholsonbellhangers.com

Website: www.nicholsonbellhangers.com

24th April, 2009.

Mr P Stevens
22 Priory Avenue
Kingskerswell
Newton Abbot
TQ12 5AQ

Dear Phil,

CHURCH OF ST MARY THE VIRGIN, KINGSKERSWELL.

Further to my recent visit to the church to inspect the tower and bell installation I am pleased to report as follows:

BELLS

With the exception of the fourth, all the bells seem to be sound and free from significant cracks or other serious defects though only complete dismantling would allow a full examination to be made.

The stumps of the original cast-in crown staple remain in the crown of the fourth bell and these have now corroded to the point where they have burst through the base of the crown. If not dealt with this will eventually lead to the bell becoming seriously cracked in its crown.

FRAME

The bell-frame cannot be said to be well designed and constructed but in terms of its condition stands well enough.

FITTINGS

The headstock to the fifth is suffering from extensive furniture beetle attack. Although the headstock is currently safe, clearly it will not remain so indefinitely. There is also some furniture beetle infestation to the tenor headstock. The bell supporting ironwork is generally corroded. Most of the bells are not now hanging level with their headstocks. Measurement and subsequent calculation has shown that the hanging radii are far from being well graded which will inevitably make the bells go significantly harder than need be the case.

Church Bellhangers & Ironsmiths of Distinction

Registered in England No. 0400713
VAT Reg. No. 951 2403 35

CHURCH OF ST MARY, KINGSKERSWELL

REPORT ON THE CONDITION OF THE BELLS, BELL-FRAME AND FITTINGS

Inspection carried out on Tuesday 8th December 2009 by Ian Smith and James Clarke (Guild of Devonshire Ringers Bell Advisors), in the presence of Philip Stevens (Tower Captain).

HISTORICAL

The tower dates from the early 14th century. There were 4 bells in 1553. Of the present 6 bells the middle 4 were by John Pennington IV of Stoke Climsland 1815. It is possible that the bell frame also dates from this time. The present tenor and treble were cast by Mears & Stainbank of Whitechapel in 1887, when all 6 bells were hung in a modified oak frame by Aggett of Chagford. In 1937 the 5th bell was recast at Whitechapel and all the bells were rehung on self-aligning ball-bearings.

TOWER

The west tower is essentially of two stages, the lower stage comprising the ground floor chamber with the ringing chamber above; the upper stage comprising an intermediate chamber housing the drives to the clock faces, with the bell-chamber above. The tower is unbuttressed with a polygonal stair turret near the east end of the north face projecting above the parapet.

The **Ground Floor Chamber** is pierced with a window on the W side and a high arch into the nave on the E side. The N and S walls are unpierced. At the W end of the S wall is an Ellacombe chiming frame.

The **Ringling Chamber** measures 11 feet 3 inches E/W by 11 feet 8 inches N/S by 13 feet 1 inch high. The clock and weight case on the S wall project some 2 feet 9 inches into the chamber, restricting the effective area of the ringing room to 11 feet 3 inches by 8 feet 11 inches. There is a single light window in both the N and E walls, and a fireplace is built into the W wall. At the E end of the N wall is a doorway through to the tower stairs. The treble rope falls significantly out of circle, being far into the NW corner of the room.

The **Intermediate Chamber** is approximately 4 feet high and is accessed from the Bell Chamber by removing floorboards from beneath the 4th bell. The ceiling of this chamber comprises four main beams running N/S which, with subsidiary beams, support the bell chamber floor and bell-frame above. These beams are in turn supported by a concrete beam running along the N wall and a further wooden beam along the S wall. Due to the amount of dust and debris it was not possible to determine the level of attack of any wood-boring insects in the main beams, though it is possible that some attack has taken place in the sapwood. As a whole the beams appear perfectly sound. There is, however, evidence of current activity in the softwood members supporting the clock mechanisms.

The **Bell Chamber** houses the bell-frame and bells. Each face of this chamber is pierced with a two-light louvre. Each louvre is covered with mesh to prevent the ingress of birds. There is also removable boarding against each louvre as a sound control measure. At the E end of the N face is a doorway giving access to the tower stairs.

BELLS, FRAME AND FITTINGS

Nicholson Engineering Ltd



“It would not be difficult to make a case for complete restoration and rehanging these bells, the installation being poorly designed and not particularly well made and with relatively little having been done since the bells were last rehung by Aggetts of Chagford around 80 years ago.”

Devon Bells Advisors – Ian Smith & James Clarke



“We cannot help but agree with Andrew Nicholson’s suggestion that it will take a full restoration to reveal the true potential of these bells. In their present , poorly designed situation, they cannot be anything but mediocre.”

Devon Bells Advisors – Ian Smith & James Clarke



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Starting the Process



- **Informal talks with Nicholson's 2012**
 - What is the art of the possible?
 - Can we fit 8 bells?
 - Is the ringing chamber big enough?
 - Could we reposition the ringing chamber?
 - Could we fit a frame for 8 and rehang the 6?
 - Cost implications?
 - Etc, etc, etc

Request for Quotes (2014)

- **Nicholson's invited to quote to:**
 - Rehang/renovate existing 6 bells
 - Provide additional frame to augment to 8 bells
 - Augment installation to 8 bells.
- **Cumbria Clocks invited to quote for auto-wind and self regulation mechanisms**
- **On re-ordering side a Quantity Surveyor (QS) appointed to cost re-ordering plans**

Projected Costs (2014)

Nicholson's Costs

- 6 Bells plus space to expand frame £53K
- Additional frame to expand to 8 bells £1K
- Augment to 8 bells £19.5K

Total £74K

Exclusions

- Provision of lifting beams above bells
- Cutting pockets for frame
- Creation of mezzanine ringing chamber & access
- Removal of clock rod gearing, bevels & weights

Most exclusions to be added to Re-ordering contract

Original Ringing Chamber



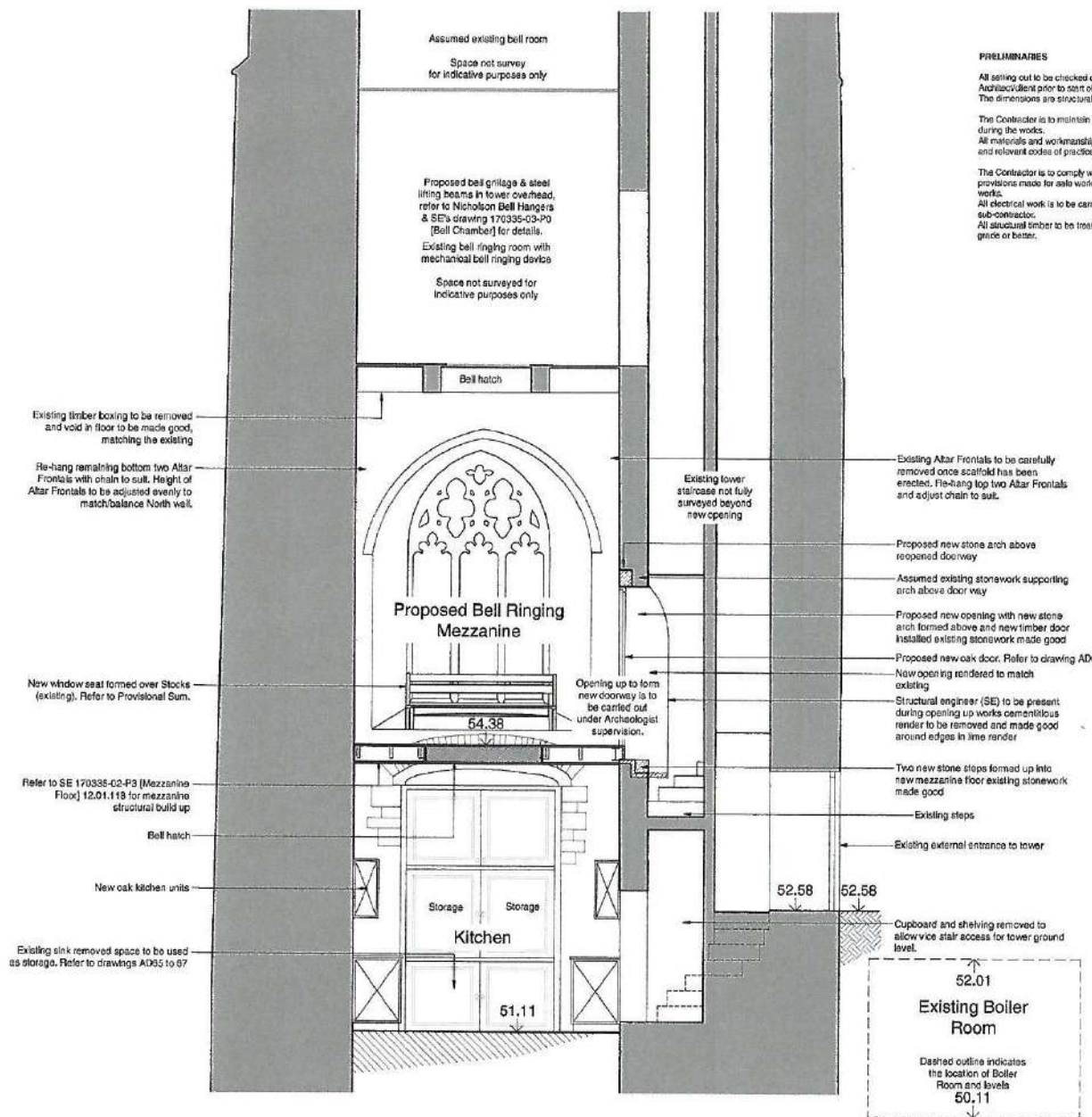
Approximately 11 feet square



Richard Downer Photography
<http://www.richarddowner.com/>

New Mezzanine Ringing Chamber





01 Section CC
Scale 1:50

PRELIMINARIES

All setting out to be checked on site. Any discrepancies to be reported to Architect prior to start of construction.
The dimensions are structural unless otherwise stated.

The Contractor is to maintain the integrity of the building at all times during the works.
All materials and workmanship to comply with current British Standards and relevant codes of practice.

The Contractor is to comply with the Health and Safety Legislation and provisions made for safe working procedures throughout the building works.
All electrical work is to be carried out by an approved, registered sub-contractor.
All structural timber to be treated with approved preservative, and be SC4 grade or better.

THIS DRAWING MUST BE READ IN CONJUNCTION WITH OTHER ARCHITECTS', CONSULTANTS', SUB-CONTRACTORS' AND SPECIALIST DRAWINGS.

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.

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Rev	Date	Revision	By	Chk
A	14/01/18	TENDER ISSUE - PRELIMINARY FOR COMMENT	ME	AJP
B	18/03/18	Available online - where not noted in the drawing to have been revised. Additional notes added. Refer to section sheets	ME	AJP
C	25/01/19	TENDER ISSUE	ME	AJP

Notes

TENDER ISSUE

Le Page Architects

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Client

Kingskerswell PCC

Project Name
St Marys Church Kingskerswell
Refurbishment

Drawing
Proposed Section CC

Scale 1:100 @ A3

Drawn by IK	Date FEB 17
Checked by SOX / KL	02/01/19
Project No.	Drawing No
	Revision

J14.014 AD03 C

Why Refurbish & Augment?

- Condition of installation worsening
- Opportunity to augment
- Reduce tower stress
- Bells form of outreach
- Greater scope for ringing
- Bring ringers into view
- Safeguarding
- Access

Enabling Works

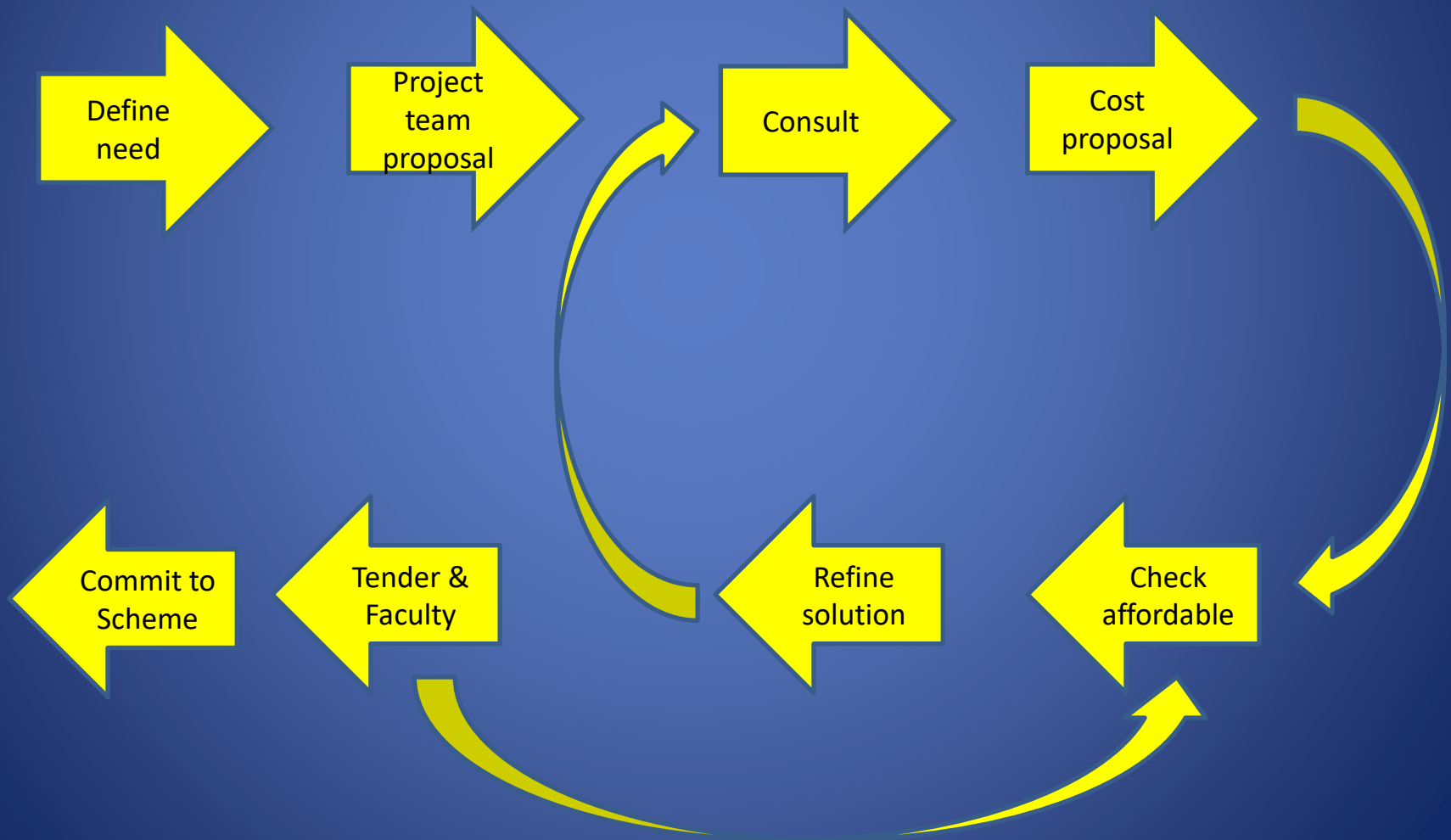
- Provision of lifting beams above bells
- Cutting pockets for frame
- Remove clock weights and weight shaft.
- Create mezzanine ringing platform.
- Form access from spiral stairs.
- Reconfigure electrics.

Enabling Works – QS Estimated Costs

- **Lifting beams above bells £4K**
- **Cut pockets for new bell frame £6K**
- **Remove clock gearing, bevels & weights £1K**
- **Create mezzanine ringing platform £14K**
- **Form access from spiral stairs £8K**

Total £33K

The Long Re-ordering process.....



Keep Moving Forward

- **Re-ordering process aimed to:**
 - **Deliver a plan capable of obtaining faculty approval**
 - **Determine accurate overall costs**
 - Main re-ordering contract
 - Bell works
 - Clock works
 - Professional Fees
 - VAT to be paid
 - **Confirm sufficient funding available**
 - **Establish lead times**
 - Tender Main Contract
 - Bell works
 - Cumbria Clocks
 - **Achieve project deliverables**

Keep Moving Forward

- Re-ordering process aimed to:
 - Deliver a plan capable of obtaining faculty approval
 - Determine accurate overall costs
 - Main re-ordering contract
 - Bell works
 - Clock works
 - Professional Fees
 - VAT to be paid **project driver**
 - Confirm sufficient funding available
 - Establish lead times
 - Tender Main Contract **3 month process**
 - Bell works **project driver**
 - Cumbria Clocks
 - Achieve project deliverables

Listed Places of Worship Fund end dated Mar 2020

Bell hanger had to be engaged before the Main Contract Tendering completed

Timing

Jun 2012	Start work on re-ordering plan!
Sep 2018	Faculty Approval
Sep 2018	Prepare tender documents
Sep 2018	Final projected estimates to PCC
Sep 2018	Project unaffordable – split into phases
Oct 2018	Provisional approval for scheme
Nov 2018	Nicholson's Engaged (1st payment)
Jan 2019	Tender documentation Issued
Mar 2019	Costed Tenders received
Mar 2019	Main contract rebalanced
Mar 2019	PCC approve rebalanced scheme
Apr 2019	Commence work

Jun 2012 Start work on re-ordering plan!

Sep 20 ...ty Approval

Sep 2 ...tender documents

Sep ...es of CC

Sep ...split ...phases

Oct ...for scho

Nov ... (1st part)

Jan 2 ...Issu

Mar 2 ...Costed Ten

Mar 201 ...Main contract rebal

Mar 2019 ...approve rebal ...scheme

Apr 2019



Timing

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Timing

Jun 2012

Start work on

Jun 2018

Vicar retires & vacancy commences

Sep 2018

Prepare tender

Sep 2018

Final estimates

Sep 2018

Project unaffordable

Oct 2018

Provisional approval

Nov 2018

Nicholson's Engineering

Jan 2019

Tender documentation Issued

Mar 2019

Costed Tenders received

Mar 2019

Main contract rebalanced

Mar 2019

PCC approve rebalanced scheme

Apr 2019

Commence work



Definitive Costs 2018 (Ver 1!)

- Nicholson's bell works £80.4K
- Main contract enabling works £14.6K
- Cumbria Clocks works £7.7K
- Voluntary Labour reduction - £8.5K

Total £94.2K

(VAT exclusive figure)

Total to pay out before reclaiming VAT therefore £113K

Restoration & Augmentation of St Mary's Bells

EXECUTING THE WORK

The Last Ring



24 Mar 2019

Enabling Work

INSTALLING LIFTING BEAMS & TEMP MEZZANINE

























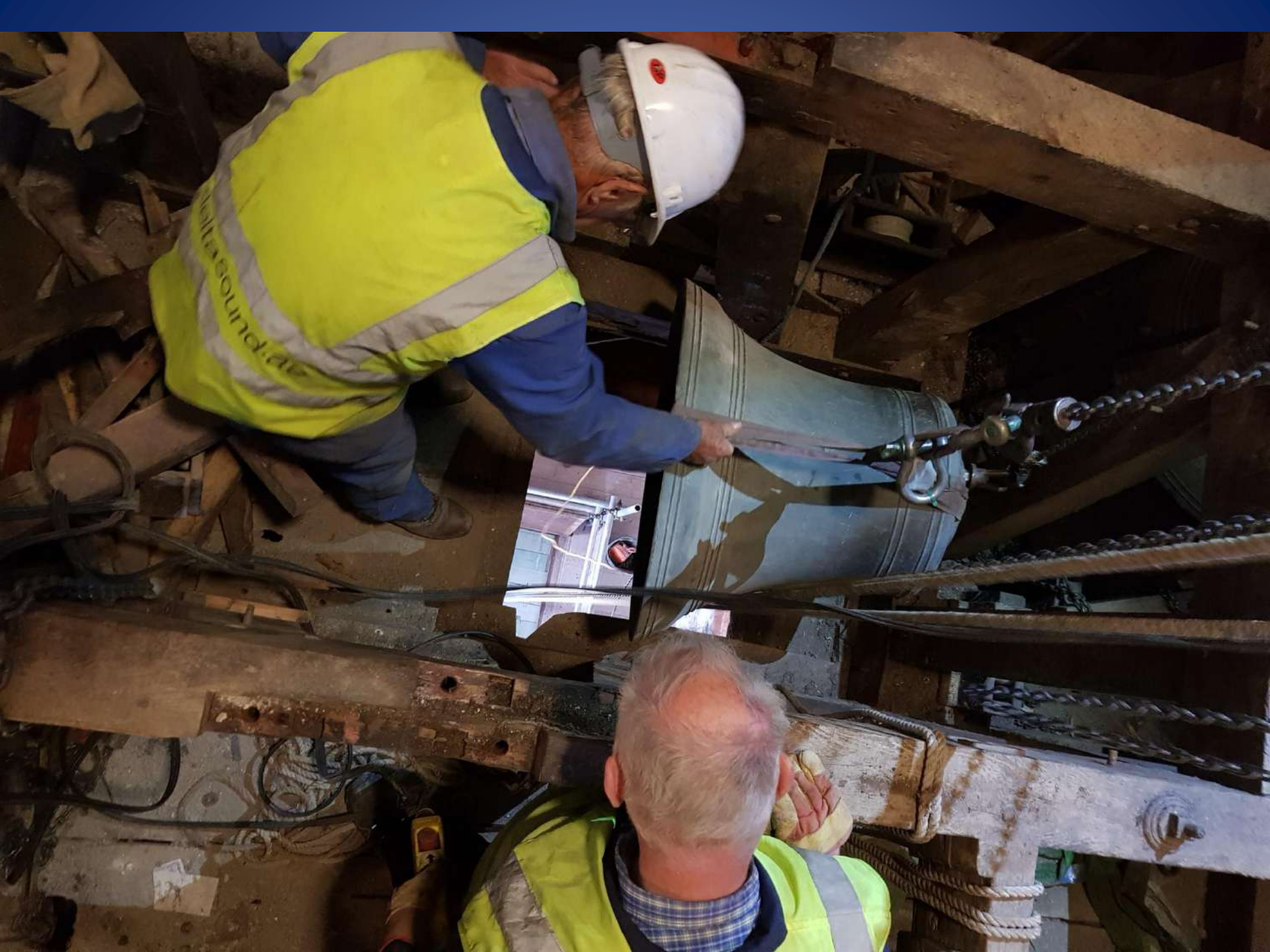
Dismantling

REMOVAL OF BELLS & FRAME













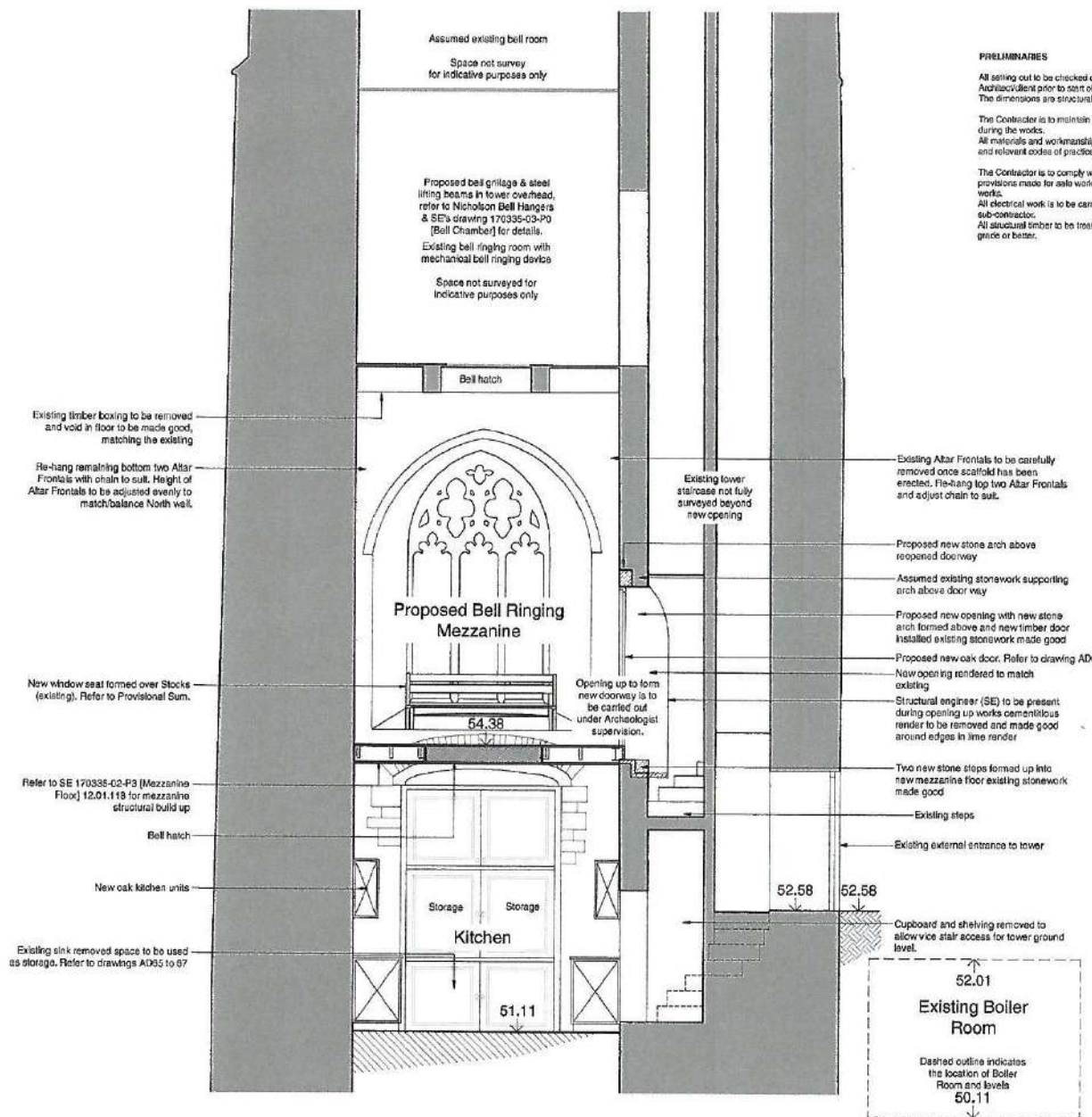






Enabling Work

MEZZANINE & ACCESS FRAME POCKETS



01 Section CC

Scale 1:50

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C Le Page Architects Ltd.

A3

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J14.014 AD03 C

























Bell Refurbishment

NICHOLSON'S WORKS









Potential Show Stopper!

- **New bell required:**
 - Keltek trust
 - Recasting
- **Budget**
- **Faculty amendment required**
- **Headstocks production halted**
- **Impact on Nicholson's production schedule**

Good News!

- Benefactor found after local appeal
- Bell foundry able to supply in time
- Faculty amendment granted
- Order placed
- Life's good.....



Bad News

- **Bell cast without facsimile of original inscription**
- **Inscription a condition of faculty**
- **Re-cast required**
- **Impact on Nicholson's production schedule**

Good News!

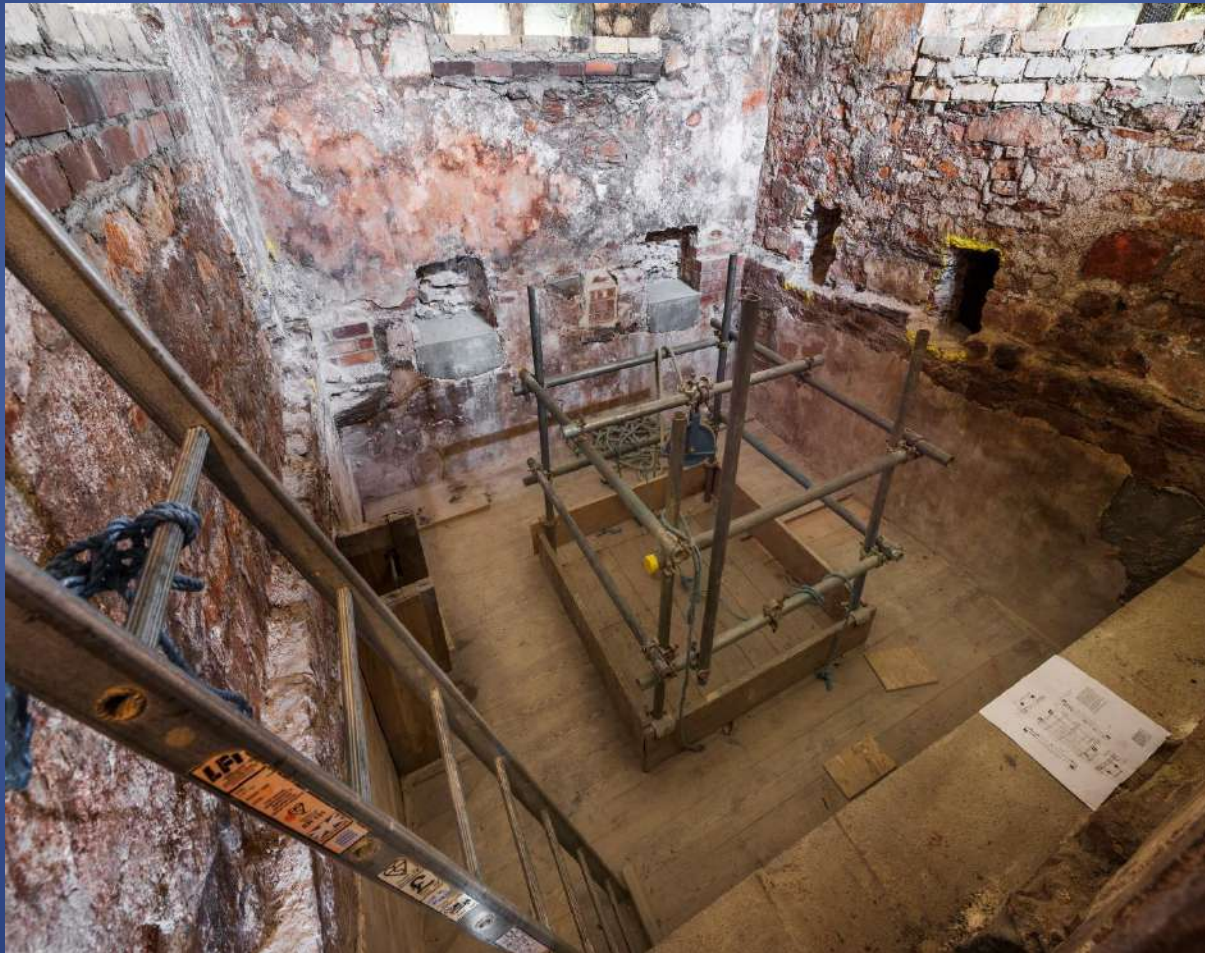
- Bell foundry able to re-cast in time
- Life's good.....

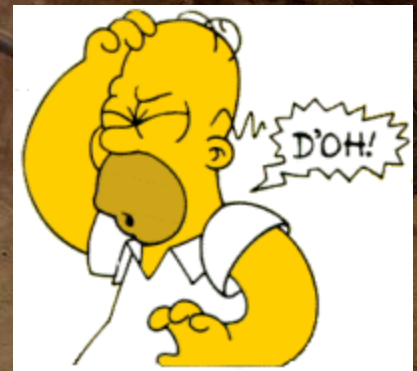






Just when things seem good again...





Potential Show Stopper!

- **Grillage pockets cut 180 degrees out**
- **Frame layout not readily transposable**
 - Big delay if pockets filled and re-cut
 - Cost implications on Main Contract overrun
- **Significant impact on Nicholson's production schedule**

Where there is a will...

- **Frame could be modified to fit**
 - Though not easily.....
 - Re-design of clock hammer mounts needed....
- **Re-installation delayed but....**
 - Main contract extended to add extension
 - Bell work could be finished before Main Contract end
 - Bells ready for Advent and Christmas
- **Life's good again.....**

....there's usually a relative

Re-installation work

NICHOLSON'S AND VOLUNTEERS























Re-installation work

**1ST RING IN PEAL 28TH NOV 2019
& OFFICIAL TRY OUT 29 NOV 2029**







Before & After

Original Peal



Augmented Peal



Re-installation work

WORKS COMPLETED JAN 2020







MEMBER
PHIL
MIC
MARKY
PAULIN
JOHN
LIZ
GEOFF
JANET
DARNE
PETER
TIM
TRACE
PAUL T
MIKE W
RICHARD
ALISON
JOCH
MIKE TOM
JAN IVA
MIKE ME
JAN DO



Restoration & Augmentation of St Mary's Bells

MONEY

Definitive Costs (Ver 2!)

• Nicholson's bell works	£80.4K
• Main contract enabling works	£14.6K
• Cumbria Clocks works	£7.7K
• Voluntary Labour reduction	- £8.5K
• Repair of No 3 Bell	£3.5K
• Recasting No 3 Bell	£5K

Total £102.7K (Ver 1 - £94.2K)

(VAT exclusive figure)

Total to pay out before reclaiming VAT therefore £123.2K

Listed Places of Worship Grant Scheme

Scope of the Scheme

The Listed Places of Worship (LPW) Grant Scheme gives grants that cover the VAT incurred in making repairs to listed buildings in use as places of worship. The scheme covers **repairs to the fabric of the building**, along with associated **professional fees**, plus repairs to **turret clocks**, pews, **bells** and pipe organs.



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How it Operates

Copies of paid invoices are submitted to the scheme operator and the VAT paid on specified categories of work are refunded.

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How it Operates

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Consult Scheme Operator early

Consider Cashflow Carefully!

Definitive Costs (Ver 2!)

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Income

Allocations and Gifts

PCC (reserves & legacies)	£56.8K
Friends of KKW Parish Church	£15.3K
Kingskerswell Bell ringers	£7.1K
Jazz on the River event	£2.3K
Sponsored walk	£1.5K
Donation for recasting	£5K
Donation for auto wind	£2.2K
Donation to bridge funding gap	£2K

Grants

Devon Bell Restoration Fund	£7.5K
Teignbridge Rural Aid Fund	£3K

Total £102.7K

Restoration & Augmentation of St Mary's Bells

LESSONS

Lessons



- It all takes time
- Never re-invent the wheel
- It will cost more....
- Hidden costs
- Relationships are key
- Things will go wrong
- One chief only!
- Communication is vital
- The value of volunteers

Thanks

Volunteers

Brian Andrews

Ian Campbell

Trevor Heal

Tim King

Martin Mansley

Phil Turner

Bob Sanders

Caterers

Mary Down

Pauline Lawrence

Mo Stevens

Phil Stevens

Ruth Turner

Nicholson Engineering Ltd

Andrew Nicholson

Martin Llotd

Tim Whitehead

Ian Hazman

Chris Cozens

Bovey Construction Ltd

Lee Sayer (Site Manager)

Jon Jones (Project Manager)

LePage Architects

Amanda LePage (Principal)

Kelly Lashbrook (Office Mgr)

Malcolm Sargent (Draftsman)

Cumbria Clocks Ltd

Luke Ridge (Maintainer)

Mildred Howell & Co

Martin Jury (QS)

Simon Bastone Associates

Tim Hunter (SE)

Royal Eijsbouts Bell

Foundry

Soundweld Ltd

Mendip Ropes

Health & Safety Associates

Bryan Hammond

Donors & Fund Raisers

Devon Bell Restoration Fund

Revd (Rtd) J F Leonard

Dame Janet Ritterman

Rachael Vallentine

St Mary's PCC

Friends of KKW Church

St Mary's Social Committee

St Mary's Bellringers

Restoration & Augmentation of St Mary's Bells

QUESTIONS?